

Tropes' Simplicity and Mental Causation

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ABSTRACT. In this paper I first try to clarify the essential features of tropes and then I use the resulting analysis to cope with the problem of mental causation. As to the first step, I argue that tropes, beside being essentially particular and abstract, are simple, where such a simplicity can be considered either from a phenomenal point of view or from a structural point of view. Once this feature is spelled out, the role tropes may play in solving the problem of mental causation is evaluated. It is argued that no solution based on the determinable/determinate relation is viable without begging the question as regards the individuating conditions of the related properties. Next, it is shown that Robb's solution, much in the spirit of Davidson's *anomalous monism*, entails abandoning the assumption that tropes are essentially simple, a consequence that I find not acceptable. My conclusion is that these entities are of no help in solving the problem of mental causation, and that a universalist approach should be preferred.

1. Introduction¹

In the past few years, a number of authors have argued that *tropes* can play a crucial role in solving many of the conundrums connected with the causal status of mental properties. In particular, if one adheres to Davidson's *anomalous monism*, as Robb 1997 does, these entities, more than properties conceived as universals, are appropriate to meet the many requirements that are set to face the issue of mental causation. My aim in this paper is to argue that tropes are not suitable for such a task. In particular, the key assumption that allows tropes to carry the burden of the solution is, in my view, incompatible with one of the crucial features of tropes themselves, that is, their simplicity. In order to clarify all this, the first step is that of qualifying tropes by making explicit their essential features.

¹ For comments on a previous draft, and a far ancestor, of this paper I express my gratitude to Francesco Orilia and David Robb. I thank Vicky Michela for the precious editing she provided.

2. Tropes

The notion of *trope* has not had a smooth history in philosophy. It could be traced in notions such as *individual accident* in Aristotle and in the Scholastics, *mode* in Locke (see Lowe, this volume) and *property of monads* in Leibniz. However it received greater attention in the last century, when 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 (in both his 1981 and 1990 works), 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. His idea was that the two contrasts, abstracts vs. concretes and universals vs. particulars, were logically independent one from the other, and so it was conceptually admissible to scrutinize other possible intersections beyond the usual two 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*).

One of the main reasons to introduce 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 specific space-time location, hence they are *particulars*. 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 interpret it as *this-red-now*, and it is thoroughly realized in a specific space-time location, in such a way that it cannot be repeated. What is more, tropes *have to* be space-time 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 the assumption that every predicate gets its meaning from a prior existing universal. But the possibility of uninstantiated tropes is self-

contradictory, given their intrinsic space-time nature. This might entail that postulating tropes presupposes something like a realistic stance on the space-time structure, a point I wish to leave aside.

At the same time, and here we come to the second distinguishing feature of tropes, *this-red-now* can be space-time compresent with other tropes. For instance, following Williams, consider a lollipop: it is red, sweet and round. So, *this-red-now*, *this-sweet-now* and *this-round-now* all share the same space-time location. Now, if two or more concrete items were in the same space-time location they would be identical; but *this-red-now*, *this-sweet-now* and *this-round-now* are not identical, having quite different individuation conditions. Because they are in the same space-time and are not identical, they must be *abstract*. There is a way to challenge this argument: this statue and the clay it is made of are in the same (region of) space-time but they are not identical: the clay, but not this statue, could have been of a different shape. However, between *this-red-now* and *this-sweet-now* there is not a relation of constitution, like one that holds for the statue and the clay. So, we may counter the above argument by saying that compresent entities are abstract, provided that they are not related by a constitutional relation.²

This second feature of tropes, abstractness, received a cognitive reading in Campbell's 1981 paper. He thinks that we may get the lollipop's redness by abstracting it away from its other tropes, for instance its flavor and shape. This does not make the red in question a purely mental feature: that red is perfectly objective, but it needs a cognitive act to isolate it. Hence, the abstractness of tropes, according to Campbell, is not the consequence of space-time compresence, but rather of an act of abstraction, or mental focusing. In the following, I will mainly insist that the space-time compresence is the crucial feature for abstractness, even if nothing will crucially depend on such an assumption.

