

Of Ghostly and Mechanical Events*

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Two of the assumptions that drive most contemporary philosophy of mind are (i) the *naturalistic* thesis that minds, like mountains and molecules, are macro-objects in the natural order, involving nothing ‘spooky’, and (ii) a *three-part taxonomy* that recognizes substance dualism, property dualism, and monism as the available metaphysical options. Together, these assumptions drive most contemporary philosophers of mind to either monism of the materialistic stripe, or to a version of property dualism that treats mental properties on par with other macro-properties.

Paul Pietroski, in *Causing Actions* (2000), aims to articulate a dualistic framework that ‘makes room for persons’. What is especially intriguing about Pietroski’s framework is that it denies both of the above assumptions: (i) it is resolutely *non-naturalistic*, and (ii) it is a *dualism of events*, said to steer between substance and property dualisms. If Pietroski is right then both naturalism and the three-part taxonomy are worse than mistaken: they are in conflict with our conception of persons.

In what follows I will ask (i) whether event dualism constitutes a coherent ontological position (§1), (ii) whether the event dualist can offer a plausible conception of mental causation (§2), and (iii) whether the event dualist can explain mind-body supervenience (§3). I will answer all three questions with some form of: *yes, but not in the way Pietroski suggests*. Though my discussion will be largely critical, I am overall sympathetic to a non-reductionist framework, albeit one which is based on tropes, which is naturalistic, and which replaces a dualism of mind and nature with a multiplicity of levels of nature. So the overall thrust of my criticisms will be that there is a better way to make room for persons.

I should say that *Causing Actions* is a very rewarding book: it is technically sophisticated, intellectually provocative, and exceptionally creative. I should also say that *Causing Actions* contains important discussions of action and of intensionality, which I lack space to discuss here.¹

* Thanks to Brian McLaughlin, Paul Noordhof, Paul Pietroski, and the editors of *PPR*.

¹ The reader interested in these issues should look to Pietroski’s exchange with Paul Noordhof and Roland Stout (Noordhof 2001; Stout 2001; Pietroski 2001a and 2001b).

1. Event Dualism

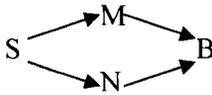
What exactly is event dualism, and does it constitute a coherent ontological position? Pietroski provides both a positive and a negative characterization. *Positive characterization:* Event dualism is the thesis that mental events are distinct from neural events. So when Booth tries to shoot Lincoln, there is a mental event (which is a trying to shoot Lincoln), and a neural event (which is, perhaps, the fusion of all Booth's associated CNS activity), and these are distinct events.

Negative characterization: Event dualism is not substance dualism, and it is more than just property dualism. Pietroski is explicit in denying substance dualism, preferring the Strawsonian view that persons are single, primitive entities with both a mental and a corporeal aspect (2000, ch. 5, §2). And Pietroski is explicit in saying that his view is more than just property dualism (2000, p. 100). After all, many of Pietroski's 'neuralist' opponents, such as Jerry Fodor (1974), embrace property dualism.

What I find problematic about these characterizations is what is missing, namely (i) an account of the individuation of events, and (ii) an ontological framework in which to locate the category *event*. That is to say that Pietroski maintains that mental events are distinct from neural events, while providing no account of when events are distinct, and no account of what events *are* in the most basic sense. And, as I will now suggest, it is unclear whether there is any decent conception of event-individuation or of ontology that is compatible with event dualism.

Individuating events: There are three main proposals for event-individuation in the literature: (i) causal individuation (Donald Davidson 1969), (ii) locational individuation (W. V. O. Quine 1960, Davidson 1985), and (iii) fine-grained individuation (Jaegwon Kim 1973). Pietroski mentions causal individuation as plausible (2000, p. 3; also p. 95), but clearly wants to be neutral here and have event dualism work with most if not all of (i)-(iii) (2000, p. 3; also p. 100). But in fact event dualism is *incompatible with all of (i)-(iii)*.

