Int Ontology Metaphysics (2007) 8:165–178
DOI 10.1007/s12133-007-0014-7

ORIGINAL PAPER

Resembling Particulars: What Nominalism?

Matteo Morganti

Published online: 23 August 2007

Abstract This paper examines a recent proposal for reviving so-called *resemblance nominalism*. It is argued that, although consistent, it naturally leads to *trope theory* upon examination for reasons having to do with the appeal of neutrality as regards certain non-trivial ontological theses.

1 Introduction

In the philosophical literature concerning ontology, two nominalists alternatives have been traditionally opposed, on the one hand, to the *bundle theory* (conceiving of reality as constituted by instances of universals bundled together) and, on the other hand, to the *substratum theory* of Aristotelian and Lockean derivation (consisting of the claim that every thing is composed of properties plus a property-less 'basis' in which these properties inhere).[1] These alternatives are *resemblance nominalism* and *trope theory*. The former is the claim that only concrete particulars exist, and properties are derivative on similarity relations holding among them. The latter has it, instead, that only particularized properties (*not* understood as instances of universals, but rather as 'abstract particulars,' i.e., tropes) exist, and complex particulars are bundles of tropes. Resemblance nominalism can be traced to Carnap (1928) and was developed by Price (1953). Trope theory appears in the work of Stout in the 1920s (see Stout (1921, 1923) and was more recently advocated, most notably, by Williams (1953), Campbell (1981, 1990) and Simons (1994).

While trope theory has recently become fairly popular, new work by Rodriguez-Pereyra hugely improved on the pre-existing resemblance nominalist proposals, so much so that any nominalist (or, for that matter, any ontologist) must now take resemblance nominalism as a serious metaphysical perspective.

[1] The latter is also described as based on the postulation of 'bare particulars.' It must be pointed out that, although they usually introduce substrata with a view to *keeping* universals while also satisfactorily accounting for individuality, substratum theorists can understand properties both as universals and as tropes. See, for instance, LaBossiere (1994) who endorses a substrata-plus-tropes ontology.

M. Morganti (✉)
Institut d'Histoire et de Philosophie des Sciences et des Techniques (CNRS-ENS-Paris I),
13 rue du Four, 75006 Paris, France
e-mail: M.Morganti@lse.ac.uk

In this paper, I analyse Rodriguez-Pereyra's suggestions as to how to deal with the traditional difficulties that are supposed to make resemblance nominalism unworkable. I conclude that the proposal is consistent, but naturally leads one to see trope theory as preferable in terms of simplicity, intuitive plausibility and, most importantly, avoidance of commitments to specific ontological theses. The structure of the paper is as follows.

In Section 1, I preliminarily argue for the dispensability of universals. I introduce the crucial argument in favour of realism about universals, namely, that similarity facts can, allegedly, only be accounted for by postulating universals, and I explain how, in my opinion, the nominalist must conceive of similarity facts to avoid this conclusion. In Section 2, I look at Rodriguez-Pereyra's resemblance nominalism, pointing to the ingenious ways in which he solves the problems usually considered fatal for the theory. In Section 3, I argue that the same results can be attained without incurring equally high ontological costs, although at the 'price' of endorsing (a certain version of) trope theory. In Section 4, I conclude the paper by sketching responses to some customary objections to trope theory.

2 Similarity and the Alleged Indispensability of Universals

The basic ontological argument in favour of the conclusion that the similarities between particular things require the postulation of multiply instantiable entities is the celebrated one-over-many argument first devised by Plato [see *Phaedo* (65d4-66a3)]. The argument can be formulated as follows:

1. Any property P exemplified by a particular is ontologically distinct from that particular.
2. As it can (and does in fact) happen that many particulars all have the same property P, P can be (is) exemplified by more than one thing at the same time.
3. Therefore, P is separate and distinct from each particular and is a 'one-over-many.'
4. As P must always be available for predication and allow for all degrees of 'P-ness,' an entity exists that is the most perfect case of P-ness, and it is everlasting.
5. Whatever is, like P, a one-over-many, separated, and everlasting entity that gets exemplified by concrete particulars is a universal.
6. Therefore, every actual property is in reality an instantiated universal.

As is well-known, the Platonic view of properties meets with problems: If properties are conceived as ideas actually existing as separate from the actual world (to use the technical definition, if they exist as *ante res* universals), then an explanation of the relation between them and what we experience must be given. However, this explanation seems impossible to develop due to unavoidable infinite regress. Plato himself realized this in his *Parmenides*, where [131e-133a] he laid the basis for the argument that, thanks to Aristotle, came to be known as the third man argument.

In the light of this difficulty, Aristotle rejected *ante res* universals and argued that properties should, instead, be understood as immanent (*in rebus*). That is, that universals are real entities, but they do not have to be – in fact, cannot be – distinct from their instances; instead, they are 'fully present' in the latter.[2] This move avoids

[2] For Aristotle, *in rebus* universals constitute the formal element that qualifies matter.

the third man argument as universal forms and particular qualities instantiated by real objects are numerically identical (not just similar), and so no explanation of their relation is required. Although several contemporary authors do endorse a Platonic *ante res* realism about universals[3], it is this Aristotelian perspective that appears more plausible nowadays.[4] Immanent realism about universals undoubtedly explains similarity. However, does this mean that universals undeniably exist?