A third feature of tropes is, as Maurin 2002 insists, their *simplicity*. This seems to be the result of their being both particular *and* abstract. In fact, particularity and abstractness are individuation conditions for tropes in that tropes are specific features of a given space-time location. As Campbell uses to say, any abstract feature of a space-time location "monopolizes" it in that, in that very space-time location, you cannot have

² Simons 1994 notes that an entity is abstract if it is not in space and time. For him, then, tropes are not abstract in this sense; rather they are abstract because they exist only inasmuch as they depend on something else to exist. Abstractness would be parasitic on concreteness, though, thereby excluding a possible world comprising solely abstract entities.

a second feature for the same dimension. For instance, if the lollipop is red, in that space-time position you cannot have a different feature in the colour dimension, while you can have some feature for the taste dimension, i.e. sweet. The colour dimension in that space-time location, then, is monopolized by that shade of red. Here “dimensions” can be taken as characterizing qualities, of any kind. This view somewhat entails the old substratum-property theory, which one may want to avoid in favor of a bundle view (Simons 1994, Robb 2005). Moreover, it seems that simplicity would not play any substantive role over and above particularity and abstractness. So, what is the distinguishing feature of simplicity vis-à-vis particularity *and* abstractness?

The concept of abstractness, as we saw, *requires* the concept of compresence and this, in turn, presupposes that what is compresent cannot be further decomposed, otherwise compresence would require compresence, in an endless regress. Because the compresents that cannot be further decomposed are qualities, then these qualities have to be simple. Simplicity, however, is not conceptually connected to abstractness just in case the latter is interpreted as compresence. It may be thus connected also in case abstractness is taken as the result of an act of abstraction, or conceptual focusing, as Campbell suggests. If I focus on this colour, I abstract such a trope away from all other tropes this entity may have. If I get to a trope such that a further act of abstraction leads to a different result, then the trope I got to was not the simplest one. So, when one gets to a trope such that no further act of abstraction is available then one is abstracting a simple trope. In sum, on both construals the full abstractness of a trope requires the simplicity of the trope.

We may look at this issue from a different perspective. According to Williams, tropes participate in two kinds of combination groups: on the one side they *concur* in the *sum* that constitutes concrete objects (as said, this lollipop is the sum of at least this colour plus this flavour plus this shape) giving rise to the bundle theory of particulars—this is our notion of compresence; on the other side, each trope falls into the set or class of all tropes that have with it the relation of being *precisely similar*. Here is how Williams 1953, 117, expresses the point: “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”. This is not to say that tropes are the instantiation of universals, rather that some generality is in order in the case of tropes as well. In this way, *this-red-now* and *this-sphere-now* are two compresent tropes pertaining to two different classes of similarity.

It is in this framework that objects are thought of as bundles of compresent tropes.

However, because of the space-time nature of tropes, *simplicity* may turn out to be a somewhat complicated concept. Here is Ehring:

Unlike universals, tropes cannot characterize more than one object at the same time, but tropes can persist over time. We may now add that tropes will be either simple or compound. A simple trope does not have tropes as proper parts. A minimum-charge trope, if there are such minimums, is an example of a simple trope. A compound trope includes another trope as a proper part.

Ehring 1997, 117.³

An object having an electric charge that is not a minimum charge is considered, by Ehring as well as by Campbell, as having compound tropes of the conjunctive kind. Compound tropes can also be of the structural kind. These are individuated by way of their relation to other tropes. Being one meter in length, says Ehring following Armstrong's description of structural universals, individuates the property that something has as a result of having two adjacent half-meter length tropes (or more than two adjacent tropes of lesser length): "The length of this particular ruler is a structural trope composed of length tropes adjacent to each other" (*ibid.*, 118).