According to causal individuation, $E1 \neq E2$ iff $E1$ and $E2$ have distinct causes or distinct effects. Causal individuation has well-known internal problems: it is circular given that causation presupposes distinctness of events, and it is unprincipled when conjoined with the Davidsonian idea that some cases of seemingly distinct effects are really cases of the same effect with a different 'causal explanation'. But never mind those. The real problem here is that causal individuation, together with Pietroski's overdeterminative account of mental causation, *entails neuralism*. For Pietroski's account of mental causation postulates that mental and neural events have the same causes and effects, as can be gleaned from a simplified version of his Kim-style diagram (2000, p. 110; also p. 151, *inter alia*):

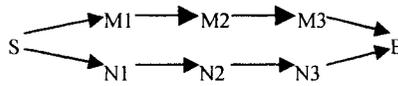


Here M is the mental event and N is the neural event, and they share the exact same stimulus cause S and behavioral effect B, so $M=N$.²

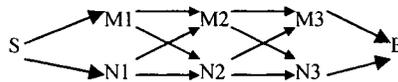
According to locational individuation, $E_1 \neq E_2$ iff E_1 and E_2 occupy different locations. Locational individuation is problematically coarse, conflating the spinning with the heating of the sphere. But never mind that. The real problem here is that locational individuation, together with Pietroski's Strawsonian view of persons, entails neuralism. For Pietroski's account of persons postulates that mental and neural events have the same locations: both occur where the person is (2000, p. 169), so $M=N$.³

According to fine-grained individuation, $E_1 \neq E_2$ iff (i) $O_{E_1} \neq O_{E_2}$, (ii) $P_{E_1} \neq P_{E_2}$, or (iii) $T_{E_1} \neq T_{E_2}$, where O_E , P_E , and T_E refer to the respective object(s), property(s), and time(s) of event E. Fine-grained individuation is problematically fine, severing Brutus's stabbing of Caesar from Brutus's violent stabbing of Caesar. But never mind that. The real problem here is that

² Pietroski allows that there can be further structure within the mental and neural chains:



But this won't help. First, M1 can't be distinguished from N1 vis-à-vis causing M2 unless M2 is already distinguished from N2. There is no foothold here. Second, causal individuation via mental intermediaries would yield a strange quasi-dualism that countenances occasional identities in the off-cases of unstructured chains. In any case I think, and I think that Pietroski is committed to thinking, that the diagram should really include internal diagonals:



³ Now M1 can't be distinguished from N1 even vis-à-vis causing M2. Pietroski (2000, ch. 5, §3.2) makes much of Hornsby's (1981, 1997) argument from differential vagueness of location between neural and mental events. The argument is that (i) neural events occupy relatively precise locations while mental events occupy relatively vague locations, so that (ii) neural events are not identical to mental events. (The inference from (i) to (ii) presupposes that the vagueness is 'ontological'—merely semantic or epistemic vagueness can have no implications for real identities: see Noordhof 2001, §2) But this won't help. First, Pietroski himself is explicit that he doesn't want the case for event dualism to turn on this argument (2001a, §3). Second, locational individuation via differential vagueness would yield a strange quasi-dualism that countenances occasional identities in the off-cases of vagueness-matching. In any case I think that Pietroski should not rely on this argument, since the notion of ontological vagueness it presupposes is obscure at best.

fine-grained individuation, together with Pietroski's Strawsonian view of persons, *collapses event dualism into property dualism*. For when I enjoy mental event M and neural event N, (i) $O_M=O_N$: both are *me*, a single Strawsonian person; (ii) $T_M=T_N$: both are at the same time, or at least Pietroski doesn't want to presume that they definitely aren't; so (iii) the claim that $M \neq N$ has effectively collapsed into the claim that $P_M \neq P_N$.

So pending some further proposal about how to individuate events, it would seem that event dualism (insofar as it is supposed to oppose neuralism and exceed property dualism) is incoherent. Perhaps Pietroski can conjure up some further proposal for individuation that would salvage event dualism, though I would regard the failure to cohere with any of the main proposals in the literature as deeply worrisome.

Ontological framework: The standard three-part taxonomy of views allows for substance dualism, property dualism, and monism. This standard taxonomy is based on the orthodox substance-universal ontology that many attribute to Aristotle. On the substance-universal ontology events must ultimately be constituted by substances and universals, so an event dualism must ultimately be a dualism about either substances or properties: *there is nothing else to be dualistic about*. So event dualism can only constitute a coherent alternative to substance and property dualisms on a non-orthodox ontological framework.