The argument in favour of the idea that it is necessary to commit oneself to the existence of universals might be seen as a sort of indispensability argument. Such arguments conclude that some kind of entity must exist by showing that the assumption that it does exist cannot be dispensed without explanatory loss in some domain.[5] Because the ontological indispensability of entity(-type) x entails that there are some facts that cannot be explained except by making recourse to x, the non-indispensability of x can be established by showing that the same facts can be explained by entities other than x. Thus, we need to ask whether resemblances between things can be accounted for without having recourse to universals. This means to look for a plausible nominalist account of similarity.

To succeed in this task, the nominalist must, first of all, find a way to avoid what is known as Russell's regress. According to Russell (1912; Chapter 9), if the nominalist explains similarity by saying that there exist specific resemblances among particulars, then s/he needs to account for what makes each resembling pair exhibit the same relation, i.e., a resemblance relation (which, of course, cannot be understood as a universal). One might suggest claiming that any two specific instances of resemblance resemble each other. However, if the nominalist wants to avoid positing infinite particular instances of resemblance (among particulars, then among resemblances among particulars, then among resemblances among resemblances among particulars, and so on), s/he can only do so by accepting resemblance as a universal in his/her ontology. However, this move is exactly what nominalists attempt to avoid, as if they acknowledge the need for one universal, then their basic claim that universals are just useful fictions that can be consistently dispensed with gets fatally weakened.[6]

It, thus, looks as though a proper nominalist solution to the similarity problem can only be based on the claim that an explanation of resemblance facts *does not* require a commitment to the existence of additional entities over and above the things that

[3] See, for example, Plantinga (1974), Bealer (1982), Hale (1987), Tooley (1987), and Grossman (1992).

[4] The most strenuous current defender of realism about universals along Aristotelian lines is certainly Armstrong (see, for example, his 1978 and 1989). He endorses and reiterates the one-over-many argument, and he also expands the justification of realism about universals based on language by taking universals as necessary for truth-making. At the same time, Armstrong rejects the sort of transcendental realism developed along Platonic-Russellian lines and presents his position as an *a posteriori* immanent realism about universals: He believes that there is no automatic correlation between predicates and universals and that we need to discover what universals really exist (namely, what predicates truly correspond to real properties) through the empirical work of science. This is the basis for the distinction between a *sparse* and an *abundant* conception of properties that will be employed later.

[5] A classic example is the argument for the reality of numbers on the basis that eliminating numbers from our postulated ontology would leave physics severely impoverished. See Quine (1960) and Putnam (1979).

[6] However, it is possible to claim that commitment to the existence of one universal is different – and better – from commitment to realism about universals *tout court*. See Rodriguez-Pereyra (2002) and his distinction between quantitative and qualitative economy.

are similar. Indeed, it seems to me that the strategy the nominalist must put into practice is to endorse the claim that *a* resembles *b* *exclusively* in virtue of *a* and *b* and the way they are and not because of some other entity making them similar.

That this is not a simplistic account and is instead sufficient as an explanation can best be seen by thinking about the notion of resemblance at the level of common sense. In the case of ordinary objects, it seems to me, similarities are established by experiencing things separately and then acknowledging the fact that they have the same 'causal' efficacy and the same relations with other things around them, not by making reference to some further entity or factor 'making' them similar to each other.[7] It is unclear why one should postulate such a cause of similarity at the level of ontological analysis. That is, it is unclear why one should not make do with the claim that all particulars (especially the simplest ones to the existence of which one is committed on the basis of one's specific ontology) are similar to each other in virtue of the fact that they exist as such-and-such entities.

In more detail, it appears natural to say that the 'causal' role played in the world by each particular is defined as soon as that particular exists. However, if such a causal role is everything that is required to establish whether the particular is or is not similar to another particular, it follows that the *existence* of the particular (as the particular with such and such qualitative/causal features) is sufficient for establishing facts of similarity or dissimilarity. From this, a 'reductionist' understanding of similarity facts follows, which entails, among other things, that Russell's regress does not arise. For no resemblance relation is ever posited as determining any similarity fact, and similarities are reduced to internal relations among things that supervene on these things' existence.

If it is objected that this view concerning similarity and the dispensability of universals is essentially based on an intuition (to the effect that resemblance facts do no need a cause and immediately follow from the existence of the resembling things), one can reply that the realist's idea that, given facts of resemblance, we need to accept the existence of universals is equally based on intuition. That is, that the position according to which exemplification grounds predication is at least on a par with the alternative view, defended in this study, that such grounding is in fact not needed.

If this is correct, the dispensability of universals is established, and it is possible to examine the prospects for a nominalist ontology, doing away with both substrata and multiply instantiable universals, in more detail.