However, it seems to me that if the distinction between conjunctive and structural composite tropes is to be established, it deserves a firmer ground. Consider a musical chord of C major: it is the result of playing C, E and G together. As such, it is a compound trope, resulting from the compresence of simpler tropes—C, E and G. However, such a trope, while composite, is phenomenally simple; it is perceived as a single musical item. Similarly, violet is a compound trope formed by red plus black. At the same time it is phenomenally simple, because it is so perceived and taken. Now, neither in the electric charge case, nor in the ruler length, is there any substantial difference in the constituent tropes. This part of the charge is not any different from that part of the charge, if the distinction makes any sense, and the difference between this half-length and that half length of the ruler is, at most, spatial—one is to the left of the other with

³ Hochberg 2004 manifests a deep dissatisfaction with the idea of locating tropes' simplicity in their having no parts. Its polemical target is Maurin 2002.

respect to me—and, as such, it plays no role in the overall length of the ruler. In the case of the chord or violet, the composing tropes are substantially different—C, E and G, red and black—allowing for variation—a stronger playing of the C key on the piano keyboard results in the C major chord having a different sound from that resulting from striking with more intensity the E key, so that the difference results in the composed trope by virtue of differences in the relations between the composing tropes.

So, I would take both the charge and the length cases to be representative of conjunctive composite tropes, while the cases of chords and non-primary colours representative of structural composite tropes. In both cases, the analyses can be established only by assuming that there are simple tropes, which form the basis of composition. We may call these *structurally simple* tropes, while the tropes they give rise to, like C major or violet, *phenomenally simple*. We will consider a role for such distinction in the following.

Furthermore, consider a chair, red and thus-and-so shaped. In its space-time location we have the red trope and the chair-shaped trope. However, let's further imagine, while the red is homogeneous in all the chair's parts, it is just the same shade of red, the shape is not. The shape of the seat is different from that of the back: inverting their position with respect to the legs, for instance, would result in a different overall shape, let's say in one uncomfortable chair. Hence, the shape of the chair is a composite trope, because we can distinguish parts of it that are different along the individuating dimension—shape—and structural. However, the structure of the chair's shape is more articulated than the musical chord, because in the former case its composing tropes cannot be recombined without variations in the resulting composite trope. It makes no sense to say that the C chord composed of C, G and E is different from that composed of G, E and C, if the respective keys on the keyboard are played simultaneously. So, we have a compound chair-shaped trope, having simple tropes (shape of the seat and shape of the back) as its base of composition. Simplicity, then, is in my view a crucial feature of tropes, allowing us to understand the basic compositional grammar of tropes themselves. Admitting tropes' simplicity is a necessary step for considering tropes as the alphabet of being.

The last point that should be considered with regard to tropes *vis-à-vis* universals is the resemblance relation, taken as a way to regain the type-token distinction. Tropes as such are token properties, while on the

type side one must consider classes of resembling tropes, 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 something else must be considered as a direct apprehension in 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, 134).

However, resemblance as the feature 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 precisely similar charge tropes 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), so that tropes can be placed in the same resemblance class also when they have the same causal role, that is, if they have similar causes and similar effects.⁴ 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 states of affairs, facts or events as causal *relata* for any single causal relation.⁵

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 occurrence 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 or its shape or ..., that determines the shattering; the mental event of deciding 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

⁴ One may wonder whether *a* resembling *b* in virtue of *a*'s causal roles resembling *b*'s causal roles could bring to some sort of regress. Moreover, if properties are placed into lawlike relations, these would connect sets of resembling relations, becoming second order relations. I leave these points aside.

⁵ On this issue see section 4 in Orilia 2008.

called for in its description or explanation, we need to hedge such epistemic statements with provisos and *caeteris paribus* clauses.

Tropes, on the other hand, bearing within the epistemic statements the specific conditions in which the causal relation took place, make the extra ingredient typical of the *caeteris paribus* conditions dispensable: 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 space-time location determines a singular causal relation. Now, how can tropes help to solve the problem of mental causation?

3. *The problem of mental causation*

The causal efficacy of mental properties seems to be jeopardized by the acceptance of the principle of causal closure of the physical domain along with the denial of overdetermination. The principle says that if a physical event has a cause at t , it has a physical cause at t , while denying overdetermination amounts to rejecting the idea that events may systematically have two or more causes that are independently and not jointly sufficient.

