

## Tropes and mental causation

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### *Troubles with mental causation*

There is a philosophical position that *prima facie* everybody wants to defend. This is the view according to which our beliefs and desires cause our acting and thinking. It is my desire for climbing Mont Blanc together with my belief that it takes at least 14 hours to climb it that brings about my decision to wake me up at 2 o'clock in the morning which, in turn, cause my hands movement in setting the clock's alarm. This point of view entails the idea that mental states of any sort - beliefs, desires, and conscious states - can efficaciously cause physical states of some sort - physical behaviours included those of the phono-articulatory system.<sup>1</sup> At the same time, the general theoretical wish described it is assumed not only with respect to the causal efficacy of the mental with respect to the physical, but also regarding the relations between the mental states themselves, taken to be causal in nature. However, since the problem of mental causation has many facets, the general position mentioned immediately fragments itself into a myriad of differentiated positions, each considering one or the other requirement or constraint as the critical one in the agenda.

The requirement that most jeopardize the causal efficacy of mental properties is the principle of causal closure. This principle can be formulated as follows: if a physical event has a cause at  $t$  it has a physical cause at  $t$ . The reason for endorsing such a principle lies within the continuous empirical success of physically oriented sciences: whenever a phenomenon has been individuated, it has been controlled through other physical phenomena. Adopting such a principle immediately creates a tension for the causal efficacy of mental events and properties. Why this is so can be easily seen; if my setting the clock's alarm is a physical event, as is reasonable to think, then it must have a physical cause at some time  $t$ . So, my mental decision either is a physical cause or it does not play any causal role. If the first solution is accepted, then the mental is efficacious just because it is physical, if it is the second one that is endorsed, then the mental is causally idle from the very beginning. In both cases, the mental does not play any causal role by itself.

This conclusion, however, is a little hasty. One possible retort is to consider my mental property as concurring with some physical property of my brain in causing my physically setting the alarm. This position is fine as long as one accepts what has been dubbed "overdetermination". This term indicates the option in which in a given causal relation the effect is not caused by a single property

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<sup>1</sup> For ease of formulation, in this paper I will use, somewhat interchangeably, "properties" and "states". I take mental states to be exemplifying mental properties, so that being in a pain state is having the property of being in pain.

or event but by many, each of which is singularly sufficient for the relation to obtain. The canonical example is that of the two killers shooting at the president at the very same time in two (or in the same) vital spots, bringing about his death one independently from the other and each being sufficient for that end. One of the difficulties with this position is that it seems unnecessary to imagine such a metaphysical richness in the physical domain. In fact, in accepting such a view one would have to consider that any causal relation would be the result of one or more independently sufficient causes concurring at the same time to bring about one and the same effect. This result is somewhat anachronistic: at the beginning of the twentieth century Bertrand Russell attacked causation considering it as the “relic of a bygone age”, and it seems preposterous that nowadays we multiply (without necessity?) the elements at stake!

However, the case for overdetermination, in the condition of the concurring physical and mental properties, presents a second problem: mental and physical properties are not *on a par* as to their sufficiency. A physical property of my brain could cause the physical event of my setting the alarm without any mental property occurring in me, as when I am hypnotized or when is active only the relevant circuitry of the brain for setting the alarm while the rest is somewhat “frozen” and I have no consciousness of such situation. On the other hand it does not seem possible that I have a mental property that causes my physical event of setting the alarm without any physical property specifically occurring in my brain, and this for two reasons: first, you cannot make a movement in my arm happen without some physical interaction; secondly, such an option would violate the supervenience relation between physical and mental properties, a relation that is taken as a minimal requirement for connecting the mental and the physical.

One possible retort is to observe that mental overdetermination is not concurrence (two singularly sufficient causes) but compresence (mental and physical properties working together), a retort somewhat aired by Tim Crane. According to him, “if we believe that mental and physical states are linked by psychophysical laws—a claim which is defensible on independent grounds—then overdetermination would not be a coincidence: it would be a matter of natural law that the mental and the physical causes both bring about the effect” (Crane 1995 p. 19). How are these laws supposed to work? If mental *and* physical properties or events go hand in hand in causing, then each of them is singularly necessary and jointly sufficient for causing. This entails that had I had pain I would not have taken aspirin were I not in such and such physical state, and the same for the mental

state. They are both causally idle by themselves. Such an option, however, is open to two lines of reply: the mentioned physical cause is not the right one (that's why is not sufficient); how is the mental giving the "extra-bump" to the physical effect if not in physical terms (which would bring us back to the previous objection)? It seems then, that overdetermination should be excluded as a viable metaphysical option.