The obvious suggestion for a non-orthodox framework that allows for event dualism would be one that countenances substances, universals, and events as basic categories. This framework, however, offends against economy. When there is an event in which Sally somersaults, the substance-universal portion of the ontology already recognizes a substance, Sally, instantiating a property, that of being-a-somersaulter. It seems as if the additional event portion is gratuitous. Moreover, given that basic categories are independent (dependence would seem to indicate deeper ontological structure, when by supposition there isn't any), gratuitous categories yield incoherent combinations. Here the gratuitousness of the event category yields (i) the combination in which the substance Sally instantiates the property of being-a-somersaulter without there being any event of Sally somersaulting, and (ii) the combination in which there is an event of Sally somersaulting without the substance Sally instantiating the property of being-a-somersaulter.

So perhaps a better suggestion for a non-orthodox framework that allows for event dualism would be one that countenances events but tries to reduce substances and/or universals. At this point one wants to hear more about exactly what framework this would be, and how the alleged reductions would work. Pending the development of such a framework, I worry that event dualism is indeed 'an obscure and panicky metaphysics'.

I should like to conclude this section, though, by suggesting that a *trope ontology* allows for a certain intermediary sort of dualism (*trope dualism*) that has some of the flavor of event dualism, in a way that might also resolve the problems of individuation. On a trope ontology, tropes (property tokens such as the redness of a rose and the roundness of the moon) are taken as primitive, substances are analyzed as compresence bundles of tropes, and property types are analyzed as resemblance classes of tropes.⁴

The trope ontology generates a *four-part taxonomy*, which includes analogues of the standard trio of substance dualism, property (-type) dualism, and monism, plus a fourth option, trope dualism, which falls between substance and property dualisms. The analogue of substance dualism would involve distinct mental and neural tropes in distinct compresence bundles. The new option of trope dualism would involve distinct mental and neural tropes in a single compresence bundle. The analogue of property dualism would involve a single neu-t-ral trope falling under both mental and neural resemblance classes. And the analogue of monism would involve a single neu-t-ral trope in a single resemblance class. Thus the trope ontology allows for the possibility that mentation involves one substance but two particulars (two tropes), in a way that is stronger than merely countenancing two property types.

In fact some trope theorists (such as Campbell 1981, pp. 128-30) identify events with trope sequences. Given this identification, trope dualism is very much in the spirit of event dualism.

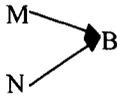
Moreover, trope dualism might resolve the problems of individuation discussed above. Elsewhere (Schaffer 2001a) I have proposed, as a plausible principle for trope individuation, that $T1 \neq T2$ iff either $T1$ and $T2$ are not exactly resembling, or not co-located. If something like that is on track then trope dualism is compatible with plausible principles for trope individuation.

Now I do not know whether Pietroski would be amenable to anything like the trope ontology sketched above. I merely wish to suggest that those skeptical of substance dualism but unsatisfied by mere property dualism have a coherent option here.

2. Mental Causation

Can the event dualist offer a plausible conception of mental causation? Pietroski provides an account of causation (or at least a sufficient condition for causation) that entails that both mental events and neural events cause the subsequent behavior:

⁴ This is the now-standard trope ontology proposed by D. C. Williams (1953) and further articulated by Keith Campbell (1981, 1990). One may also combine recognition of tropes with primitivism about substance, as suggested by C. B. Martin (1980), who attributes this view to John Locke.



And so mental events are said to be (overdetermining) causes.

Here is Pietroski's sufficient condition for causation: C causes E if (i) C and E are actual, distinct events, and (ii) there are singular event thoughts T1 and T2 such that (a) T1 is about C, (b) T2 is about E, and (c) T1 P-explains T2 (2000, ch. 3, §2.2).⁵ It remains to gloss the notion of P-explanation, which Pietroski thinks of as explanation via a style of deductive-nomological argument that allows for the use of (non-vacuous) *ceteris paribus* laws.

What I find problematic about Pietroski's account of mental causation is (i) his sufficient condition is not extensionally adequate, (ii) it is unclear what if any underlying conception of causation is in play, and (iii) his acceptance of psychological laws is in tension with his anti-naturalism.