3 Resemblance Nominalism

The central idea of resemblance nominalism can be summarized by saying that the initial step in Plato's one-over-many argument for realism about universals is flawed. Realists claim that properties are ontologically distinct from the particulars

[7] Of course, I am not suggesting that the *act of judging* two things similar makes them so, but rather that the causal features that things possess are sufficient to determine the facts of similarity or dissimilarity they are involved in as we experience them. Also, I put terms related to causality among quotes to avoid endorsing realism about it. If one is sceptical about causation, the former can be reduced to regularities in the observed world. Nothing in the thesis being put forward hinges upon a strong understanding of causality.

exemplifying them and that things resemble each other because each one of them instantiates literally the same entity, i.e., the universal corresponding to the property the things have in common. Resemblance nominalists, instead, deny that properties constitute an autonomous ontological category. They reverse the customary order of explanation and take properties to be 'by-products' of the obtaining of resemblance relations. The latter, crucially, are considered primitive and not in need (nor allowing for) further analysis.

The first explicitly to endorse this position was Price (1953). According to him, resemblance classes are determined by similarities between particulars and *paradigms* intended in the sense of 'privileged' entities whose properties are not, in turn, determined by relations with other particulars. The view is, then, that paradigms (or 'exemplars') determine similarity classes and "hold a class together" (Ib.; pp. 21–22).[8] However, the rather obvious question "What determines that the paradigm is to count as a paradigm, and what makes it a paradigm for a specific property rather than another?" led the majority of resemblance nominalists to opt for a different view. Namely, one in which no paradigms are required, but only similarities holding between *any* particular and *any* other. This specific version of resemblance nominalism will be analysed in what follows, making reference to the author who did the most in recent times to improve it and make it a sophisticated and consistent ontological view (see Rodriguez-Pereyra 2001, 2002, 2003).

First of all, one problem arises for Rodriguez-Pereyra regarding the claim that he endorses that the joint existence of the resembling individuals is the truth-maker for claims as to their similarity. For, as he admits, if the joint existence of *a* and *b* is sufficient for the truth of the claim that '*a* resembles *b*', then the claim should be true also in possible worlds in which *a* and *b* are not similar and yet they both exist.[9] But then similarity and existence do not go hand in hand as needed, and similarity still requires an explanation. Rodriguez-Pereyra argues that this difficulty is overcome by denying transworld identities, namely that things in different worlds can be identical. This is obtained by endorsing Lewis's *Counterpart Theory* (1968, 1986; pp. 192–263), which is essentially the claim that individuals only exist in one world and correspond to individuals in other worlds *via* a relation (the counterpart relation) that is weaker than identity. Such a view indeed allows one to claim that each particular has the properties it has necessarily. A first element to be kept in mind is, then, that Rodriguez-Pereyra is forced to embrace counterpart theory.

Apart from the need to provide an explanation of similarity and to avoid Russell's regress, resemblance nominalists are required to deal with four fundamental obstacles (the last two of which were first pointed out by Goodman (1972) by way of criticism of Carnap's resemblance nominalist intuitions in the *Aufbau* [1928 (1967)]:

1. The *many-over-one* difficulty: If particulars are not analysable in terms of the properties they exemplify, and properties do not in fact constitute an independent ontological category, how can a *single* particular, which is to be

[8] A Pricean position has been defended in more recent times by Cargile (2003).

[9] This is possible because, while it is true that the joint existence of two particulars is sufficient to make them similar or dissimilar, the resemblance classes to which a particular belongs may vary across possible worlds.

understood as 'non-composite' with respect to qualities, resemble different sets of other particulars and, *consequently*, possess many different properties?

2. The *coextension* problem: Assuming that similarities determine the properties that exist, if the sets of resembling particulars determining properties A and B are constituted by the same individuals, what is it that makes property A distinct from property B?
3. The *companionship* difficulty: According to resemblance nominalism, *maximality* is required for the set of resembling particulars determining property A. That is, the set must comprise all individuals said to possess property A, and no individual resembling all those particulars can fail to be in the set (otherwise, it would resemble all A particulars and yet fail to be one, which is impossible according to resemblance nominalism). If this is the case, although, how can one account for possibilities in which, for instance, all individuals with property A also have property B but not vice versa? In such a scenario, there would indeed exist particulars that are similar to every A particular (albeit with respect to B) and yet fail to belong to the property set for A.
4. The *imperfect community* problem: As it is possible for a set to contain individuals that all resemble each other but, nevertheless, do not all have the same property, how is the resemblance nominalist to distinguish genuine from non-genuine resemblances?[10]

The first difficulty (the many-over-one) is eliminated as soon as one understands that, from the perspective of resemblance nominalism, properties supervene on resemblance facts and not vice versa. That is, that one should not conceive of different 'aspects' of things in virtue of which the latter belong to various similarity sets: This is exactly the assumption that leads toward the sort of realism about properties that the resemblance nominalist rejects. Rather, resemblances being primitive, one *should not* seek an explanation for the fact that an individual belongs (or can belong) to more than one property set and should instead acknowledge that this fact is just due to the way things are. The other difficulties reveal much more interesting features of resemblance nominalism.

