為什麼相似性不是一個關係
——從概念論看殊性存有論

彭孟堯[*]

摘　要

　　本論文試圖論證：殊性存有論並不需要將殊性之間的相似關係作為其存有論的原初設定。論證主要依據所謂的「位元原則」。但這不表示「相似」是一個沒有意義的概念。本論文建議，在形上學裡，「相似」可以化約到介於兩個一階內存關係之間的二階內存關係，例如「大於」、「重於」；本論文並且倡議相似現象應該訴求知識論或心理學的解釋。

關鍵詞：殊性、相似、齊一原則、位元原則、內存關係

---

[*] 彭孟堯，臺灣大學哲學系教授。

Why Resemblance is Not a Relation?
－Trope Ontology in a Conceptualist Guise

Eric M. Peng[*]

Abstract

It is argued that Trope Particularism need not take trope-level resemblance to be an ontological primitive. The main idea is the appeal to the Arity Principle suggested by Butchvarov. But, this does not mean that "resemblance" is unintelligible. I propose that "resemblance" can be metaphysically reduced to a second order internal relation over two first order internal relations such as "greater than" and "heavier than," and that the phenomena of similarity should call solely for an epistemological or psychological explanation.

Keywords: trope, resemblance, the Uniformity Principle, the Arity Principle, internal relation

[*] Professor, Department of Philosophy, National Taiwan University.

Why Resemblance is Not a Relation?
－Trope Ontology in a Conceptualist Guise[*]

Eric M. Peng

I. Introduction

Recently some metaphysicians have defended a particularist ontology according to which there are no universals. To be more precise, properties and relations are not universals but particulars; they are "tropes," the fundamental building blocks upon which objects and kinds are built.[1] One of the long-standing metaphysical concerns is with explaining what it is in virtue of which objects are similar. Both Universalism and Trope Particularism assume the ubiquitous phenomena of (object-level) similarity as their *explanandum*.[2] On Trope Particularism, resemblance between objects is ultimately reduced to resemblance

[1] There are different versions of the trope ontology on offer. *Cf.* Campbell (1981, 1990), D.C. Williams (1953), and C.B. Martin (1980). Since the debate is irrelevant to current discussions, I shall ignore the difference.

[2] Campbell (1981: 133) thus complains that "the Problem of Universals" is not really a good name; "the Problem of Resemblance," instead, would be more suitable for describing this part of our metaphysical concern.

between their constituent tropes. Furthermore, trope-level resemblance is taken to be ontologically irreducible; it is a primitive in Trope Particularism (Campbell, 1981, 1990; Williams, 1953).

What I am deeply worried about is the ontological status of trope-level resemblance. I suspect that trope-level resemblance is not a metaphysically genuine relation. This suspicion, if comes out true, will have profound impact on trope ontology. In the following, I shall try to show that trope-level resemblance is ontologically gratuitous and hence Trope Particularism can do without it. However, this does not render the notion of "resemblance" unintelligible nor does it render illegitimate the description of everyday phenomena in terms of similarity. I propose to take a conceptualist stance on trope-level resemblance. By doing so, Trope Particularism, I believe, has not much to lose.

II. The Uniformity Principle for Relations

Armstrong (1978b: 94), a Universalist, sets up the Principle of Instantial Invariance for his theory of relations as follows:

> For all n, if a universal is n-adic with respect to a particular instantiation, then it is n-adic with respect to all its instantiations (it is n-adic *simpliciter*).

For example, if an instance of a certain relation is taken to be binary, other actual and possible instances of the relation should be binary as well. They cannot be tertiary or quaternary or…; that is, they cannot be n-ary for any n>2. I think this Principle is quite plausible. It is extremely counterintuitive that a relation can have an n-ary instance in one case but an m-ary instance (m≠n) in another.

Because Armstrong's Principle is couched in the Universalist language, in order not to beg the question against other ontological positions, I propose a generic formulation of his principle as follows:[3]

The Uniformity Principle for Relations

If a member of a relation type is n-ary, then every other member of that type is n-ary.

The plain idea is that if a relation type involves n terms, its tokens *uniformly* do so. There certainly remains the question concerning *how to determine in the first place the number of terms a relation has*. Yet, once a member of a relation type is taken to be n-termed for some definite n, there is no reason to think that the other members can have a different number of terms. For, if they can, it means that the relation does not have a definite and determinable number of terms. Nevertheless, to say that a relation has no definite and determinable number of terms is to deny it as a relation. I think any ontology of relation should accommodate the Uniformity Principle.

Universalism has no difficulty with accommodating the Uniformity Principle, as can be readily seen. Armstrong's Principle of Instantial Invariance is just a Universalist version of the Uniformity Principle. One might also think that there seems no difficulty for Trope Particularism to embrace the Uniformity Principle. Since a (property or relation) type is a class of exactly resembling

---

3　Here I follow Armstrong in taking "type" to be a neutral term. Using Peirce's distinction between types and tokens, Armstrong re-formulates the problem of universals as the problem concerning "what distinguishes the classes of tokens that mark off a type from those classes that do not" (Armstrong, 1989: 13). I like this way of formulating the problem for its neutrality with regard to different ontological positions.

tropes, a parallel Trope-Particularist version of the Uniformity Principle (TPUP) may be rendered thus:

> **Trope-Particularist Version of the Uniformity Principle**
> If a relation is n-ary in one case, then all relations exactly resembling it are n-ary.