Inevitably, the requirements and constraints are piling up: mental events cause physical events provided that they respect the principle of causal closure without entailing overdetermination. A straightforward way to meet these requirements while saving mental causation is to identify the mental with the physical. As we know, there are two ways in which *identity* can be spelled out: either at the token level or at the type level. Token identity, when applied to properties, states that a specific mental property, spatio-temporally individuated in its occurrence, is identical with a physical property, one that occurs at the same time and at the same location. Type identity is more abstract: a type of mental property, say *having pain*, is identical with a type of physical property, say *having C-fibers firing*.<sup>2</sup>

The latter reading of the identity thesis has been attacked since the sixties, while the former view has resisted the attacks. According to Donald Davidson -- that endorsed the token identity thesis for events -- mental events do cause physical events without the formers being identical to the latter while meeting the aforementioned requirements. How so? Here Davidson is, so to say, trading on the "identity ambiguity": mental events are type distinct from physical events, thus safeguarding their epistemological autonomy, but are token identical to them, thus allowing their causal efficacy. In this way, he can hold three different principles apparently at odd to each other: mental events causally interact with physical events; events related as cause and effect are covered by strict deterministic laws; there are no strict deterministic laws that cover mental events. He shows that the three principles are consistent by stressing that while causation is an *extensional* relation - any causal relation holds no matter how events are described - predictions and explanations, that are possible in virtue of laws, are *intensional*, so crucially depending on the way in which events are described. It is on this respect that what I have called the "identity ambiguity" finds its place: laws establish correlations between types of events; since mental types, given their holistic and normative character, are quite distinct from physical types, there is no way of establishing laws

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<sup>2</sup> Adopting a kimian metaphysics, from the identity of mental and physical properties follows the identity of mental and physical events. According to Kim, in fact, (1976) events are structured entities comprising an *object* having a *property* at a *time*. So, once the identity of the object and the time is secured, a viable option, the identity theory reduces to property identity in that having pain now is identical to having brain state B now if and only if the property of having pain is type identical to the property of having state B. Davidson (1969), vice versa, takes event to be nonstructured entities. An event is mental if individuated through a description in which mental predicates occur; it is physical if physical predicates are used.

comprising them at this level. On the other hand, given the extensional nature of causal relations, there is no problem in identifying mental and physical events as tokens.

Davidson's solution has been charged of epiphenomenalism, the position according to which mental events can only be effects but never causes of physical events. The problem is that causation is guaranteed by subsumption under a law, but such a subsumption is possible only by considering physicalistic descriptions of events, and a description is physicalistic in that it takes into account just physical properties picked out by physical predicates. So, an event is causally efficacious only inasmuch as it is individuated through its physical properties. As Kim has argued "on anomalous monism, events are causes and effects only as they instantiate physical laws, and this means that an event's mental properties make no causal difference" (Kim 1989, p. 35).

Davidson's reply has centered on the irrelevance of descriptions as to causation: "if causal relations and causal powers inhere in particular events and objects, then the way those events and objects are described, and the properties we happen to employ to pick them out or characterize them, cannot affect what they cause". (Davidson 1993, p. 8). And also "For me is events that have causes and effects. Given the extensionalist view of causal relations, it makes literally no sense [...] to speak of an event causing something as mental, or by virtue of its mental properties, or as described in a way or another" (Ibid, p. 13). However, it seems that the problem is still there. For, as Kim (1993) protests, the causal efficacy is captured by the instantiating of a law, and since mental predicates *cannot* be mentioned in strict causal laws, because strict laws using mentalist vocabulary are deemed not to exist, the presence of mental properties in a given event guarantees nothing more than their relevance. So, mental properties are at most relevant but not efficacious with respect to causal relations.