It can be easily seen why adopting the principle creates a tension for the causal efficacy of mental events and properties. If the raising of my arm is a physical event, as is reasonable to think, then it must have had a physical cause at some previous time t . Now, the mental event which is my decision to raise my arm either is a physical cause or it is not. If the first option 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 or the principle should be abandoned. If one wants to keep the principle, then the mental does not play any causal role by itself in either case, unless one considers my mental property as concurring with some physical property of my brain in causing my raising the arm.

However, such concurrence overdetermines the cause of my raising the arm since it appeals to two different causes. The difficulty with this position is that it seems unnecessary to imagine such a metaphysical richness in the physical domain. 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, 19.

How are these laws supposed to work? If mental *and* physical properties go hand in hand in causing, then each of them is singularly necessary while they both are jointly sufficient for the causing. This entails that my being in pain cause my taking the aspirin if and only if I have such and such brain state. So both properties are causally idle by themselves. Such an option, however, is open to two lines of reply. First, the physical cause in question is not the right one (and this is the reason why it results as not sufficient); second, how is the mental giving the “extra-bump” to the physical effect if not in physical terms? It seems then, that overdetermination should be excluded as a viable metaphysical option. A last option is taking the mental and the physical properties to be identical. However, since properties figure in laws as *types*, this solution would be tantamount to so called type-identity theory of mind.

A straightforward way to meet causal closure without overdetermination while saving mental causation is to identify the mental with the physical. However, the type-identity theory has been seriously attacked since the sixties.⁶ The token identity theory, on the contrary, when applied to properties, states that a mental properties occurring in space-time is identical to a physical property, one that occurs at the same time and at the same location. Famously, Donald Davidson defended the token

⁶ Adopting a kimian metaphysics, the identity of mental and physical events follows from the identity of mental and physical properties. According to Kim 1976, in fact, events are structured entities comprising an *object* having a *property* at a *time*. So, once the identity-conditions for the object and the time are 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. On Kim’s construal of the individuation-conditions for event identity see Orilia 2008.

identity theory by holding three different principles: 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 argues that the three principles, apparently at odds with each other, are consistent. He does this by stressing that, while causation is an *extensional* relation (any causal relation holds no matter how events are described) predictions and explanations, which are possible in virtue of laws, are *intensional*, thus crucially depending on the way in which events are described.

It is in this respect that a sort of “ambiguity” with regard to the individuation of events 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 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. Therefore, Davidson relies on the type-token “ambiguity” of events: mental events are type distinct from physical events, thus safeguarding their epistemological autonomy, but they are token identical to them, thus allowing their causal efficacy.

Davidson’s solution has been charged with epiphenomenalism. 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, in his 1989, 35, 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”.

Davidson’s reply has centred 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, 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, 13.

However, it seems that the problem is still there. For, as Kim 1993 protests, the causal efficacy is captured by the instantiation of a law, and since mental predicates *cannot* be mentioned in strict causal laws, because strict laws describable by means of 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 important to consider the reason Davidson mentions as a source of confusion in his critics.

Why have there been so many confusions and bad arguments in the discussion of AM, AM+P, and supervenience?⁷ 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, 15.

Davidson thinks that the causal efficacy of properties manifests itself if it makes a causal difference in the powers of *individual* events, and that the idea of identifying it with the causal efficacy of physical properties is the result of confusing particulars with types of events. Consider the following example by Sosa 1984. Someone is 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 they are causally inefficacious. Davidson points out that the counterfactual is ambiguous: even if the silent shot would have resulted in *one* death,

⁷ 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.

[...] 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.

Ibid., 17.

In this passage Davidson is clearly adopting what we may call a trope view of events.⁸ A similar strategy has been pursued by David Robb 1997, along the lines suggested by Davidson⁹, and by Ehring 1999. Robb’s basic idea is, again, to trade in the type/token “ambiguity”, this time applied to properties, so as to have one reading of property at the general, type, level and another at the implementation, token, level. In Robb’s terms, the problem of mental causation is how to reconcile the following three principles:

Distinctness: mental properties are not physical properties;¹⁰

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, 187-8). 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., 190).