Suppose first that a *scarlet*-trope and a *red*-trope are related by *darker than* (in that order) and second that we agree that this particular *darker than* is a binary relation. Now, suppose we encounter another *scarlet*-trope and another *red*-trope and we see that they are related by another *darker than*. Then, since the latter *darker than* exactly resembles the former, by TPUP, the latter is binary as well, which is as it is. Indeed, we have not even a bit reason to think otherwise. We find that *darker than* is a relation that does not violate the Uniformity Principle. However, even if this is all true, it is unfortunate that Trope Particularism cannot accommodate the Uniformity Principle for Relations, for it does not work for the exact resemblance relation. Let me elaborate.

Consider the following four objects. Objects A and B are squares; objects C and D are triangles. The trope-ontological explanation is that the *square*-trope in A exactly resembles the *square*-trope in B. So the exact resemblance in this case is binary. Objects C and D also resemble in that the *triangular*-trope in C exactly resembles the *triangular*-trope in D. It is tempting to think that if the latter exact resemblance exactly resembles the former, then by TPUP, the latter exact resemblance is binary as well. One may worry that the two exact resemblances do not exactly resemble each other, because whereas the former is a relation holding between two *square*-tropes, the latter is a relation holding

between two *triangular*-tropes. For any two relations to exactly resemble, it must be the case (1) that they have exactly the same number of terms and (2) that their corresponding *relata* exactly resemble. To avoid this worry, we may consider another pair of objects E and F that are squares as well. Objects E and F are similar in that the *square*-trope in E exactly resembles the *square*-trope in F. Hence, this exact resemblance exactly resembles the first exact resemblance. By TPUP, then, the exact resemblance between E's *square*-trope and F's *square*-trope is binary.

Nevertheless, the above reasoning, though tempting, has a problem. Since exact resemblance is itself a relation, we should expect that it be dictated by TPUP. But, since TPUP is couched in terms of exact resemblance, its application to cases of exact resemblance is question begging. This is especially so when it is seen that *the exact resemblance relation mentioned in TPUP is implicitly assumed to be binary*. On this implicit assumption, the exact resemblance relation will be binary in every case in which TPUP is applied to a relation, including cases in which the principle is applied to the exact resemblance relation itself. But, what if exact resemblance does not take on a definite number of terms? If this is the case, how would TPUP be applicable to whatever cases of putative relations? I shall argue later in this essay that exact resemblance is not a binary relation, that it is even not a genuine relation. Presently, the only way to avoid the problem, it seems, is not to apply TPUP to the exact resemblance relation. But, how can a primitive in one's ontology escape a principle accepted in that ontology?

It may occur to one that similar problem may arise for Universalism. For, instantiation is a relation and the Universalist version of the Uniformity

Principle (i.e., Armstrong's Principle of Instantial Invariance) is couched in terms of instantiation. And hence, if the above is a problem, it is a problem for everyone. However, since some Universalists have it that instantiation (or inherence) is a non-relational tie (whatever that may be), they may escape the problem.

Such a "fortune" does not bestow upon Trope Particularism. For, trope particularists do take resemblance to be a relation — an *internal* one. It seems that Trope Particularism has no way to escape the problem simply because types in Trope Particularism are defined precisely in terms of exact resemblance. The only way out for trope ontologists, if TPUP is to be retained in their theory, is to deny the ontological status of trope-level resemblance. Trope-level resemblance had better not be taken as a metaphysically genuine relation!

It seems that one may take another way out by challenging the Uniformity Principle, for some relations seem to defy it. Consider the relation *love*. Suppose Eric loves Mary. In this case, *love* relates two different individuals and is binary; hence by TPUP, all other occurrences of *love* would be binary as well. Now, suppose Andy loves Cindy and Judy. The *love* here appears to be tertiary, contrary to what the Uniformity Principle dictates; but, since *love* is a genuine relation, the Uniformity Principle must be rejected. Fortunately, it is only apparently so. The situation is obviously analyzable into two occurrences of *love*, one between Andy and Cindy and the other between Andy and Judy. Thus, no violation of the Uniformity Principle really occurs. After all, that a statement of a relation contains three argument places does not automatically make the relation a tertiary one.

Therefore, if TPUP is to be retained in Trope Particularism, trope-level exact resemblance has to go away.

III. The Arity of Relations

Perhaps there is one more way to challenge the Uniformity Principle. Armstrong (1978: 94, footnote 1) once remarks that "Butchvarov uses the Principle of Instantial Invariance to try to show that [object-level] resemblance is not a genuine relation." I do not agree. I think Butchvarov's argument, though intimately related to Armstrong's Principle or the generic Uniformity Principle, takes a different line of reasoning. To see this, consider what strategies one can adopt to argue against taking a certain R to be a relation. One way of doing this is to try to show that while an instance of R is n-ary, there is another instance of R that is m-ary (m≠n). (Similar argument can be phrased, *mutatis mutandis*, in the Trope Particularist language.) Since it violates the Uniformity Principle, R is not a metaphysically genuine relation. This strategy was just illustrated a few paragraphs before, and, it does not look successful.

Another way of not taking R to be a relation is to argue that R has no definite and determinable number of terms. We may try to show that R cannot be a binary relation, or a tertiary relation, or a quaternary relation, or any n-ary relation for some determinate value of n. This means that R has no definite and determinable number of terms. Since that is the case, R cannot be a metaphysically genuine relation. This is the core of Butchvarov's argument against taking (object-level) resemblance to be a relation; this is why I do not agree with Armstrong's remark.