It is interesting to consider the reason Davidson mentions as a source of confusion in his critics. "Why have there been so many confusion and bad arguments in the discussion of AM, AM+P, and supervenience?"<sup>3</sup> The main source of confusion, I think, is in the fact that when it comes to events people find it hard to keep in mind the distinction between types and particulars" (Davidson 1993, p. 15). Davidson thinks that the causal efficacy of properties manifest itself if they make a causal difference in the powers of *individual* events, and that the idea of identifying them with physical properties is the result of confusing particulars with types of events. Such a mistake is present in the case of an example given by Sosa too. Sosa (1984) imagines someone killed by a loud shot. The loudness, however, is irrelevant to the death: had the shot be silent it would have killed the victim anyway. Mental events or properties, Sosa argues, are analogous to the loudness of the shot, hence

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<sup>3</sup> By "AM" Davidson means anomalous monism, by "P" the premises that (i) mental events are causally related to physical events and (ii) that singular causal relations are backed by strict laws, which are the new formulations for the firsts two principles already mentioned.

they are causally inefficacious. Davidson points out that the counterfactual is ambiguous: even if the silent shot would have resulted in *one* death,

“[...] It would not have been the *same* shot as the fatal shot, nor could the death it caused have been the same death. The ambiguity lies in the definite description ‘the shot’: if ‘the shot’ refers to the shot that would have been fired silently, then it is true that that shot might well have killed the victim. But if ‘the shot’ is supposed to refer to the original loud shot, the argument misfires, for the same shot cannot be both loud and silent. Loudness, like a mental property, is supervenient on basic physical properties, and so makes a difference to what an event that has it causes. Of course, both loud and silent (single) shots can cause a death; but not the same death” (Davidson 1993, p. 17).

I have quoted Davidson at length because, I think, in this passage he is adopting a tropist view, in particular a tropist view of events. Such a view seems crucial in rescuing one of the most important theories aimed at vindicating the causal efficacy of mental properties while preserving their autonomy. We should consider what tropes are and if they can be of any help in solving the problem of mental causation *vis a vis* the causal efficacy of mental properties.

### *Tropes*

The notion of *trope* has had a variable fortune in the history of philosophy. It was familiar as *individual accident* in Aristotle and in the Scholastics, *mode* in Locke and as *property of monads* in Leibniz. In the next to the last century, however, the notion of *trope* made sporadic appearances, however it has received greater attention in the last one. As to the word, it did not receive much consensus until 1953. In that year Williams (1953) decided to use the same word Santayana used to pick the essence of an occurrence. Williams’ end, however, was the opposite: he took “trope” to pick the occurrence of an essence. Campbell (1981; 1990), following Stout (1921), has defined tropes as *abstract particulars*, thus interrupting a tradition that contrasted properties, taken as abstract entities, with particulars, considered as concrete items. The two contrasts, abstracts *vs.* concretes and universals *vs.* particulars, are logically independent one from the other, and so it is conceptually admissible to scrutinize other possible intersections beyond the usual two of abstract universals and concrete particulars. It is with this spirit that abstracts particulars have been isolated as crucial items to face many of the dilemmas concerning properties taken as universals (and Williams has even mentioned “concrete universals”, such as *Socratesity*).

The reason that has mainly motivated the introduction of tropes in metaphysics has been that of placing universals, so to say, down at ground zero. Campbell (1981) takes tropes to have moderated the metaphysical scandal of imagining entities, as universals are taken to be, that are scattered through space and time while enjoying the paradoxical form of being wholly present wherever and

whenever they are instantiated. On the contrary, tropes are not repeatable entities: any trope completely exists in a given and specific spatio-temporal location. To compare universals and tropes let us consider red. If *Red* is taken as a property, a universal, it could be considered as wholly existing in each singular instance even if no instance is necessary for its existence, provided that there is at least one instance. On the other hand, if red is taken as a trope, we have to decline it as *this-red-now*, and it is thoroughly realized in a specific spatio-temporal location, so it cannot be repeated. Beside unrepeatableness, there is a second major distinguishing feature of tropes: universals can be considered as independent entities, in particular if one admits the idea of non instantiated universals - an hypothesis that is in conflict though with the previous characterization - while tropes cannot be so conceived: they need to be spatio-temporally located. This is a substantive issue: for instance, Armstrong (1989) thinks that uninstantiated universals, possibly defended by Plato in the *Republic*, should not be accepted, being the upshot of a semantic fallacy resulting from assuming that every predicate gets its meaning from a prior existing universal. Moreover, the possibility of uninstantiated tropes is self-contradictory, given their intrinsic spatio-temporal nature. This might entail that postulating tropes presuppose something like a realistic stance on the space-time structure, a point I wish to leave aside. So tropes are particularized properties – specific properties instances –; spatio-temporally located – here and now –; and abstract - many of them can be spatio-temporally compresent.