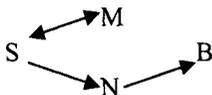
Extensional adequacy: Here are three counterexamples to Pietroski's sufficient condition. The first counterexample concerns *extrinsic descriptions*. Take any three events C1, C2, and E, such that C1 causes E but C2 does not. Consider the following singular event thoughts about C2: the event that occurred 100 miles from the occurrence of C1, the event that occurred 200 miles from the occurrence of E, the event whose occurrence did not cause the occurrence of E. Each of these singular event thoughts will generate its own DN-argument to the conclusion that E occurred. So by the sufficient condition C2 causes E, when by stipulation it does not. Here the natural solution would be to limit the allowable singular event thoughts to the intrinsic ones. But since Pietroski is interested in establishing the causal efficacy of contentful mental states such as tryings, this natural solution would require taking an intrinsic (*narrow*) view of content, which Pietroski himself opposes (2000, p. 192).

The second counterexample concerns *the causal asymmetry*. Suppose that C causes E, and that the subsuming law is a biconditional: $[(\forall x)(Fx \leftrightarrow (\exists y)Gy)]$. Then there will be a DN-argument from the thought that E occurred to the thought that C occurred. So by the sufficient condition E causes C, when by stipulation it is the other way around: C causes E.⁶ Here the correct

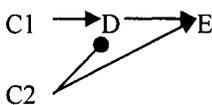
⁵ I've reformulated Pietroski's proposal by adding clause (i) (Pietroski informally recognizes the need for something like this on p. 103), and dropping the transitive closure part (none of the examples discussed in the main text require chaining).

⁶ Pietroski's provides a sufficient condition for being a non-vacuous *ceteris paribus* law (2000, ch.4, §4.2), which is supposed to build in an asymmetry. But (i) this simply does not apply when the law is strict, as in the example in the main text, and (ii) since Pietroski is only offering a sufficient condition for non-vacuity, the most he could show would be that the time-reversed version of the law fails to meet his sufficient condition, when what he needs to show is that the time-reversed version of the law fails to meet some *necessary* condition.

solution is not at all obvious; and it is non-obvious that a given solution will preserve the overdetermination picture, rather than yielding an epiphenomenalist picture on which the mental-to-behavioral law dissolves into (i) a stimulus-mental biconditional, (ii) a stimulus-neural law, and (iii) a neural-behavioral law:



The third counterexample concerns *preempted backups*. Suppose that (i) C1 and E occur, (ii) they are subsumed under a *ceteris paribus* law, (iii) C1 is cut-off on route to E, and (iv) E is produced by an independent causal route from C2:



For example, suppose that (i) I try to raise my arm (C1) and my arm rises (E), (ii) there is a *ceteris paribus* law linking tryings to results (Pietroski 2000, ch. 3, §3.3), (iii) I am struck by lightning (C2) in such a way as to short-circuit the electrical signal from my brain on route to my deltoid muscles (D), and (iv) the lightning strike causes my arm to rise anyway. Then there will be the right sort of DN-argument from C1 to E but obviously no causal link.⁷ This is the worst of the counterexamples vis-à-vis event dualism, since the neuralist may well charge that this is exactly how to describe ‘mental causation’ on event dualism. That is, the neuralist may well claim that the mental-behavioral link would be preempted by the neural-behavioral link (Kim 1989), which would then reinstate the very behavior that the mental event aimed unsuccessfully to produce. One natural solution to preemption is to require the existence of a connecting process. But it is not at all obvious that this solution would still allow mental causation, since one natural way of glossing a connecting process is via a physical mechanism.⁸

⁷ Pietroski is aware of this problem (2000, p. 109, pp. 134-5), and suggests that the *ceteris paribus* condition on the relevant law would be violated. I agree that this is intuitively the right reply, but I don’t see how Pietroski’s official conditions respect this intuition. Perhaps I am missing something here. But of this much I am confident: Pietroski ultimately needs a necessary condition *somewhere* to rule that things like preempted backups are not causes.