How does Butchvarov pursue this line of argument? Since his discussion is quite long and sophisticated, I can only give a sketchy formulation and draw some implications.

Butchvarov points out that there are at least three necessary conditions for anything to be a relation. He then argues that (object-level) resemblance does not satisfy the third condition which says that "a relation must have a definite, clearly and unequivocally determinable, *number* of terms" (Butchvarov, 1966: 109-110). Since (object-level) resemblance does not satisfy this third condition, Butchvarov (1966: 123) concludes that "[object-level] resemblance cannot be a relation." Let me dub his third condition "the Arity Principle for Relations":

> **The Arity Principle for Relations**
> Every genuine relation essentially has a definite and determinable number of terms.

I think the Arity Principle is just the working rationale behind the Uniformity Principle. What it says is (1) that every genuine relation must be n-ary, for some definite number n, and (2) that if a relation is n-ary, it is essentially n-ary.

Suppose R is n-ary and R* is m-ary (m≠n). R and R* cannot belong to the same relation type. The reasoning is as follows: Since type identity entails exact resemblance within Trope Particularism, if R and R* are type identical, they will exactly resemble. But by the exact resemblance of any two relations is meant that they have strictly the same number of terms. Consequently, if R and R* are type identical, they must have exactly the same number of terms.

Henceforth, to say that a certain R cannot take on any definite and determinable number of terms is to say that it is no relation at all.

Notice that the Arity Principle should not be confused with the Uniformity Principle. In the case in which the Uniformity Principle works, two or more instantiations of a universal relation or two or more particular resembling relations are involved. In the case in which the Arity Principle works, we are considering only one single relation, be it a universal relation or a particularized relation.

The task now is to see how object-level resemblance violates the Arity Principle. (I'll come to consider trope-level exact resemblance soon.) According to Butchvarov, object-level resemblance is necessarily comparative. That is, statements of the form "x resembles y" are logically incomplete in that they are elliptical for statements of the form "x resembles y more than w resembles z," where w is ordinarily taken to be identical with x. But if resemblance is necessarily comparative, it is not a genuine binary relation since at least three terms are necessarily involved.

For simplicity, let us consider the case where only three terms are involved (i.e., $w=x$). If object-level resemblance in its logically complete form involves three terms, is it a tertiary relation? The answer is NO. Suppose it is true that a resembles b more than a resembles c, where a, b, and c are ordinary objects. Although three terms are involved, it is definitely not a tertiary relation. According to Butchvarov, the statement "a resembles b more than a resembles c," on further analysis, expresses the proposition *that a second-order relation holds between two first-order resemblances*. What is meant by saying that a resembles b more than a resembles c is that a resembles b to a certain degree D and a

resembles *c* to a certain degree D* and D is greater than D*. We should be able to see that the "more than" here refers to a second-order binary relation holding between the first-order resemblance between *a* and *b* and that between *a* and *c*. If so, a statement of object-level resemblance in its logically complete form does not pick up a tertiary relation.

The above consideration is based upon the analysis of an apparent tertiary resemblance into a second-order relation holding between two first-order binary "resemblances." On the analysis, then, every instance of resemblance essentially belongs to no polyadic relation types. Being so, the resemblance relation cannot have any definite and determinable number of terms. Since it violates the Arity Principle, we must conclude that it is not a metaphysically genuine relation.

Several points need to be clarified. Firstly, to say that a relation R is necessarily comparative is not to say that asserting R is impossible unless a comparison of it with another exactly resembling R* is also being explicitly made. As Butchvarov (1966: 114) puts it:

> What is meant is that a statement about an instance of such a relation can be made legitimately only on the assumption that a comparison of it with another instance of the same relation constitutes the context of the statement and can be made explicit on request.

To illustrate what is meant by "necessarily comparative," consider *far from*. Why is "*x* is far from *y*" logically incomplete? It is because it necessarily calls for a comparison. Imagine a world in which only *x* and *y* exist. The description that *x* is far from *y* is plainly unintelligible. Likewise, the simple form "*x* resembles *y*" is unintelligible when no background comparison *can*

be made. Imagine, again, a world consisting only of two red patches. It seems that saying that the two red patches resemble each other does not "provide us with any information about such a world that is not already provided by the mere listing of the two colors as its constituents" (Butchvarov, 1966: 117). The idea is that the fact that the two red patches resemble does not seem to be something relatively more than the mere fact that there are the two red patches. Consider another example. In a world consisting only of a square and a triangle it is highly likely that nobody will think it intelligible to say that they resemble (beyond being shaped). Now, consider a world consisting of a triangle, a pentagon, and a hexagon. It then obviously makes sense to say that the pentagon resembles the hexagon more than it resembles the triangle. Contrast this with the following case: the fact that Eric loves Mary is something relatively *more* than the mere fact that there are these two persons. Since "Eric loves Mary" is logically complete, the "love" must have signified a genuine relation (that is binary). Unlike *love*, however, *resemblance* essentially calls for a comparison (whether explicit or implicit), the "resemble" in "*x* resembles *y*" does not signify a genuine (binary) relation.