It might seem that tropes are meant to dismiss the type-token distinction. In the case of universals, in fact, the relation between *Red* as such and red items in the worlds is taken to be one of instantiation or exemplifications. Tropes, on the contrary, being particularized, do not need, *prima facie*, to have general counterparts. However, such a distinction has to be recovered if the “identity ambiguity” strategy has to have a chance, and it surfaces in the reflections of some scholars. Williams, for instance, says that tropes participate in two kinds of combination groups: on the one side they *concur* in the *sum* that constitute concrete objects (this lollipop is the sum of this colour plus this flavour plus this shape plus ...) giving rise to the bundle theory of particulars; on the other hand, each trope falls into the set or class of all tropes that have with it the relation of being *precisely similar*: “Speaking roughly ... the set ... of tropes precisely similar to a given trope ... is the abstract universal or ‘essence’ which it may be said to exemplify” (Williams 1953, p. 117). This is not to say that tropes are the instantiation of universals, rather that some generalization is in order in the case of tropes as well.

One way to regain the type-token distinction is to suggest that tropes as such are the counterpart of token properties, while on the type side one must consider resembling tropes forming classes, either naturally or nominalistically considered. Laws of nature, for instance, even if expressed in

terms of universals, would in fact refer to classes of precisely resembling tropes. Here the notion of *resemblance* has to be considered a primitive one, so that judging something as resembling to something else must be considered as the direct apprehension of an act of acquaintance. For instance, we judge two patches of red as being precisely similar to each other simply by observing them, and taking such observation as a self standing justification of any statement of similarity (this is Williams and Campbell's position). And tropes, taken as the *respects* in which objects resemble each other, are "realistically conceived universals" (Campbell 1981, p. 134). However, resemblance as the features through which tropes are collected together in classes, should not be considered only in its perceptual construal. In fact, we may say that all electrons have a precisely similar charge trope without taking this similarity as being grasped by an act of acquaintance. In this case, the similarity judgment is driven by causal considerations (see Simons 1994).

The last case points out that tropes can be placed in the same class also when they have the same causal role. In such a case two tropes are similar if they enter into similar causal patterns, that is, if they have similar causes and similar effects. Douglas Ehring (1997) has maintained that the metaphysical task of solving the problem of causation is a major one for which tropes are invoked. He thinks that tropes can replace state of affairs, facts or events as causal *relata* for any single causal relation.

So, properties-as-universals and tropes differ in the way in which they cope with causation. Properties figure as the vehicles for causal interactions between events. An event *c* is said to be a cause if and only if there is at least one property that determines the holding of another event *e*. The stone is the cause of the shattering of the window if and only if there is at least one property of it, its force, that determines the shattering; the mental event is the cause of the raising of the arm if and only if there is at least one property of it, being a desire to do such and such, that determines the raising. However, since no causal relation in the world is exactly *determined* solely by the properties called for in its description or explanation, we need to hedge such epistemical statements with provisos and *caeteris paribus* clauses.

Tropes, on the other hand, bear within the epistemic statements the specific conditions in which the causal relation took place, so avoiding any extra ingredient in the description or explanation of the causal happening. It has been precisely *this rock throwing* that has determined *this glass shattering*. Another throwing would have resulted in a different shattering. This makes tropes subject to very thin and subtle individuation conditions, that is, their unrepeatableness and spatio-temporal location determining a singular causal relation. Now, how can tropes help to cope with the problem of mental causation?

### *Mental causation*

Tropes have been placed at service of mental causation by David Robb, along the lines suggested by Davidson.<sup>4</sup> The basic idea is, again, to trade in the “identity ambiguity” so as to have one reading of the notion of property (or event) at the general level and another at the implementation level. Robb affirms that the problem of mental causation is how to reconcile the following three principles:

*Distinctness*: mental properties are not physical properties<sup>5</sup>;

*Closure*: every physical event/property has in its causal history only physical events/properties;

*Relevance*: mental properties are (sometimes) causally relevant to physical properties.

Robb’s idea is to construe “properties” as types in *Distinctness*, in order to differentiate the mental and the physical, and to read them as tropes in *Closure* and *Relevance*, warranting in this way their causal relevance without violating the principle of causal closure (Robb 1997, pp. 187-8).

Through this solution the hypothetical competition between physical and mental causes disappears because of their trope identity; at the same time, such a solution salvages a functional view of the mind. Here is how Robb expresses the point: “Although second-order mental types and the first-order physical types that realize them are distinct, their tropes are the same” (Ibid. p. 190).