The coextension problem is solved, claims Rodriguez-Pereyra (2002; Chapter 5), if one takes property sets as comprising individuals in all possible worlds. According to this perspective, an individual has property P if and only if it resembles *all possible* P particulars. Especially under the assumption that properties are sparse, he explains, it must be possible to tell two distinct properties A and B apart in this way. For the intensions of A and B must have at least one difference, and this, it seems, determines the non-identity of the particulars possessing A with those exemplifying B in at least one possible world. Conversely, the coextension (across worlds) of the resemblance sets determining A and B should entail that A and B are in actual fact the same property. With this, the traditional example of 'having a heart' and 'having a kidney' and similar ones are indeed shown not to be a problem, as it is a mere contingency that all animals have both organs (it might even be just false, given the possibility of temporary lack of heart or kidney(s) during a transplant). Room seems

[10] If one wants to avoid talk of 'same property', the problem might be formulated as that of explaining why the sum of the non-empty and non-overlapping intersections of any three (or more) distinct property classes does not constitute a property class.

to be left for a potential rejoinder based upon the conceivability of *necessarily coextensive* distinct properties: Is it not possible that two properties are necessarily compresent in all the individuals in which one of them is exemplified? Rodriguez-Pereyra rightly rejects this scenario. In all putative counterexamples one can come up with (for instance 'is triangular' and 'is trilateral'), it appears to be possible to individuate what is common to the properties being pointed at and define *that* as the real property, the existence of which one must commit oneself to (in this case, something like 'has the shape of a triangle').

I take it, then, that Rodriguez-Pereyra can provide a satisfactory answer to the coextension problem. However, he can only do so at the cost of incurring a second – surely not insignificant – metaphysical commitment. As properties are entirely defined in terms of resemblance sets, and these, as we have just seen, need to comprise particulars in all possible worlds, the resemblance nominalist is forced to endorse realism about possible worlds.

Rodriguez-Pereyra overcomes the companionship problem by refining the notion of resemblance and making it 'come in degrees.' The key idea is that two particulars a and b share n properties if and only if 'a resembles b to degree n' is true (Ib.; Chapter 10, Section 2], and that resemblance sets must be identified with *maximal perfect communities*, that is, with groups of particulars that all resemble each other to the same degree. In a case of companionship where all F particulars are also G particulars but not the other way around (and no other similarities are involved), the G particulars form a maximal perfect community of degree 2 (as all the G particulars have property F as well as G), whereas the F particulars form a maximal perfect community of degree 1. Hence, we can distinguish between a property and its companion. To use a concrete example (which, of course, for simplicity, assumes the existence of properties in a way that is illegitimate for the resemblance nominalist), take particulars a, b, and c to be all red, but only a and b to be square, while c is round. Particulars a, b, and c constitute a perfect community of degree 1 of red things, and particulars a and b a perfect community of degree 2 of square things that are also red (roundness, instead, is shared by c with particulars other than a and b).

Once again, the proposed solution works, but only at a price, namely, that of substituting the relatively intuitive notion of resemblance with a more complex relation that is made relative to degrees. The resemblance nominalist does not possess criteria of property individuation other than resemblance itself, and so cannot understand the above bi-conditional (n shared properties↔resemblance to degree n) as a definition of resemblance to a degree. To the contrary, s/he must take the *latter* notion as primitive.

As for the problem of imperfect community, Rodriguez-Pereyra's proposal (Ib.; Chapter 9, especially pp. 169–172) is to replace resemblance with an iterative relation. This relation, call it R^*, is defined as follows: Two particulars are related by R^* iff they share a property; two ordered pairs of particulars $<a, b>$ and $<c, d>$ are related by R^* iff a and b share a property that c and d also share; two ordered pairs of pairs $<<a, b>, <c, d>>$ and $<<e, f>, <g, h>>$ are related by R^* iff the property shared by $<a, b>$ and $<c, d>$ is also shared by $<e, f>$ and $<g, h>$, and so on. A perfect community is, on this construal, such that its members are related by R^* to each other and, moreover, pairs of members, pairs of pairs of members, pairs of pairs of pairs of members (and so on) also are all in the relation R^* to each other. This

effectively guarantees that only perfect communities (in which the same property is shared by all members) are individuated by the resemblance relation.

But once more, and in this case perhaps in the most patent way, the cost of a consistent resemblance nominalism is quite high. What must be taken as the essential fact about things in the world, accounting for all their properties, turns out to be a rather abstract and complex relation and not similarity as it is commonly intended (as it should be obvious by now, the expression 'share a property' enters the definition of R^* only as a figure of speech, and the latter resemblance relation must be understood as a fundamental primitive, and one of a rather complex kind).[11]

Let us take stock. As it is construed in the framework of Rodriguez-Pereyra's resemblance nominalism, resemblance becomes an iterative relation among not only particulars but pairs of particulars, pairs of pairs of particulars and so on; it needs to range over particulars in all possible worlds, with the latter realistically intended, and it requires a commitment to counterpart theory.