　　Secondly, we may compare *resemblance* with an uncontroversial tertiary relation, e.g., *x competes with y for z's love*. The statement that *x* competes with *y* for *z*'s love does not undergo the sort of analysis that is given to the statement that *x* resembles *y* more than *x* resembles *z*, even though both statements involve three terms. As was said, the fact that the statement concerning R contains three terms does not automatically make R a tertiary relation.

　　Thirdly, Butchvarov's argument seems to rely on the idea that resemblance is an *internal* relation. Being internal, a relation is nothing over and above its

relata. This is why he says that the fact that the two red patches resemble is ontologically nothing more and nothing less than the mere listing of the fact that there are the two red patches. But this does not sound exactly right. To grant that resemblance is internal is to grant that it *is* a relation, *contra* what Butchvarov intends to show. Let me explore this matter in the following.

IV. Regress and Reduction

The distinction between internal relations and external relations has been widely accepted.[4] Armstrong (1978b: 85) has given a definition of "internal relation" as follows, "Two or more particulars are *internally* related if and only if there exist properties of the particulars which logically necessitate that the relation holds."[5] Moreover, an important feature of internal relations is that they are not *additional* facts about the world over and above the natures of their *relata*.

I agree with the above characterization of "internal relations." But, I also think that the distinction between internal relations and external relations thus made is somewhat crude and invites unnecessary misunderstandings. Since I find Campbell's distinction more fine-grained, in the following I shall lead my discussion based on his distinction (Campbell, 1990: 111-113). Following Campbell, I shall say that a relation is *term-founded* if and only if it holds in virtue of the characteristics of its terms. And, a relation is *term-essential* if and only if it necessarily holds between its terms; that is, it is impossible for its terms not to have it without ceasing to exist. The very

---

4 To name some, Armstrong (1978b, 1989), Campbell (1990), Mulligan (1998: 344), von Wachter (1998: 357).
5 Similar formulation of the distinction can also be found in Armstrong (1989: 43).

existence of the terms necessitates the existence of the relation. Thus, relations can be divided up into three categories: *internal relations* that are both term-founded and term-essential; *impurely external relations* that are term-founded but are term-inessential; and *purely external relations* that are neither term-founded nor term-essential.

Let me give some examples for illustration. The *to the left of* is a good example of a purely external relation. It is easy to see that it is neither term-founded nor term-essential. Its holding between two objects does not hinge upon the nature of the two objects at all. Consider second the *taller than* relation. Suppose Socrates is taller than Glaucon. The *taller than* relation between them is term-founded in that it holds in virtue of the specific height of Socrates and that of Glaucon. But it is term-inessential since it is possible for Socrates not to be taller than Glaucon. So, *taller than* is an impurely external relation. Lastly, the *darker than* relation between a *scarlet*-trope and a *red*-trope is an internal relation. It holds exactly in virtue of the nature of its terms, i.e., that very *scarlet*-trope and that very *red*-trope. And, it necessarily holds between the two tropes. There is no way for the *scarlet*-trope not to be darker than the *red*-trope. Thus, the *darker than* between the two color tropes is both term-founded and term-essential. Notice that *darker than* is an internal relation only when it holds between tropes, but it is an impurely external relation between ordinary objects. Suppose Socrates is darker than Glaucon. The *darker than* relation is term-founded since it depends on both the specific skin color of Socrates and that of Glaucon. But it is possible that Socrates is not darker than Glaucon. Thus, *darker than* between two ordinary objects is impurely external.

On the above distinction, trope-level resemblance, *if* a relation at all, would be an internal relation. Two objections to Trope Particularism are relevant in this connection. The first is a Russellian Regress of Resemblance raised by Daly; the second concerns "supervenience" raised by Macdonald. Let me detour a bit, and for the sake of discussions, I shall tentatively assume that trope-level resemblance is an internal relation.

Daly advocated a Russellian Regress argument against Trope Particularism. His argument is put in the form of a dilemma: Either *resemblance* is a universal or there is a regress of particularized *resemblance* (Daly, 1994/5: 151). Consider three concrete objects which are, to use the folk locution, of the same shade of red. They will exactly resemble one another in color. On Trope Particularism, this is accounted for by the exactly resembling *red*-tropes they have. But it seems that there are also *resemblance*-tropes holding between these *red*-tropes. Call them R1, R2, and R3. Each of these *resemblance*-tropes is an *exactly-resembles-in-color*-trope holding between two *red*-tropes. So, each of these *resemblance*-tropes in turn exactly resembles one another. Therefore, there are further *resemblance*-tropes holding between the pairs of R1 and R2, R2 and R3, and R1 and R3. But since each of the new tropes exactly resembles one another, another set of new resemblance tropes are needed. The process goes on *ad infinitum*. Since Trope Particularism falls into the Russellian Regress, it is an incomplete theory in that explanations of resemblances between ordinary objects cannot be unconditionally given.