⁸ Thus David Fair says: “The first [preempting] hoodlum is the source of the energy that the baseball transfers to the window; the second [backup hoodlum] is not. And the first *causes* the window to shatter; the second does not.” (1979, p. 230; see also Wesley Salmon 1997, p. 475) Tropes to the rescue? –Douglas Ehring (1997) has argued that causal processes can be understood as the worldlines of tropes.

The concept of causation: It is unclear what underlying conception of causation is in play throughout Pietroski's discussion. Does Pietroski believe that his explanation-based sufficient condition holds (i) because causation is to be analyzed in terms of explanation, (ii) because explanation is to be analyzed in terms of causation, or (iii) something else? His official line is that he is merely providing a sufficient condition for causation, not an analysis or reduction (2000, p. 104; also p. 142). Yet his less official glosses are in terms of conceiving of causation in terms of explanation (2000, p. 4; also p. 89), and his applications sometimes presuppose the existence of an unarticulated necessary condition (2000, p. 141; also p. 144).⁹ Pietroski then returns to this issue in his final chapter (2000, ch. 7), and there endorses the Strawsonian view that causation is a primitive (and at times directly observable) relation.

If causation is to be analyzed in terms of explanation, then, given a DN view of explanation, the resulting concept of causation will be some variant of a lawful sufficiency theory in explanatory disguise. Pietroski ultimately rejects this option (2000, ch. 7, §1.1) because he thinks it requires a Humean regularity theory, which he takes to be in conflict with the intuition that causal relations are intrinsic to their relata (2000, p. 219). This is not quite right, since the notion of lawhood in play need not be read in a Humean way.¹⁰ But in any case I think that the dualist ought to be a Humean. If causal relations are just lawful regularities, then mental causation will become completely unproblematic.¹¹ More on this below.

If explanation is to be analyzed in terms of causation though, then (i) Pietroski's sufficient condition is trivial, and (ii) the neuralist will deny that the mental event really explains the resulting behavior, since she denies that the mental event really causes the resulting behavior. Nor should we expect her to be swayed by the existence of a DN argument in this case, since she will likely regard DN arguments as merely defeasible indicators for causal relations, and she will likely maintain that one of the defeating circumstances, namely preemption, is in play here.

And if causation is taken to be a primitive (and at times directly observable) relation, then (i) it is hard to resist the idea of 'causal *oomph!*' with its

⁹ Moreover if causation is prior to explanation it is hard to understand why Pietroski should bother attempting to account for the explanatory asymmetry in the relatively convoluted terms in which he does it, rather than just simply assimilating the explanatory asymmetry to an antecedently given causal asymmetry.

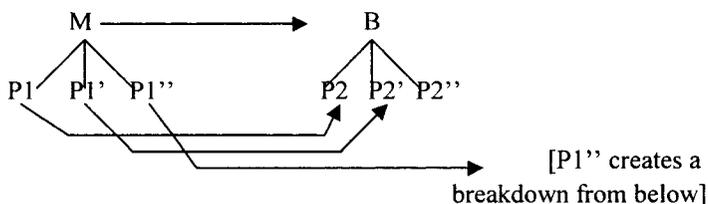
¹⁰ Thus David Armstrong (1999) has defended an identification of causal relations with instantiations of second-order Necessitation relations between universals, yielding a non-Humean lawful sufficiency view. Armstrong notes the 'welcome consequence' that, "[E]ach instantiation of a universal is complete in itself, so the law will be present *completely* in each instantiation. So where singular causation is the instantiation of such a law it will be a completely intrinsic relation." (1999, p. 184)

¹¹ While I admit that the intrinsicness argument against Humeanism has some intuitive force, I think there are independent and overriding reasons for rejecting intrinsicness, involving cases of *causation by disconnection* (Schaffer 2000, §3).

disastrous implications that overdetermination should generate excess ‘oomph!’ (–the person hits twice as hard, or jumps twice as far). Pietroski rightly rejects the association of causation with ‘oomph!’ (2000, pp. 238-9), but his primitivism is based on the idea that we observe “exerting physical force on physical things or having force exerted on us by physical things” (2000, p. 220) And this feeling of exerting force just *is* what is meant by ‘oomph!’. Moreover, (ii) it is hard to see why the theoretical posit of additional overdetermining factors wouldn’t be superfluous. I worry that Pietroski has implicitly slid from a reductionist conception of causation, to a primitivist oomph-style conception, to none of the above.