The difficulty in this approach, however, can be well made evident. Consider a mental trope of pain, call it *m*. In order for this trope to be a *mental* trope it has either to be the referent of a predicative expression referring to mental properties or to manifest a causal pattern of interactions typical of mental properties. In either case if the *m* is to be a mental trope it must be subsumed within a “second-order mental type”. But this very trope has to be, at one and the same time, a physical trope. In order to determine what type of property a given trope is, one has to refer to the class or type it belongs to. So, if *m* has to be counted also as physical, then *m* belongs to a physical type too. The outcome is that *m* belongs both to a physical and to a mental type. If this is the case, either *m* is not a trope, because it is more than one simple property, or mental and physical types are identical, thus violating the distinctness condition because what makes mental and physical properties different is their belonging to distinct types. No solution seems acceptable in Robb’s perspective.

Let me consider in more details the view that tropes have to be simple. In general, a trope is considered a particularized property, a singularity. Being particularized, it has a spatio-temporal individuation, but any trope is not just a spatio-temporal point-instant, otherwise it would be

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<sup>4</sup> But see John Heil (2003) as well.

<sup>5</sup> On some interpretation of the principle the same holds in case of events.

something like a bare particular (actually, bare particulars may not even have spatio-temporal point-instances being these conceivable as the properties of being here and now.) What is crucial for a trope is being that very specific property-now-here it is. Ehring (1997) has forcefully argued for a conception of trope as persisting entities, but this does not affect the idea that a trope just is *one* specific property. Take being *red-and-spherical-here-and-now*. This cannot be a simple trope, otherwise *red-here-now* would be not a trope but, possibly, a part of it, contrary to our intuition. Rather, these are two compresent tropes (*red-here-now* and *spherical-here-now*) pertaining to two different classes of similarity (this-red tropes and this-sphericalness tropes) that are compresent (here-and-now). It is in this framework that objects are thought of as bundles of compresent tropes, where tropes have to renew themselves continuously, in case they are taken to have instantaneous lives, or not, if considered as persisting. It is of no help to make the hypothesis that being *red-and-spherical-here-and-now* is a compound or complex trope. In fact, compound or complex tropes, as have been sometimes described, are homogeneous entities. If an electron has charge of  $200e$  such a trope may be thought as the conjunction of two  $100e$  charges, and if a ladder is a twenty-foot one, it may be thought as a complex composed of two ten-foot adjacent ladder tropes (cf. Ehring 1997, pp. 117-9), but a conjoined or complex trope is in no case the result of two type-distinct tropes. You cannot fuse two type-distinct tropes nor operate a trope fission resulting in two type-distinct tropes as if they were a simple trope. If that were the case, then a *red-and-spherical* trope would not resemble more to a *red-and-pyramidal* trope than to a *green-and-pyramidal* one, contrary to our shared intuition. Or, one could say that the splitting of a *red-and-spherical* trope may result in two *red-and-semi-spherical* tropes, as if we were cutting a physical object, an option that I do not consider viable. So, the simplicity of a trope is guaranteed by its realizing a unique and singular feature, an aspect that Robb's view violates. However, other difficulties hide behind Robb's position.

Imagine a trope pertaining to two different resembling classes, as is the case with Robb's idea that the same trope falls in two different types. Such a possibility gives raise to the vexed question of "it is in virtue of this or that aspect that the trope was causally relevant?" Such a question was named the "*qua* problem" and it engendered the *quasation* issue, according to which one may ask if it is *qua* mental or *qua* physical that a given event caused any other event. Both Davidson and Robb dismiss the question from the very beginning. Davidson has a purely extensionalist view of causation, and Robb seems to take the strictly singular individuation condition for tropes to solve the issue: "A causally relevant property *F* simply does not have various aspects such that one can legitimately ask whether some but not others are responsible for *F*'s being causally relevant" (Robb 1997, p. 191). However, his trading in what I have called the "identity ambiguity" reveals that such

an option is not viable for him: he is trapped into the *qua* issue. Noordhof (1998) has attacked Robb on similar grounds. He says “Did the glass shatter as a result of the soprano’s singing a note in virtue of its *pitch* or its *meaning*? We want the answer that it is the pitch ... how does the trope theorist get this answer? What stops someone from saying that the meaning of the note is causally relevant because the meaning trope is identical to the pitch trope?” (p. 225). The problem, according to Noordhof, lies in the identity conditions for tropes which are at this point taken to involve a supervenient relation between the types to which the soprano note belongs. This is no solution, though, because we are back to the original problem of mental causation, so pushed back in our starting point.<sup>6</sup>