In response I want to point out two misunderstandings in Daly's argument. It is mistaken to think that "each of these *resemblance*-tropes is an *exactly-resembles-in-color*-trope holding between two *red*-tropes." What is

claimed by Trope Particularism is *not* that any two *red*-tropes exactly resemble in color. Rather, it is that two *red*-tropes exactly resemble *qua red*-tropes. There is no need to bring in determinables in describing the resemblance relation holding between two determinate tropes. Moreover, R1, R2, and R3 are not *resemblance-in-red*-tropes, either. For, otherwise the mere existence of the *resemblance-in-red*-tropes in question would be the truth maker of the statement that two red objects resemble. The two *red*-tropes the two objects have would not contribute to the truth of the statement. But, we do want to say that the two objects resemble *because* there are the two *red*-tropes, but not because there is the *resemblance-in-red*-trope. Moreover, if we put it that way, *resemblance-in-green*-tropes should be allowed. There would then be no resemblance *at all* between *resemblance-in-red*-tropes and *resemblance-in-green*-tropes. And yet, it seems quite legitimate and intelligible to say that the resemblance between *red*-tropes resembles (though inexactly) the resemblance between *green*-tropes.

I do not think that all this is merely terminological. Here lies the second misunderstanding in Daly's argument. Daly speaks of "*resemblance*-tropes" or "particularized *resemblances*." This way of putting it is easy to mislead one into having the impression that resemblance is something *ontologically distinct* from its *relata*. If there were *resemblance*-tropes, it would certainly be legitimate to question what relations hold between these tropes and the *red*-tropes that are their *relata*. Are these further relation-tropes ontologically distinct from their *relata*? If so, are there yet further relation-tropes? This would undoubtedly result in infinitely many infinite regresses. However, I do not think that Trope Particularism would agree that when two red things

resemble, there are three tropes, i.e., the two *red*-tropes together with the *resemblance*-trope. I think the mistake lies in taking resemblance as something over and above that which it relates. As noted earlier, Trope Particularism takes trope-level resemblance to be an *internal* relation. Being internal, a relation is not something over and above its *relata*. As Armstrong (1989: 56) says, "Resemblance [between *a* and *b*] is not an additional fact about the world over and above the possession by *a* and *b* of the particularized natures that they have." Indeed, Armstrong (1989: 55; 1992: 162) thinks that it is this feature of resemblance's being internal that blocks the Russellian Regress.

Since this matter is related to Macdonald's objection concerning "supervenience," let me now turn to her argument. Macdonald questions the claim that that relations between tropes (especially compresence and resemblance) supervene on the characteristics of the tropes shows the relations themselves to be of no ontic significance. She thinks that there are no good reasons to take supervenience to be a reductive relation. As she writes, "The fact that it [supervenience] is a dependency relation no more shows that supervening properties reduce to properties on which they supervene" (Macdonald, 1998: 339).

However, Macdonald is unfortunately misled by the use of "supervenience" in the Trope Particularist characterization of resemblance (and other internal relations). It is true that "supervenience" has been so used. For example, Armstrong (1989: 56) writes thus:

> The relation supervenes on the natures, and if it supervenes, I suggest, it is not distinct from what it supervenes upon.

Campbell (1990: 100-103) also writes thus:

> So unless we admit relational properties as distinct additions to an ontology of monadic tropes, the claim must be that relations are not reducible in the strict sense [i.e., eliminable] but, rather, supervenient upon the monadic characteristics of the terms involved… But foundationalism should not propose eliminative analysis; rather it should claim only that relations supervene upon foundations.

Since the characterization of internal relations including resemblance relies so much on "supervenience," and since it is commonly thought among recent philosophers that supervenience is non-reductive, it is no wonder why Macdonald is bothered by Campbell's claim that "supervenience covers those cases where an unavoidable expansion in our descriptive resources does not rest on any expansion in our commitment to the realities described" (Campbell, 1990: 100). But, as a matter of fact, in characterizing resemblance as that which supervenes upon its *relata*, it is *reduction* (but not elimination) that is intended! It is an unfortunate fact that Armstrong and Campbell choose "supervenience" in their characterization of internal relations in general and resemblance in particular. The fault is certainly on their misleading use of "supervenience" in telling us that an internal relation is not something over and above that which it relates.

　　By observing what Armstrong and Campbell have said it should not be difficult to detect their intention of talking about *reduction* instead of *supervenience*. Perhaps the clearest statement is to be found in Armstrong's Reductive Principle for Internal Relations (Armstrong, 1978b: 86):

> If two or more particulars are internally related, then the relation is nothing more than the possession by the particulars of the properties which necessitate the relation.

On this principle, it is misleading to say that an internal relation supervenes on its terms, for it is really not a claim of a non-reductive ontology. Now, since trope-level resemblance is an internal relation, it is reduced to its *relata*. The fact that two tropes resemble is ontologically nothing more and nothing less than the mere fact that there are the two tropes. Nothing is required to relate a resemblance relation with the two tropes that resemble. Hence, there will be no infinite regress.

V. Dispensing With Resemblance

Leaving aside the above misunderstandings due to some terminological confusion, I think there is more to say about resemblance *qua* an internal relation. Mulligan (1998: 344) once argued that "all major types of relational predication are made true by [some] thin relations," where "thin" relations are internal relations. For example, the "happier than" in "Mary is happier than Erna," on the face of it, signifies the *happier than* relation. But, it may be analyzed, on Trope Particularism, into the relation of *greater than* that connects two psychological tropes, i.e., Mary's happiness and Erna's happiness (Mulligan, 1998: 335). And the *greater than* between tropes is an internal relation, for it is both term-founded and term-essential.