⁸ On this see Orilia 2008, section 3.

⁹ But see John Heil 2003 as well.

¹⁰ On some interpretation of the principle the same holds for events.

The difficulty in this approach, however, is the following. Consider a mental trope, call it *m*. In order for this trope to be a *mental* trope it has either to be the referent of a predicative expression concerning mental properties or to manifest a causal pattern of interactions typical of mental properties. In either case, if *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 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 simple trope, because if types are different and the trope belongs to both then it is the concurrence of two tropes, or mental and physical tropes are type-identical, thus violating the distinctness condition because what makes mental and physical properties different is their belonging to distinct types. So, the crucial question here is whether a mental and a physical trope can be identical solely at the token, or realization, level.

This problem can be formulated in a somewhat different way: can an event, taken as a trope (in line with my reading of Davidson), instantiate more than one type of property? Or, in Robb’s terms, can we have one and the same trope participating in two different resemblance classes? According to Cynthia and Graham MacDonald 1986, 147, having suspicions about such manoeuvres is a sort of dualist prejudice. Events can instantiate more than one property, because

‘property’ here is ambiguous between properties and their instances. ... it may well be the case that one and the same event is both an instance of the property, being a desire for a drink, *and* an instance of another, physical property, say, being a brain event, where being an instance of the former just is being an instance of the latter.

Ibid., 148.

Shifting the focus on properties, Ehring 1999, 21, affirms: “The same property instance can be picked out by way of its membership in multiple classes, under different types”.

However, in a recent and thoughtful paper, the MacDonalds reject the trope view, proposing in its place an exemplificationist view of events. In particular, they argue that the trope solution to the problem of mental

causation is effective as long as one considers the causal efficacy of events. If the attention is, instead, on the causal relevance of mental properties, the trope route is not viable. In its place, it is preferable to consider properties as universals exemplified by events, these intended, *à la* Kim, as triples comprising properties had by object at a time. Moreover, the MacDonalds insist on the “ambiguity” of the concept of *property*, according to the trope view. Properties can be either instancing, hence individual tropes, or universal, so classes of perfectly resembling tropes.

Now, how can we make sense of the idea that one and the same trope participates in two classes of resembling tropes, or that one event exemplifies more than one property? The MacDonalds answer, applicable to Robb’s theory of tropes, is given in the context of their exemplificationist account:

Crucially, this amounts to the claim that there is just *one exemplifying* of two properties, one mental, and one physical, by an object at a time. That this is possible is apparent from determinate/determinable examples, such as being coloured and being red ... Unlike the determinate/determinable property relation, the relation between mental and physical properties is not both metaphysical and conceptual.

C. MacDonald and G. MacDonald 2006, 561.

They conclude that in their view the relation between mental and physical properties is just metaphysical.¹¹ Leaving aside the view espoused by the MacDonalds, I want to scrutinize the possibility of having such a rich view of events and the idea that tropes can belong to more than one class of resemblance.

Let me start with the idea that one trope can belong to two or more resemblance classes in virtue of the determinable/determinate relation. Stephen Yablo 1992 has argued that mental and physical properties can be thus viewed, with the mental as a determinable and the physical as a determinate. Thus, my having pain is determinable inasmuch as it can be realized by this or that neural state, and my having those C-fibres firing is a maximally determinate property because it cannot be further determined. If the mental and the physical were in such a relation, there would not be any

¹¹ However, from a subsequent footnote we learn that “we do not think that the relation between mental and physical properties is as determinable/determinate relation, as standard cases of this relation involve conceptual entailment of the determinable from the determinate property” (ibid., 563, n. 43).

causal competition. However, it seems to me that mental and physical properties give rise to *two* independent series of determination relations. Consider my having pain now. Is it a maximally determinable state or is it a somewhat middle way? For instance, the determinable of my having pain now is my having an unpleasant sensory feeling now, which has as a determinable my having a conscious state now. Running on the other thread of the relation, my having pain now could have as a determinate my having pain in my left hand now, which in turn could have, as a maximally determinate trope, my having a throbbing, intense pain on the upper left corner of the palm of my left hand now.