Moreover, and this will turn out to be important in what follows, properties with *only one instance*, which are surely conceivable, must also be defined by the resemblance nominalist in terms of resembling particulars. And this has the consequence, suggested by Rodriguez-Pereyra himself (Ib.; pp. 90–91), that it must be accepted as a possibility that the fact that a particular in the actual world has a property is explained *exclusively* on the basis of a resemblance between that particular and particulars in other possible worlds. For if only particular a has property P in the actual world, and yet a's instantiating P must be explained in terms of similarities between a and other particulars, then a must necessarily be similar to particulars in worlds other than the actual.[12]

True, Rodriguez-Pereyra can claim that, because he had set himself the task of defining a consistent resemblance nominalism, his attempt is successful; however, it is quite another thing to consider – because of the consistency of the suggested view – resemblance nominalism compelling vis-a-vis other ontological options.

4 Towards Trope Theory

The reasoning underpinning resemblance nominalism can be summarised as follows:

(a1) Facts of resemblance ground the exemplification of properties.
(a2) Resemblance requires at least two particulars.

[11] After having offered solutions to the traditional problems affecting resemblance nominalism, Rodriguez-Pereyra also deals with one remaining problem (2002; Chapter 11), consisting of the fact that the conditions he individuates for sets of resembling particulars are also met by what he calls 'mere intersections.' That is, the particulars in the intersection of two perfect communities determining properties A and B also form a perfect community, as they all possess the conjunctive property A+B and no other particular has that property. To get rid of this problem, Rodriguez-Pereyra assumes that there exist no sparse conjunctive properties.

[12] In addition, the notion of 'resemblance to degree n' that Rodriguez-Pereyra employs to solve the companionship difficulty presupposes that every entity can only have a finite number of sparse properties, for it would be impossible to distinguish a property from another on the basis of the 'resembles to degree n' relation if the degree of similarity were equal to infinity for all the particulars in both the resemblance set determining one of these properties and in that determining the other. However, that each entity only has a finite amount of sparse properties appears plausible.

(a3) Since particulars can enter into many resemblance relations without this entailing that they are analysable, the multiplicity of properties exhibited by things can be accounted for by making reference *exclusively* to concrete particulars.
(a4) Therefore, the $n>1$ concrete particulars involved in a resemblance relation are the *sole* truth-makers of claims as to their similarity.
(a5) Therefore, the $n>1$ concrete particulars involved in a resemblance relation are the sole truth-makers of claims regarding properties and their exemplification.

How can this reasoning be modified (if at all) to avoid the commitments pointed at in the previous section?

A key idea is expressed by (a3): That the same concrete particular can belong to different resemblance classes without this entailing that the particular is analysable any further (let alone in terms of properties). Rodriguez-Pereyra claims that this must be considered as an advantage for resemblance nominalism. He rejects what is known as *ostrich nominalism* (the position that predication does not need an explanation and a is the truth-maker of every claim of the form 'a is P') exactly because, according to him, the latter is unable to account for the multiplicity of properties in particulars (2002; pp. 43–46).[13] However, one might reply that to allow for the analysability of complex particulars in terms of simple components does by no means affect the ability to account for the multiplicity of properties of concrete particulars.

Suppose that ordinary particulars can be analysed in terms of simpler elements, where 'simple' and 'complex' are intended as synonymous with 'with one property only' and 'with $n>1$ properties', respectively (that is, in resemblance nominalist jargon, to 'belonging to one resemblance class' and 'belonging to $n>1$ resemblance classes'). It looks as though, under this assumption, Rodriguez-Pereyra's analysis of properties can still perfectly apply to complex particulars.

On the other hand, it can also be seen that, with this modification, many of the problems affecting resemblance nominalism would disappear (provided that only simple particulars are taken as fundamental elements of reality). The many-over-one problem would not constitute a treat, as every ontologically basic particular would only belong to one resemblance class, and every particular with many properties, as just said, would be analysed in terms of simple components. Moreover, there would not be a subset of any property class also being a (different) property class, for that subset would be composed of particulars with only one property, and the same as that of the particulars in the initial property class. For analogous reasons, there would not exist imperfect communities (a set of particulars would all resemble each other only if they all had the same property) and the coextension (or intersection) of different property classes would also be impossible (for the coextension or intersection of two or more different sets requires at least some individuals in the sets to belong to more than one set, which is assumed to never be the case). In short, by identifying sparse properties with those determined by resemblances between

[13] The definition 'ostrich nominalism' is due to Armstrong (1978; vol. I, p. 16) who coined it on the basis of the fact that the position acknowledges that there are facts of property-exemplification, but then simply refuses to accept that these need an explanation. An ostrich nominalist position is defended by Devitt (1980) and Van Cleve (1994).

simple particulars only belonging to one resemblance class[14], most traditional problems for resemblance nominalism would be solved without the need to construct a complex (analogue to the) resemblance relation.

To look for such 'ultimate' simple particulars should indeed seem appealing to those endorsing (as Rodriguez-Pereyra does) a sparse conception of properties as it is science that suggests to us that reality is ultimately composed of a limited number of simple constituents. (No commitment to physicalist reductionism is being suggested: It just appears plausible to claim that these alleged fundamental entities are what one should look at when defining one's ontological description of material reality).[15]

The possibility is, therefore, definitely worth exploring of saying that the only properties one should be committed to are those determined by resemblances between simple particulars and that every particular which is not simple should be analysed in terms of truly simple particulars, that is, of particulars belonging to only one property class.