In connection with Mulligan's project of reducing most if not all "thick" relations into "thin" or internal relations, von Wachter suggests that we take a

further move and dispense with all relations. In particular, an interesting suggestion relevant to the current inquiry is his attempt to analyze some internal relations into resemblance. He writes thus, "The relation of *being greater than* holding between tropes can be constructed out of the resemblances between the tropes" (von Wachter, 1998: 357). Suppose a stone *a* is heavier than another stone *b* (say, *a* is 4 kg and *b* is 3 kg). The *heavier than* is reduced, following Mulligan, to the *greater than* holding between the mass trope in *a* and the mass trope in *b*. Furthermore, von Wachter holds that the mass trope in *a* is greater than the mass trope in *b* because of their relative positions on the resemblance spectrum. The resemblances among mass tropes are the basis of the *order* of masses (*ibid*.). Similar analysis can be applied to other relations, e.g. *darker than*.

　　Von Wachter's suggestion together with my proposal would have the interesting result that relations that are reducible to *greater than* and hence to *resemblance* would all be denied their ontological status. I do not, however, think that his suggestion will work. I think von Wachter has just put the cart before the horse. The so-called "resemblance spectrum" can be established only because the mass tropes are related by *greater than* (or *smaller than*). The relative position of a mass trope on the resemblance spectrum is determined by its relative comparison with other mass tropes. For example, a *4-kg*-trope resembles a *3-kg*-trope more than it resembles a *2-kg*-trope *because* the first trope is greater than the second and the second than the third. Thus, von Wachter's suggestion is unacceptable.

　　I propose, *contra* von Wachter, that trope-level resemblance is to be reduced in some indirect manner to trope-level *greater than* relation or *darker than*

relation or some other internal relations. On Butchvarov's analysis, the complete form of (object-level) resemblance is a second-order "more than" relation holding between two first-order resemblances. We may now reformulate his analysis based on the current proposal. Consider the fact that a *scarlet*-trope resembles a *red*-trope more than it resembles a *pink*-trope. On the current proposal, this fact may be rendered thus: The degree that the *scarlet*-trope is *darker than* the *pink*-trope is *greater than* the degree that the *scarlet*-trope is *darker than* the *red*-trope.[6] The current proposal has it that resemblance in its complete form is reduced to a second-order *greater than* holding between two first-order *darker than* (or *brighter than*, depending on the direction of description). Similar analysis can be applied to other cases of reseblance as well. The *greater than* relation determines the relative positions of tropes on a spectrum along a certain dimension (e.g., shape, mass, etc.). What about "exact resemblance"? On the current proposal, that for example the *red*-trope *a* exactly resembles the *red*-trope *b* may be rendered thus: There is no *darker than* holding between *a* and *b* in either direction. The notion of "resemblance" is henceforth not really needed in Trope Particularism.

Let me turn to another consideration as a supplement to the claim of dispensing with resemblance in Trope Particularism. It is about the phenomena of brute similarity. What do the phenomena of brute similarity have to do with our concern here? I do not think that the existence of such phenomena defeats Trope Particularists's taking resemblance to be metaphysically genuine. But I do think that they raise reasonable doubts about so taking.

6　Perhaps the *darker than* relation can be reduced to *greater than*. But let us skip this minor question.

　　Suppose Eric and Sam are identical twins. Their faces are extremely similar, but there is no determinate respect in which their faces may be said to be "identical" (beyond being faces). This poses some difficulty for Universalism, for there will be cases of resemblance that cannot be explained in terms of partial identity. However, Armstrong thinks of this difficulty as an *epistemological* one. As he puts it, "It is possible to recognize resemblances and yet to be unable to detect in what respect the particulars concerned resemble each other" (Armstrong, 1978b: 98). Put this way, three replies are readily available. (1) It may be that we do have awareness of the identical respects, only that the awareness is inarticulate due to the inadequacy of our linguistic resources. (2) It may be that our awareness of the identical respects is unconscious. (3) Even if inarticulate or unconscious awareness is lacking, it may be that the recognized resemblance is *in fact* resemblance in a certain respect — and resemblance in a certain respect is readily explained in terms of partial identity (Armstrong, 1978b: 98). In the third case, the phenomena only *appear* brute, one may say. Armstrong thus echoes Hobbes in thinking that the phenomena of brute similarity are compatible with Universalism.

　　When it is thought that the phenomena of brute similarity pose *only* an epistemological difficulty, their existence is, of course, compatible with Universalism. Indeed, it will be compatible with any ontological position. But, I am not satisfied with such a maneuver. *What if there are no such underlying respects in which the recognized resemblance can be said, to use the Universalist language, to be identical*? What is the rationale for excluding this possibility? Probably the two faces of identical twins are extremely similar, and that's it! Probably two Jasmine leaves are extremely similar, and

that's it! It is true that there are a lot of cases of resemblance of which we are aware but are unable to say precisely in which respects they resemble. The reason why the similarity appears brute may be because we have not found the specific resembling respects that are responsible for the recognized similarity. It may even be that due to our cognitive limitation we (humans) are incapable of discerning resembling respects in some cases. Be that as it may, this should not bar us from thinking seriously about the possibility that in some cases of resemblance there are just no identical respects down to the bottom! It is this possibility that causes trouble for Universalism.

Probably the example of the two faces of identical twins will not convince Universalists to accept the possibility. After all, faces are extremely complicated. Consider a much simpler example. Have a look at the following two figures:

G   H

Let us suppose also that figure G is of a certain shade s* of blue and figure H is of a somewhat different shade s** of blue and the difference is minor but observable. Figure G and figure H are nearly exactly similar. In which respects are they identical, then? I am not asking for an immediate answer, since it is agreed that the identical respects, if any, are sometimes hard to discern. But I do really want to press the point that there is the possibility that there are no identical respects all the way down! Ruling this possibility out in a brute manner is a Universalist bias.