The perils of anti-naturalism: It is crucial to Pietroski’s account of mental causation that there are psychological laws of nature, and yet Pietroski denies that psychology is a special science and denies that the mental is part of the natural order (2000, p. 8; also p. 165). This is an awkward conjunction. Pietroski is welcome to stipulate that there are generalizations appropriate to the mental that, while not scientific, still count as ‘laws’ (laws of hermeneutics, perhaps?) But then he is not free to continue to suppose that subsumption under such ‘laws’ is indicative of explanation or causation.^{12,13}

This conflict between lawfulness and anti-naturalism comes to a head when one considers the possibility of a *ceteris paribus* law failing due to breakdowns from below. Pietroski recognizes that laws can fail due to the presence of ‘interfering factors’, but does not discuss whether those interfering factors must be at the same level as the foreground factors (all his examples have this feature) or may also be breakdowns ‘from below’ in which the abnormal circumstances cannot be described in psychological vocabulary, but rather represent failures in lower level mechanisms. Fodor’s (1974) picture of *ceteris paribus* laws is more attuned to the possibility of breakdowns from below than to the possibility of interference from beyond:



¹² Here it is worth recalling that Hempel only intended the DN theory to be an account of *scientific* explanation (hence his title, *Aspects of Scientific Explanation*).

¹³ Pietroski (2000, ch. 7) asks why the naturalistic relation that holds between N and B, and the non-naturalistic relation that holds between M and B, should both be counted as instances of the same relation, viz. causation. He answers that “given intentional *cp* laws, there is a substantive unity to instances of causation, even if mental events are not neural events.” (2000, p. 232) I think he has just pushed the bulge under the carpet. The question now becomes, why think the generalization covering N and B, and the generalization covering M and B, should both be counted as instances of the same relation, viz. lawhood.

I take it as obvious that there can be breakdowns from below (indeed my above arm-rising example, with a breakdown in the CNS, had this feature; such a breakdown is simply not capturable in the vocabulary of intentional psychology). But if mental events are *not* macro-events in the hierarchy of the levels of nature, then there is no 'below', and there is no explanation for how the breakdown of a physical mechanism could imperil mental causation.¹⁴

I should like to conclude this section, though, by suggesting that the event (/trope) dualist can provide a plausible account of mental causation if she accepts both naturalism and Humeanism.

By accepting naturalism, the event dualist gains four interrelated advantages. First, she locates mental events in the realm of scientific laws and explanations. Second, she locates mental events in the natural hierarchy with reference to which 'breakdowns from below' become explicable. Third, she exorcises what Pietroski himself recognizes to be "the last bastion of the spooky" (2000, p. 234). Fourth, she integrates the mental within an empirically plausible, structurally elegant, and laudibly non-anthropocentric *layered worldview*.¹⁵ (At this point the view should no longer be called 'dualism', since what is being postulated is a multiplicity of levels, including the physical, the chemical, the biological, and the psychological.)

Why then does Pietroski object to naturalism? Pietroski's primary objection, as far as I can see, is his concern that "our concept of action—what a *person* does, what *she* contributes to history—seems to exclude anything that merely happens due to nature." (2000, p. 153) His concern is that naturalism leaves us no room to distinguish actions such as throwing a rock, from mere happenings such as getting a bruise. But it seems to me that the naturalistic levels-theorist has exactly as much room to make this distinction as Pietroski does: in both cases the distinction is to be drawn in terms of whether there is

¹⁴ Noordhof (2001, pp. 27-8) raises this issue. Pietroski responds that (i) his embrace of supervenience allows him to explain this, and (ii) that this objection in some way illicitly assumes that "mentalistic cp-laws are just one more species of cp-law that we discover within the Scientific Image" (2001a, p. 9). As far as supervenience (if Pietroski is even entitled to supervenience: see §3), all supervenience says is that there can be no differences in M-respects without differences in N-respects. But this does not explain why M occurrences that are subvened by N1 occurrences lead to B, while M occurrences that are subvened by N2 occurrences do not lead to B. What needs to be explained is how the subvening differences can bear on the M-B connection, and supervenience alone does not touch this. As far as whether naturalism has been illicitly assumed, I don't understand what portion of the problem Pietroski thinks he is challenging here. Perhaps I am missing the point. Is Pietroski *denying* that there can be breakdowns from below in the mental case?