It might seem that this does not prevent from endorsing resemblance nominalism, for the basic simples are still particulars with properties. Nonetheless, here is, to the contrary, where I believe two fundamental facts emerge that render trope ontology preferable.

On the one hand, as we have seen, the resemblance nominalist invokes realistically intended possible worlds to avoid the coextension problem (by saying that contingent coextensions are not sufficient for defining properties), and the problem with properties with only one instance (by saying that the particular instantiating that property does so in virtue of its similarities with particulars in other possible worlds). Now, although limiting the similarities determining properties to those holding among particulars only belonging to one resemblance class allows one to prevent coextensions from arising, the other difficulty remains for the resemblance nominalist. That is, one-instance properties still demand realism about possible worlds. On the other hand, as s/he takes the particulars belonging to property classes to be concrete particulars, the resemblance nominalist (at least according to Rodriguez-Pereyra's depiction of the theory) must still avoid the admission of the possibility that the joint existence of *a* is not sufficient for *a* and *b* being P by endorsing counterpart theory (for that a concrete particular does not necessarily belong to the resemblance class for P is true regardless of whether it has only one property, or more).

The trope theorist, however, who *identifies* each basic particular with its qualitative content, can dispense with both possible worlds and counterpart theory: Within trope theory, the possibility of a P particular not *having* property P is discarded at the outset (at least for simple particulars) because a P particular *is* a property (that is, a trope of type) P.[16] As for one-instance properties, these do not

[14] In Rodriguez-Pereyra's terms, I am in effect hypothesizing that only properties determined by resemblances of degree 1 are real properties.

[15] The reply that physics denies that the basic constituents of reality only have one property and so the proposal above is refuted ignores that ontology should not contradict best science but can certainly go beyond what it currently says. Perhaps elementary particles are analysable.

[16] This, incidentally, allows one to make sense of ostrich nominalism. The central idea behind ostrich nominalism is, as we have seen, that '*a* is P' can be true and yet require no explanation other than that *a* exists. It seems to me that such a position becomes convincing as soon as it is assumed that property classes are composed by tropes rather than concrete particulars. If *a* is a trope, it follows that it is a particular property. However, this means that '*a* is P' is to be intended as an identity claim rather than a predication. From which it follows that, given *a*, it is necessarily true that '*a* is P'.

force one to have recourse to possible worlds in the context of trope theory because they 'explain themselves,' as it were, and do not require similarities holding between particulars.

We are, thus, in a situation in which a sensible hypothesis of analysability of things in terms of simple particulars – belonging to one resemblance class only – allows the nominalist to overcome most of the difficulties besetting resemblance nominalism without postulating such a complex relation as Rodriguez-Pereyra's R^*, and in which, moreover, understanding these simple particulars as tropes rather than concrete particulars additionally allows one to avoid a commitment to certain strong ontological theses (counterpart theory and realism about possible worlds) that Rodriguez-Pereyra is forced to subscribe to.

Trope theory also naturally accounts for similarity. It does this in terms of equality of properties (that is, in the terms used previously, of the similar particulars' equality of causal powers) rather than the other way around. For tropes are essentially identifiable with their qualitative/causal content and so 'come already equipped' with the similarities involving them.[17]

In the light of the foregoing arguments, the possibility should be contemplated, it seems to me (both for specific reasons having to do with resemblance nominalism's pros and cons, and for more intuitive motivations having to do with the priority of properties over similarities[18]), that resemblance nominalism is mistaken in its central assumption and that things resemble each other because they have (in actual fact, *are*) properties, and not the other way around.

5 Conclusions

It emerges that (at least against the background of a sparse conception of properties) the differences among the two available forms of nominalism are smaller than commonly believed. And that a choice is perhaps to be made exclusively on the basis of the ontological demands that each account brings with itself. I suggested that trope theory is preferable because it avoids all the commitments that resemblance nominalism imposes and naturally explains similarity as an internal relation (and emergent properties).

[17] Notice that conclusion (a4) above must be intended as the claim that the two or more concrete particulars involved in a resemblance relation are the sole truth-makers of the sentence expressing it, and *as a consequence*, the truth-makers for the statements attributing a specific property to them. In a trope ontology, (a4) would be equally true, but as the claim that the two or more particulars that are the sole truth-makers of resemblance claims are such *in virtue of the fact* that, each one of them by itself, they are the sole truth-makers of property attributions regarding them. This is exactly why predication is only possible with more than one individual in resemblance nominalism but not in the trope-based perspective being proposed and why, consequently, only the former is committed to the existence of possible wolrds.

[18] True, Rodriguez-Pereyra claims that "with metaphysical theories about the basic structure of the world, like Resemblance Nominalism, Trope Theory and Realism about Universals, there is no reason to expect that our intuitions will be true. Intuitions are the product of evolution and so metaphysical intuitions, which have little if any survival value, are unlikely to lead us to metaphysical truth" (2003; p. 232). Despite the fact that this appears correct as a general claim, it looks as though – all the rest remaining fixed – intuitions can in fact lead one to prefer one metaphysical hypothesis to another. In the present case, at any rate, intuitions in favour of similarities as dependent on properties are coupled with explicit arguments for choosing an ontology other than resemblance nominalism.