Does Trope Particularism fare any better? I think not. Although G and H are highly similar, their similarity cannot be reduced to trope-level exact resemblance. The *blue-of-shade-s**-trope in G only nearly exactly resembles the *blue-of-shade-s***-trope in H. And, the particular shape trope in G only nearly exactly resembles the particular shape in H. Thus, the Trope Particularist thesis that all object-level resemblances are reducible to trope-level exact resemblances is false. Although some object-level resemblances are reducible to trope-level exact resemblances, there are cases in which object-level resemblances are reducible *only* to trope-level *nearly exact resemblances*. However, when the case of trope-level nearly exact resemblance is open, Trope Particularism will have to posit one more primitive: *nearly exact resemblance* between tropes. A 1000-sided figure exactly resembles itself and other 1000-sided figures. Also, it nearly exactly resembles other 1001-sided figures or 999-sided figures. And, there seems to be no way to understand the nearly exact resemblance between a *1000-sided*-trope and a *1001-sided*-trope by virtue of anything that involves exact resemblance between any two *1000-sided*-tropes or between any two *1001-sided*-tropes. Recall also that at the end of section 3 it was pointed out that a *prima facie* suspicion that mere resemblance and exact resemblance differ. Now, if nearly exact resemblance has to be assumed to be a primitive, we seem to be forced to take the difference between mere resemblance and exact resemblance to be a difference in kind. This consequence seems inevitable for Trope Particularism, and it does severe violence to our intuition and our conception that exact resemblance is the *highest* degree of resemblance. We take "resemblance" to be a graded notion rather than a categorical one. The only way out, I suggest,

is to give up taking trope-level resemblance to be a metaphysically genuine relation.

VI. Trope Ontology in a Conceptualist Guise

We have seen very strong reasons to suspect that resemblance is ontologically gratuitous in Trope Particularism. It is interesting to see that "resemblance" does not signify a metaphysically genuine relation in Universalism, either. Resemblance is redundant in Universalism in that once it is explained in terms of (partial) identity, there is no need to describe the reality in terms of resemblance. Universalism does not need to have resemblance in its ontological bag. The question now is whether the denial of resemblance as an ontologically genuine relation would render unintelligible the notion of "resemblance."

I certainly do not think so. Indeed, I have a more radical proposal to offer. I not only think that it is very likely false to take resemblance to be a metaphysically genuine relation, but also think that it is very likely false to take the phenomena of similarity to be *mind-independent*. I think it is a metaphysical dogma: that it is a plain and mind-independent fact that two objects are similar in shape or color or along whichever dimension. It is a metaphysical dogma that *the phenomena of similarity are mind-independent*. I suspect that the overall consensus of thinking of resemblance as mind-independent comes from the long Universalist tradition that has shaped our major metaphysical presumptions. On the Universalist view, similarity *is* partial identity. Since identity is mind-independent, it is natural to think that resemblance is mind-independent as well. But I think that this consensus

requires some justification. I am not saying that it is illegitimate for philosophers to take the phenomena of similarity to be their metaphysical *explanandum*. And, I am certainly not objecting that one cannot have both a metaphysics and an epistemology for the phenomena of similarity. What is questionable is that by doing that, metaphysicians exclude outright the possibility that the phenomena of similarity may ask for, and *solely* for, a *psychological* explanation. Philosophers need to provide a rationale for ruling this possibility out before they take the phenomena of similarity to be on the list of their metaphysical inquiries. This is especially urgent for Universalists, since explanation of the phenomena of similarity solely in psychological terms would render redundant the positing of universals. An illegitimate Universalist answer would be that it is a well-established tradition that the phenomena of similarity have been undoubtedly a legitimate *explanandum* of metaphysics. Another illegitimate Universalist answer would be that the phenomena of similarity constitute an appropriate subject matter for metaphysical inquiry because the positing of universals has well explained them. Both answers beg the very issue concerning the rationale of ruling out the possibility I raised.

Trope Particularism does not do any better. Recall that both Trope Particularism and Universalism are theories competing for providing a better explanation for the phenomena of object level similarity. We were then puzzled why Trope Particularism ends up with assuming trope-level resemblance as a primitive. It seems that this leaves the project of explaining the phenomena of similarity incomplete.

But, once we have moved to the point of denying resemblance its metaphysical status in Trope Particularism, why not move further into

considering the possibility that "resemblance" is solely an *epistemological* or *psychological* notion. Indeed, why not move further into entertaining the possibility that the phenomena of similarity call *solely* for a psychological explanation? I would like to advocate a consideration that may favor this possibility, a consideration that sounds even more plausible given the above reductive analysis of resemblance. Consider once more the world in which there are only two red patches. Since resemblance is an internal relation, the fact that the two red patches resemble will be ontologically nothing more and nothing less than the mere fact that there are the two red patches. However, the description that the two red patches resemble seems to be relatively more *informative* than the mere description that there are the two *red*-tropes. After all, "resemblance" is a concept that is neither empty nor unintelligible. Taking trope level resemblance to be an internal relation cannot explain the relative informativeness of the description stating that a certain resemblance holds between two tropes. If so, the relative *informativeness* of the description that they resemble will have to come from a non-ontological source. A natural candidate for this is our psychology. It is our psychological working that contributes to the relative informativeness in the description that the two red patches resemble. Seeing things to be similar (or dissimilar) is one of the fundamental ways of our cognizing the world we encounter. But this psychological working is not groundless. As has been said, since resemblance in its complete form is ontologically reduced to a second order *greater than* (or some other internal relations) over two first order *darker than* (or some other internal relations), these internal relations will provide the ontological basis for our psychological working in cognizing which resembles more than which.