¹⁵ Kim is perhaps the leading exponent of this picture: "The Cartesian model of a *bifurcated* world has been replaced by that of a *layered* world, a hierarchically stratified structure of "levels" or "orders" of entities and their characteristic properties." (1993, p. 337)

a mental *trying* in play. The further issue of whether the trying is part of the natural order seems to me to have no lien on the room left for persons.

In general, the non-reductive levels-theorist ought to think that persons are natural macro-objects. Just as the non-reductive naturalist is happy to discuss mountains in geological terms, so she should be happy to discuss persons in psychological terms. And this means quantifying over the beliefs, desires, and tryings of persons. What more room could a person need?¹⁶

By accepting Humeanism, both the dualist and the levels-theorist gain a clear conception of causation that supports overdetermination. In this context Lynne Rudder-Baker (1993) and Tyler Burge (1993) have cited counterfactual accounts of causation, such as that of David Lewis (1973). While I am skeptical as to the general adequacy of counterfactual accounts of causation, I know of no counterexamples to the following sufficient condition for causation: C causes E if (i) C and E are actual distinct events, and (ii) $\sim O(C) > \sim O(E)$.¹⁷ This suffices to establish mental causation.¹⁸

The Humean view also serves (i) to dispel the worries about over-'oomph'ing, and (ii) to avoid the problem of theoretically superfluous causes. There is no problem of over-'oomphing' if causality merely reflects lawful patterns and regularities in the occurrences: overdetermination is merely concurrence of pattern. And there is no problem of theoretical superfluity if causality reduces, since the pattern is already in place.

So I wish to suggest that the overdetermination view is perfectly respectable, but fits best within a naturalistic and Humean perspective.

¹⁶ Elsewhere (Schaffer 2003) I have argued that the levels-theorist must be a non-reductionist, in order to offer a coherent account of the empirically open possibility that there is no fundamental level.

¹⁷ Kim replies that counterfactual dependence is consistent with the epiphenomenalist picture (see first diagram, p. 8), but his argument requires the use of the 'backtracking' counterfactual: $\sim O(M) > \sim O(S)$. Kim notes that the distinction between standard and backtracking counterfactuals (as presented in Lewis 1979) requires "heavy-duty metaphysical armor" (1998, p. 64) This is true (though so what?) but in any case all that is needed here is (i) an intuitive grasp of the distinction sufficient to establish that (ii) the behavioral-mental dependence is true in the standard way. The metaphysical armor can be forged at leisure later. Moreover, Kim's argument can be directly blocked by elaborating the counterfactual antecedent into: "had S still occurred and M not occurred, then ..." Here (i) the opportunity to backtrack has been explicitly blocked by the semifactual supposition about S, and (ii) the verdict that B would not have occurred remains the correct verdict (or so it seems to me, though Kim might dispute it).

¹⁸ Elsewhere (Schaffer 2001b) I have leveled objections to the counterfactual account of causation, and develop a hybrid counterfactual-process account, on which causes raise the probability of effect-processes. This view also supports overdeterminative mental causation. Indeed this view entails the sufficiency of the counterfactual condition in the main text (2001b, §3). I would submit that *any* plausible account of causation should entail the sufficiency of counterfactual dependence for causation, which would entail that any plausible account of causation will support overdeterminative mental causation.

3. Supervenience

Can the event dualist explain mind-body supervenience? The following thesis seems true:

(GS) If w_1 and w_2 differ in any mental respect, then they differ in some physical respect.

Indeed some more local supervenience theses seem true as well, but never mind those. Can the event dualist explain even the truth of GS? Supervenience theses like GS are mere theses of covariation, and are in need of deeper explanation (Kim 1998, ch. 1, §2). As Kim concludes, “mind-body supervenience *states* the mind-body problem—it is not a solution to it.” (1998, p. 14)

Pietroski acknowledges the need to explain mind-body supervenience (2000, ch. 6, §2.2), but maintains that he can provide an explanation in terms of the individuation of possibilities. In other words, Pietroski (i) distinguishes ‘ontological’ from ‘semantical’ explanations of supervenience (Terence Horgan 1993), (ii) maintains that a certain combinatorialist view of modality yields a way to individuate possibilities, in such a way as to yield (iii) a semantical explanation of GS.