Robb replies<sup>7</sup> that the task of determining the individuation conditions for tropes is a red herring when it comes to establishing the identity of mental and physical tropes, because such identity is secured by the fact that tropes reconcile the three principles of *Distinctness*, *Closure* and, in particular, *Relevance*. So, the task of detailing the individuating conditions for tropes can be pursued after trope monism has been secured (Robb 1998, p. 94). However, it is far from clear whether trope monism has been so secured, for the trading in what I have called the “identity ambiguity” is precisely what raises the problem. In fact, tropes monism cannot be secured by endorsing *Distinctness*, because the very notion of property used in that principle serves the purpose of differentiating between mental and physical types of tropes. So the only option left, the one compatible with *Closure* and *Relevance*, is spatio-temporal localization. However, the possibility of affirming the co-localization of two tropes is not enough for establishing their identity: the rotation of the Earth and its cooling down are two tropes occurring at the same time and in the same place, they coincide as to their quadric-dimensional world-line, but are two different tropes, being individuated through two different causal powers, or aspects, or simply being the two tropes *prima facie* quite different. We cannot say that these are one and the same simple trope, because they do not have the same causal powers, the same conceptual role or whatever preliminary individuation conditions for tropes you like. Co-localization is not enough for identity (cf. Casati-Varzi 1996). Finally, it is even possible to affirm, with Lowe (1994, p. 533), that “abstract objects, both universals and particulars, have timeless identity-conditions”, and spatialless either. The same applies to mental and physical tropes: even if my belief that *p* and my brain state *b* were happening in the very same space-time, this would not secure their identity. If this were the case, it would constitute a *reductio* for the interesting, and for many aspects important, thesis of trope persistence. Take my supposedly enduring belief that I am Simone. I retained it since time *t* and up to time *t'*. Suppose

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<sup>6</sup> Sidney Shoemaker has raised a similar worry (2003, p. 433-4),

<sup>7</sup> Moreover, Robb thinks that another advantage in introducing tropes instead of events as the properties of causation is that these are not the relata of causal relations (*vs.* Ehring on this) rather they are the properties that determine such relations.

that the relevant neurons that were active at  $t$  when I held that belief have died and that I hold such belief at  $t'$  in virtue of other neurons. Since nothing is physically the same, it is not possible to argue that I retained the same belief because all the spatio-temporal conditions have changed: so persistent beliefs are not possible. If these are not possible is not even possible to change one's own mind, this being the result of transforming one of one's own enduring beliefs, a line of reasoning quite familiar in the semantics debate concerning holism.

The upshot of this discussion, I think, is that the red herring lies in fixing the individuation condition for tropes *prima facie* in their spatio-temporal locations. Such condition is the result of trading in the "identity ambiguity", because the difference between mental and physical properties in *Distinctness* is established on second-order types (or resembling classes) while their identity is established in the trope reading of *Closure* and *Relevance*, where the only condition for setting the identity in such cases is spatio-temporal co-localization. If the co-localization is a red herring for the individuation conditions, what is left for individuation is the very property itself. This is not surprising, after all: when two tropes are placed in the same resembling class, or are judged to be precisely similar, they are so not in virtue of co-localization but in virtue of the property itself. Such an option, though, is not open to Robb and Davidson because they want to maintain *Distinctness*. This unsurprising result, then, has serious consequences for the attempt to rescue a davidsonian strategy in the mental causation debate.

It should be noticed that even making appeal to the modal status of tropes could not be of any help. As the loud shot could not possibly being the silent shot, accordingly the same event could not be mental and physical by *fiat*, unless committing oneself to some *petitio principii*. So, if spatio-temporal co-localization is not enough to secure identity as to *Closure* and *Relevance vis a vis Distinctness*, what is left to this end? Nothing else, I think. Tropes, then, reveals themselves as useless for solving the problem of mental causation. One may wonder whether this conclusion is limited to the problem of *mental* causation or can be applied to causation in general. It seems to me that the difficult issue in the case of causation is raised by *Relevance*, where different levels of description are at stake. In this respect, tropes do not seem to provide a substantial help, being tailored to solve the metaphysical scandal of having entities, as universals could be taken to be, scattered in space and time. However, if this scandal is of some help in solving a conundrum, as causation is, I rather prefer to live with it.

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