On this epistemological conception of resemblance, the phenomena of brute similarity no longer pose difficulties for Trope Particularism, for they will be a chapter of psychology. The suspicion that mere resemblance differs from exact resemblance in kind will be removed. Moreover, the problems posed by the Uniformity Principle no longer arise. Since trope-level exact resemblance is not a metaphysically genuine relation, the Uniformity Principle does not apply to it. The dilemma disappears as well.

Furthermore, one implication of the epistemological conception of resemblance, consistent with Orthodox Nominalism, is that kinds (or types) are not real. Kinds, according to Trope Particularism, are formed out of exactly resembling tropes. The kind *Red*, for example, is the class of all exactly resembling *red*-tropes. Since resemblance is epistemological, kinds (or types) will be epistemological as well. Kinds are not out there to be discovered; they are products of human cognition. This is a new form of conceptualism with regard to kinds. Although natural kinds are much more complicated than simple kinds such as *square*, *red*, etc., they do not call for a different treatment.

It nevertheless does not follow from this conceptualist position that kinds are arbitrarily constructed. For, first of all, as was pointed out, the psychological working in conceptualizing similarities is not groundless. It has its ontological ground in the *greater than* or some other internal relations holding between two first order internal relations between tropes such as *darker than* or *heavier than*, etc. Secondly, we need not confine ourselves to perceptual similarities. Functional or causal similarities and structural similarities are allowed. And, certainly, there is no reason to exclude the deep-level microscopic similarities.

An objection has been raised against this epistemological conception of resemblance. It is that, on this conception, if there were no human beings, nothing would be similar to anything else. But, why is this an objection? Does my proposal exhibit "anthropocentric arrogance"? I see this accusation unjustified. The reason why we think it an objection to the epistemological conception of resemblance is probably that we have long been told that the existence of the phenomena of similarity is something suitable for metaphysical inquiry — especially when a Universalist mind-independent explanation is readily available. It is true that on the conceptualism currently offered, if there were no humans, nothing would be similar to anything else and nothing would be dissimilar to anything else. But, *why is this a problem?* Since descriptions in terms of resemblance in its logically complete form are reduced ontologically in the sense that they are grounded in other genuine internal relations such as *greater than*, *darker than*, and *heavier than*, the above hardly constitutes an objection. I thus conclude that Trope Particularism does not require (trope-level) resemblance as one of its primitives.

VII. Conclusion

In dispensing with resemblance in Trope Particularism and proposing that the phenomena of similarity call solely for a psychological explanation, I probably have revived a tradition beginning with Aristotle down to Leibniz at least. But I do not share their radical view that all relations are "mental comparings." What has been denied all along is only the ontological status trope ontologists have traditionally ascribed to resemblance. I do think that causation, trope compresence and internal relations (and probably spatiotemporal

relations as well) are mind-independent and are metaphysically genuine relations. On the other hand, psychological explanations of our conceiving of similarities are certainly legitimate and have recently occupied a central place in psychology. I believe that Trope Particularism does not lose much by taking resemblance to be epistemological or psychological. The next step will be to provide an epistemology for the phenomena of similarity based on trope ontology and human psychology.

References

Armstrong, D.M. (1978a). *Nominalism and Realism, vol. 1 of Universals and Scientific Realism*. Cambridge: Cambridge University Press.

--- (1978b). *A Theory of Universals, vol. 2 of Universals and Scientific Realism*. Cambridge: Cambridge University Press.

--- (1989). *Universals: An Opinionated Introduction*. Westview, Boulder.

--- (1992). "Properties." D.H. Mellor and A. Oliver (eds.). *Properties* (160-172). Oxford: Oxford University Press.

Bacon, J. (1995). *Universals and Property Instances: The Alphabet of Being*. Oxford: Basil Blackwell.

Butchvarov, P. (1966). *Resemblance and Identity: An Examination of the Problem of Universals*. Bloomington: Indiana University Press.

Campbell, K. (1981). "The Metaphysics of Abstract Particulars." D.H. Mellor and A. Oliver (eds.). *Properties* (125-139). Oxford: Oxford University Press.

--- (1990). *Abstract Particulars*. Oxford: Basil Blackwell.

Daly, C. (1994/5). "Tropes." D.H. Mellor and A. Oliver (eds.). *Properties* (140-159). Oxford: Oxford University Press.

Macdonald, C. (1998). "Tropes and Other Things." S. Laurence and C. Macdonald (eds.). *Contemporary Readings in the Foundations of Metaphysics* (29-350). Oxford: Basil Blackwell.

Martin, C.B. (1980). "Substance Sbustantiated." *Australasian Journal of Philosophy*, 58: 3-10.

Williams, D.C. (1953). "On the Elements of Being." D.H. Mellor and A. Oliver (eds.). *Properties* (112-124). Oxford: Oxford University Press.