What I find problematic about Pietroski’s explanation of GS is (i) GS seems to require an ontological explanation, and (ii) Pietroski’s semantical explanation invokes a physicalistic combinatorialism that is in tension with his event dualism.

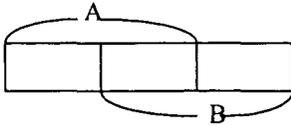
The need for ontological explanation: There are two reasons why GS seems to require an ontological rather than a merely semantical explanation. The first reason is that, intuitively, there seems to be nothing incoherent in the supposition that GS is false (as Pietroski is well aware: 2000, ch. 5, §1). Cartesian dualists have often denied GS, and while few accept Cartesian dualism these days, it is because of how poorly it fits into our burgeoning empirical knowledge, not because of any secret contradiction recently adduced. The second reason is that, internally, the explanation for GS is supposed to explain why mental and physical events covary, given that they are distinct particulars. And it just does not seem that any merely semantical story can explain real covariation between distinct particulars. Being told that ‘we don’t count worlds that way’ leaves me, at least, perplexed rather than enlightened.

The reliance on physicalistic combinatorialism: Here is the combinatorialist thesis that Pietroski invokes, as he connects it to the explanation of GS:

[P]ossible worlds are possible arrangements of the basic objects that make up our universe; because these objects have physical natures, the space of possible arrangements of basic objects respects the constraint, ‘no difference without a physical difference’; and this provides a dualist-friendly account of GS. (2000, p. 196)

Now I will grant the adequacy of a combinatorialist conception of modality, for the sake of discussion.¹⁹ But I object that the event dualist has no right to this version of combinatorialism.

The underlying combinatorial intuition is that possibility is rearrangement. This is an elaboration of Hume's principle that 'anything may coexist next to anything'. Hume's principle needs to be restricted, of course, to distinct existences. If, for instance, A and B share a common part, then recombination may fail:



This leads the combinatorialist to postulate ontological atoms, or building blocks, which are the (alleged) basic and independent components that comprise the house of being. Possibility is then taken to be recombination of atoms.

Now *if* one is a physicalist one should think of the ontological atoms as physical. But *if* one is an event dualist for whom mental and physical events are distinct particulars, then one has no principled reason to restrict recombination betwixt. Or, to put this point another way, if the event dualist restricts recombination so that it does not apply to certain distinct particulars (*viz.*, her mental and physical events), one wants to know what justifies this restriction. And so it seems that the bulge has not even been pushed very far under the carpet: the problem of explaining GS has become the problem of explaining why mental and physical events cannot differently recombine.

I should like to conclude this section, though, by suggesting that the dualist should take supervenience theses like GS to hold merely *nomologically* (rather than metaphysically). That is to say, the dualist should postulate the existence of contingent 'bridge laws' between mental and physical.²⁰ By accepting nomological supervenience, the dualist gains three main advantages. First, she gains a genuine ontological explanation for covariation. Second, she respects the intuitively plausible claim that disembodied Cartesian minds (with their associated non-supervenience) are metaphysically possible. Third, she enhances the non-reductionistic flavor of her view, by allowing the mental and physical to be genuinely metaphysically independent.

Combining my suggestions: I would replace Pietroski's unnatural dualism of ghostly and mechanical events, with a naturalistic layering of physical, chemical, biological, and psychological tropes in lawful harmony.

¹⁹ For a defense of combinatorialism, see Saul Kripke (1980) and especially David Armstrong (1989). For further discussion see David Lewis (1992).

²⁰ And the levels-theorist should postulate contingent bridge laws through the hierarchy.

In conclusion, Pietroski's *Causing Actions* represents a thoughtful and intriguing attempt to articulate a novel dualistic framework. I remain sympathetic to Pietroski's general non-reductionistic attitude, but skeptical as to whether his event dualism is the best way to make sense of this attitude. Still I think that Pietroski has succeeded, both in bringing new options to light, and in pointing to spaces between substance and property dualisms. The rest is mostly a matter of details.

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