My having C-fibres firing now, vice versa, finds a determinable in my having a peripheral nervous activity now, which, in turn, has as a determinable my having some metabolic activity now. As with the case of pain, we can establish more determinate properties as well until a maximally determined one such as my having the release of this neurotransmitter from these cells now. These two chains of determinations, I think, cannot be identified or crossed without begging the question of the mind-body relation. If we did it, by taking for granted that the two chains are simply different ways of referring to the same phenomenon, we would “solve” the problem by an unexplained *fiat*.

The other alternative is to say that the determination relation should not be conceived as a conceptual relation, but rather as an empirical one. However devising the way in which determination can be construed in non-conceptual terms is a task that has not been faced yet. An option would be that of construing this empirical relation in terms of constitution. If this route is taken, we have to renounce to tropes’ being abstract in the sense previously exposed. In fact, we saw that abstractness was the result of space-time compresence of two type different properties. *Red* and *round* are type different and compresent resulting thereby abstract. The lump of clay and the statue are also type different and compresent, but there is a constitution relation, so the lump of clay is the concrete constituent of the statue. If the mental state is constituted by the physical state, the latter is not abstract anymore, hence not a trope anymore.

Putting this point in my previous terminology, the determination relations are within trope dimensions, not across them, even if there are dimensions that are regularly coinstantiated. If my hearth rhythm increases whenever my kidney activity increases, and vice versa, nobody would consider the property of having an increasing kidney activity as a

determinable of the property of having an increasing heart activity, to adapt a famous example by Quine.

On the event side, the problem is not to have an event instantiating more than one property at a time, but the relation between the properties instantiated. For instance, consider a rake: it has a wooden brown handle and an iron black toothed bar. If I detach the handle from the toothed bar, this very event is also the separation of wood from iron, of a brown thing from a black thing, of a less flexible shape from a more flexible shape, and so on. I can even have multiple purposes and intentions in separating one part of the rake from the other. Such an event, though, would not constitute a metaphysical achievement or a cue on the relations between wood and iron, handle and toothed bar, brown and black.

One may want to stick with the determinable/determinate relation, after rejecting my previous argument of the two chains of determination, by saying that it confuses the proper determinables for any given trope. If so, a second argument can be marshalled, which focuses on tropes' simplicity as a feature that is not compatible with their belonging to two or more resemblance classes. Consider, for instance, a red trope: anything that is red is coloured as well. However, any trope is a maximally determinate entity: you cannot have entities in space and time that are "generic" in the sense of being coloured but not of some specific colour. This red is a maximally determinate shade of red. It is coloured as well, true, but such a determination relation is conceptual, while the relation between tropes does not seem to be of this kind, if tropes are maximally determinate entities. In fact, the compresence of two or more tropes is a matter of contingent and empirical fact. If being coloured is considered as a trope side by side with red, then its compresence with red would be necessary and conceptual. But tropes were postulated to give us a metaphysically firmer grip on reality, and it seems to me that such a grip would be lost in case such purely conceptual tropes were admitted.

Renouncing the idea that tropes are maximally determinate coincides with giving up one of the crucial features that distinguishes tropes from universals. For instance, taking red—as the generic determinable of scarlet, crimson, ...—as a trope would make it wholly present in many places at the same time or in the same places at different times, raising again the "metaphysical scandal", as Campbell considered this feature when applied to universals. At the same time, if red is not taken as a maximally determinate shade of colour, it becomes a categorical name for a certain range of light, the one that goes from, say, crimson to scarlet. So, it is a

categorical mistake to take the generic red to be a trope as specific as scarlet, analogous to those mistakes described by Ryle 1949 in taking the name “University” to be referring to another and specific College building, one different from those visited so far.