As for the role of universals, the best thing to do is to quote Van Cleve: In making reference to Sellars (1963), he explains that

> "the formula '∃F(Jack and Jill are both F)' need not be read as 'there is a quality that Jack and Jill both have', but may be read instead as 'there is something that Jack and Jill both are' - to which one could append [the word allegedly denoting a universal, but in fact describing Jack 's and Jill's nature]" (1994; pp. 587–588).

This seems to me absolutely appropriate for tropes, which have been defined as determining – with their *being* the tropes they are – the similarities we experience and, consequently, the general terms and concepts we use.

Before concluding, it is worth suggesting a few things as regards how fruitfully to develop trope theory.

First of all, what tropes exist, as demanded by a sparse conception of properties, can only be determined by empirical science. I see it plausible to contend that the fundamental tropes are the state-independent properties of elementary particles as these are described by our best available scientific account of them (i.e., the so-called Standard Model): namely, mass, charge and colour (and, perhaps, absolute spin too).

Secondly, once they are so identified, the basic tropes appear to be able to avoid the objection that

> "[t]he only plausible sense in which a substance is an entity that does not depend 'ontologically' upon anything other than itself is the sense in which it does not depend for its *identity* upon anything else [...; and thus] it seems entirely appropriate to regard identity-dependence as constituting the 'strong' species of existential dependency we are seeking [. As a consequence, tropes...] lack the fully determinate identity conditions characteristic of objects proper [...; they are] *adjectival* rather than *objectual* in nature" (Lowe 1998; p. 156).

While this is indeed the case for properties such as, for instance, shape or colour, that clearly depend on their subjects, tropes intended as the basic physical constituents of things can instead be conceived of as *not dependent on anything else for their existence*. It is, in fact, perfectly plausible to claim that they are basic 'building blocks' on the existence of which everything else (starting from elementary particles) actually depends.

Another alleged difficulty regards the simplicity of tropes. Some authors (see, for instance, Mertz 1996 and Moreland 1985) have argued that the trope nominalist is forced to claim that each trope has two aspects – one that makes it resemble other tropes (its nature) and another that makes it the abstract particular it is (its primitive particularity, or *thisness*[19]) and that this immediately makes the theory inconsistent, as an internal complexity is acknowledged in the entity that was instead presented as a basic simple constituent of reality. This kind of argument is not compelling. A trope surely has two aspects and, perhaps, even more if we consider its 'causal' powers and the net of relations it enters into. However, all these aspects are numerically identical: That is, it is by just being the simple entity it is that a trope

[19] See Adams (1979) for more on this concept.

counts as one, is similar to other tropes in its nature, is distinct from other things, causally affects and interacts with other tropes, and so on. It is mistaken to take each aspect as a distinct metaphysical component of the given trope, for these aspects are distinguished from each other merely by conceptual analysis.

Alleged difficulties that arise when considering the nature of the compresence of tropes (see, for instance, Daly 1994; pp. 258–260) can be disposed of similarly. Tropes are not compresent because they exemplify a certain real property, rather, they can be attributed the property of compresence because of the way they (co-) exist. This means that by the mere fact that it exists, a trope also exists at the same place as (or at a different place from) one or more other tropes. Compresence is, thus, an internal relation derivative on properties.[20]

A more pressing problem, it seems, concerns the connection (if any) existing among the compresent tropes. Mere compresence does not appear to be sufficient for making an individual out of certain tropes, namely, of distinguishing full-blown individuals from mere sets of tropes existing at the same place. Therefore, one must conceive of internal cohesive relations among tropes that determine their constituting more complex entities. Simons (1994) has recourse to Husserlian *foundation relations* (Husserl 1911–1917 (1970)) and proposes what he calls a 'nuclear account' (1994; pp. 567–569). He takes nuclei of foundationally related tropes to constitute the *substratum* to which peripheral layers of tropes becomes attached. Whereas the nucleus is the essence of each individual bundle of tropes and does not change, peripheral tropes can be lost, added, and replaced. I agree with Denkel (1997) that this account is unable to make room for substantial change, and follow the latter author in assuming the existence of *saturation relations* conforming to two distinct types of necessity: metaphysical and nomological. According to this view, both essential and accidental change are accounted for in terms of substitution of tropes acting as determinates (specific realizations, such as 'weighing 35 kg' for a particular space-time located entity) for certain *determinables* (generic properties, as 'having a mass') with other tropes that are determinates for the same determinables. Which determinables must exist together is legislated by the laws of physics that hold true in the actual world.

To be sure, much more can and needs to be said to articulate a satisfactory and complete ontology of tropes. At any rate, I hope to have provided in this paper arguments in favour of the idea that trope theory is the most natural, simple, and non-committal nominalist ontology available and that it is consequently worth exploring it in detail.

[20] Of course, the same applies mutatis mutandis for particulars which are complexes of tropes. Notice that the claim that primitive co-existence is all there is to compresence holds regardless of whether the tropes' existing in such a way that they 'are at the same place' determines space-time relations (as in relationism about space-time), or is set against the background of a pre-existing space-time 'stage' (as in substantivalist construals), or 'comes into existence' together with space-time as an absolute and yet non-substantival structure (as in the structural understanding of space and time suggested, for example, by Auyang 1995 and 2000).

References

Adams, R.M., (1979): *Primitive Thisness and Primitive Identity*, in *Journal of Philosophy*, 76, 5–25.

Armstrong, D., (1978): *Universals and Scientific Realism*, Cambridge University Press, Cambridge.

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

Auyang, S., (1995): *How is Quantum Field Theory Possible?*, Oxford University Press, Oxford.

Auyang, S., (2000): *Mathematics and Reality: Two Notions of Spacetime in the Analytic and Constructionist Views of Gauge Field Theories*, in *Philosophy of Science*, 67, S482–S494.

Bealer, G., (1982): *Quality and Concept*, Clarendon Press, Oxford.

Campbell, K., (1981): *The Metaphysic of Abstract Particulars*, in *Midwest Studies in Philosophy*, 6, 477–488.

Campbell, K., (1990): *Abstract Particulars*, Blackwell, Oxford.

Cargile, J., (2003): *On Russell's Argument Against Resemblance Nominalism*, in *Australasian Journal of Philosophy*, 81, 549–560.

Carnap, R., (1928): *Der Logische Aufbau der Welt*, Weltkreis, Berlin, translated in 1967 as *The Logical Structure of the World*, Routledge & Kegan Paul, London.

Daly, C., (1994): *Tropes*, in *Proceedings of the Aristotelian Society*, 94, 253–261.

Denkel, A., (1997): *On the Compresence of Tropes*, in *Philosophy and Phenomenological Research*, 57, 599–606.

Devitt, M., (1980): *"Ostrich Nominalism" or "Mirage Realism"?*, in *Pacific Philosophical Quarterly*, 61, 433–439.

Goodman, N., (1972): *Problems and Projects*, Bobbs-Merrill, Indianapolis.

Grossman, R., (1992): *The Existence of the World*, Routledge, New York.

Hale, B., (1987): *Abstract Objects*, Blackwell, New York.

Husserl, E., (1911–1917): *Philosophische Untersuchungen* (2nd edition, 1st edition 1900/1901); English translation by Findlay, J.N., (1970): *Logical Investigations*, Routledge, London.

LaBossiere, M., (1994): *Substances and Substrata*, in *Australasian Journal of Philosophy*, 72, 360–370.

Lewis, D., (1968): *Counterpart Theory and Quantified Modal Logic*, in *Journal of Philosophy*, 65, 113–126.

Lewis, D., (1986): *On the Plurality of Worlds*, Blackwell, Oxford.

Lowe, E.J., (1998): *The Possibility of Metaphysics*, Clarendon Press, Oxford.

Mertz, D.W., (1996): *Moderate Realism and its Logic*, Yale University Press, Yale.

Moreland, J.P., (1985): *Universals, Qualities and Quality-Instances*, University Press of America, New York.

Plantinga, A., (1974): *The Nature of Necessity*, Oxford University Press, Oxford.

Price, H.H., (1953): *Thinking and Experience*, Hutchinson, London.

Putnam, H., (1979): *What is Mathematical Truth?*, in *Mathematics Matter and Method*, Philosophical Papers, Vol. I, 2nd edition (1st edition 1975); Cambridge University Press, Cambridge, 60–78.

Quine, W.v.O., (1960): *Carnap and Logical Truth*, in *Synthèse*, 73, 113–116.

Rodriguez-Pereyra, G., (2001): *Resemblance Nominalism and Russell's Regress*, in *Australasian Journal of Philosophy*, 79, 395–408.

Rodriguez-Pereyra, G., (2002): *Resemblance Nominalism: A Solution to the Problem of Universals*, Clarendon Press, Oxford.

Rodriguez-Pereyra, G., (2003): *Resemblance Nominalism and Counterparts: Reply to Bird*, in *Analysis*, 63, 229–237.

Russell, B., (1912): *The Problems of Philosophy*, Home University Library. Reprinted in 1959 by Oxford University Press, Oxford.

Sellars, W., (1963): *Grammar and Existence: a Preface to Ontology*, in *Science, Perception and Reality*, Routledge & Kegan Paul, London, 247–281.

Simons, P., (1994): *Particulars in Particular Clothing: Three Trope Theories of Substance*, in *Philosophy and Phenomenological Research*, 54, 553–575.

Stout, G.F., (1921): *The Nature of Universals and Propositions*, in Landesman, C. (ed.), (1971): *The Problem of Universals*, Basic Books, New York, 154–166.

Stout, G.F., (1923): *Are the Characteristics of Particular Things Universal or Particular?*, in Landesman, C. (ed.), (1971): *The Problem of Universals*, Basic Books, New York, 178–183.

Tooley, M., (1987): *Causation: A Realist Approach*, Oxford University Press, Oxford.

Van Cleve, J., (1994): *Predication Without Universals? A Fling with Ostrich Nominalism*, in *Philosophy and Phenomenological Research*, 54, 577–590.

Williams, D.C., (1953): *On the Elements of Being*, Parts I and II, in *Review of Metaphysics*, 7, 3–18 and 171–192.