A final argument against the identification of physical and mental tropes takes these to be maximally determinate. The gist of the argument is that having two maximally determinate tropes does not entail having two simple tropes in the same way. A mental trope, being captured by an inner act of acquaintance, is definitively phenomenally simple; I grasp it. But it does not mean that it is structurally simple. My being in pain, now, could correspond to a very complex neuronal activity, which is structurally complex. As a matter of fact, this is what neuroscience tells us. C-fibre and A- δ fibres concur in giving us this sensation which is pain. We take it to be simple, but it is so only under a phenomenological perspective, not from a structural one. So, the two tropes cannot be identified, because one is not further decomposable, hence simple on both readings of simplicity, whereas the other is decomposable, and so is complex, even though they are both maximally determinate. Since simplicity is a crucial feature for tropes identification, the purported identity fails.

4. *A little coda*

One may think that an inevitable consequence of the extensionality of the causal relation is that of having many tropes instantiated at once, a point raised by Davidson and taken up by Robb and the MacDonalds. Such a view, moreover, would sidestep the so-called *qua* issue, that is, the vexed question of “is it in virtue of this or that aspect that the trope was causally relevant?” 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 as the key 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, 191.

Noordhof has attacked Robb on this ground. 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?

Noordhof 1998, 225

The problem, according to Noordhof, lies in the identity conditions for tropes, which are at this point taken to involve a supervenience 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, thus pushed back to our starting point.¹²

Robb replies 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 an identity is secured by the fact that tropes reconcile the three principles of *Distinctness*, *Closure* and, in particular, *Relevance*.¹³ So, the task of detailing the individuating conditions for tropes can be pursued after trope monism has been granted (cf. Robb 1998, 94)¹⁴. However, it is far from clear whether trope monism has been so secured, for the trading in the property "ambiguity" is precisely what raises the problem. In fact, trope 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. Thus, the only option left, the one compatible with *Closure* and *Relevance*, is space-time 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 four-dimensional world-line, but are two different tropes, individuated through two different causal powers, or aspects or at any rate the two

¹² Sidney Shoemaker has raised a similar worry (2001, 433-4),

¹³ Orilia (personal communication) has suggested that it should be the other way around: assuming trope identity allows one to salvage the three principles. However, I am interpreting what Robb has to say on this, more than affirming it myself.

¹⁴ 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 (contrast with Ehring 1997 on this point), rather they are the properties that determine such relations.

tropes are simply *prima facie* quite different. We cannot say that they 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 and Varzi 1996).

It is even possible to affirm, with Lowe 1994, 533, that “abstract objects, both universals and particulars, have timeless identity-conditions”, and are not spatial either. The same applies to mental and physical tropes: even if my belief that p and my brain state b were occurring in the very same portion of space-time, this would not secure their identity. This can be shown by *reductio ad absurdum* as follows. Take my supposedly enduring belief that I am Simone. I retained it since time t and up to time t' . Suppose that the relevant neurons that were active at t when I held that belief have died and that I hold such a belief at t' in virtue of other neurons. Since nothing relevant is physically the same, it is not possible to argue that I retained the same belief, because all the spatio-temporal conditions have changed. Hence, persistent beliefs are not possible. If these are not possible, it is not even possible to change one's own mind, this being the result of transforming one of one's own enduring beliefs, but this is absurd. (I have used a line of reasoning quite familiar in the semantic 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 property “ambiguity”, because the difference between mental and physical properties in *Distinctness* is established for types (or resemblance 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 resemblance class, or are judged to be precisely similar, they are so not by virtue of co-localization but simply by virtue of being the very properties that they are. 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 not even an appeal to the modal status of tropes could be of some help. Just as the loud shot could not possibly be

the silent shot, the same event could not be mental and physical by *fiat*. To say otherwise would be committing oneself to some *petitio principii*. So, if spatio-temporal co-localization is not enough to secure the identity needed to maintain *Closure* and *Relevance* in spite of *Distinctness*, what is left to this end? Nothing else, I think. Tropes, then, reveal 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 prefer to live with it rather than adopt entities with unstable identity(-conditions).

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