

Thorough-Going Resemblance Nominalism

In this paper, I examine—but do not endorse—a position which I shall call ‘thorough-going resemblance nominalism’. This position has two distinct aspects. On the one hand, it is a thorough-going ‘nominalism’, in one familiar sense of that term: it is a view which holds that there is nothing but concrete individuals. On the other hand, it is a resemblance ‘nominalism’, in the other familiar sense of that term: it is a view which holds that pretty much all predication can be analysed or explained in terms of a single primitive resemblance predicate.

Although I do not propose to endorse thorough-going resemblance nominalism, I hold that it is worthy of examination. Some people may take the view that each of the separate aspects of the view has already been thoroughly discredited: there are devastating objections to be lodged against thorough-going nominalism, and against resemblance nominalism.¹ However, recent work by Lewis (1983) (1986) (1991), and others, suggests—to me at any rate—that these familiar objections may not be quite so devastating as they appear. More about this anon.

The plan of the paper is as follows. I begin with some introductory remarks about different kinds of nominalist projects and the motivations which one might have for adopting them. I then turn to a discussion of the primitive resources of thorough-going resemblance nominalism, and of the benefits which might accrue to such a view. Finally, I consider some of the difficulties which stand in the way of the development of any kind of thorough-going resemblance nominalism.

1. Nominalist Projects

Nominalisms, as I shall understand them, are principally metaphysical doctrines, claims about what there is and is not. Thorough-going nominalism belongs to that nominalist tradition which defends the view that there is nothing but concrete particulars, and which is concerned to repudiate any commitments to abstract entities of any kind. Thus, according to thorough-going nominalism, there are no sets, or classes, or types, or numbers, or functions, or characters, and so forth. Resemblance nominalism belongs to that nominalist tradition which seeks to explain predication without appeal to universals. According to resemblance nominalism, there is a primitive resemblance predicate which plays a fundamental role in metaphysical theorising, but there is no universal which is expressed by this—or any other—predicate.

¹ In particular, some people may suppose that the failure of the project embarked on in Goodman and Quine (1947) sounds the death-knell for thorough-going nominalism. However—as we shall see—the failure of that project tells at most against the prospects for defending the claim that there is nothing but individual, particular, concrete, *actual* things.

Of course, thorough-going nominalism and resemblance nominalism are ‘nominalisms’ in different senses. On the one hand, those who have sought to deny that there are no universals have often appealed to abstract entities in their alternative explanations of predicate: class nominalism is a typical case in point. And, on the other hand, those who have sought to defend the view that there is nothing but concrete particulars have often taken the view that there is no real problem for which the postulation of universals could serve as an answer. However, even though there are distinct views here, it seems to me that it is not unnatural to consider views which are nominalist in both of the relevant senses. For, on the one hand, if you think that there is nothing but concrete particulars, then you certainly won’t hold that there are universals—and I guess that you will also not hold that there are tropes, though perhaps this guess is founded in some kind of terminological confusion. And, on the other hand, the kind of motivation which one might have for denying that there are universals may very well carry over into motivation for denying that there are other kinds of abstract entities.

As Burgess and Rosen (1997) note, there are lots of hard questions to ask about thorough-going nominalism. For starters, the distinction between concrete and abstract is by no means easy to explain; next, arguments between thorough-going nominalists and their opponents have a strong tendency to end in unseemly bickering about burdens of proof; and, finally, there are tricky questions about the connections between the ‘reconstructive’ projects in which thorough-going nominalists typically engage and the positive arguments which might be mounted on behalf of thorough-going nominalism.

I don’t know what to say about the distinction between concrete and abstract, so I shall simply rely on the reader’s intuitive understanding. Moreover, since I am not proposing to defend the position which I examine, I shall not worry about the intuitive appeal of thorough-going nominalism. However, I do need to say something about the different kinds of theoretical projects in which thorough-going nominalists can engage.

At one extreme, we can imagine thorough-going nominalists who are only concerned to describe the deep metaphysical structure of the world, and who are not at all concerned with the expression of familiar philosophical and scientific theories. For these thorough-going nominalists, the construction of an entirely new, nominalistically acceptable language might be all that their hearts could desire.

At another extreme, we can imagine thorough-going nominalists who claim that there are no anti-nominalist commitments incurred by any of the warrantably assertable claims of ordinary language. For these thorough-going nominalists, one important task is to explain why it is that it *seems* to so many of us that the warrantably assertable claims of ordinary language are replete with commitments to abstract entities.

Between these extremes, we can imagine different kinds of thorough-going nominalists who hold, in one way or another, that it is possible to paraphrase or analyse away the apparent anti-nominalist commitments of ordinary language, scientific theorising, and philosophical theorising. One archetype here is the kind of view which relies on a distinction between what is loosely speaking true and what is strictly speaking true: we

can always find nominalistically acceptable strict speech surrogates for those claims in ordinary language—or science, or philosophy—which are no more than loosely speaking true. And there are many other archetypes here which I shall not mention.

In what follows, I am interested in thorough-going nominalisms of the intermediate kinds. I assume that there is at least *prima facie* reason to think that there are warrantably assertable claims which involve commitments to nominalistically unacceptable entities, and that nominalists have some explaining to do.

2. Thorough-Going Nominalism

The kind of thorough-going nominalism which I have in mind has a number of questionable primitive commitments.

First, I shall assume that we have mereology. For now, I shall suppose that we have unrestricted mereological composition; later, we may find reason to impose some restrictions on this principle. Mereology requires a primitive relational predicate: ‘part’, ‘overlap’, ‘fusion’, ‘distinct’, or the like. If we cannot give an account of this predicate with the apparatus which we develop later, then this predicate will turn out to be both ontologically and theoretically primitive.

Second, I shall assume modal realism: there are possibilia—individual, particular, concrete things—which make up our actual world and the myriad of non-actual possible worlds. Some others might wish to be more generous, and to include impossibilia as well; and perhaps they will be right to do this. However, I cannot bring myself to believe that there are such things—it is hard enough to believe in the possibilia—so I shall not attempt to extend the account in this direction. No doubt, some will wish to object that possibilia are not nominalistically acceptable entities; and it has to be admitted that they are numbered amongst the paradigms of abstracta by Burgess and Rosen (1997). However, it seems to me that the possibilia of modal realism pass the intuitive tests—they are spatio-temporally located, or otherwise stand in systems of external relations which are suitably similar to spatio-temporal relations; and they are involved in causal networks. Of course, these possibilia—if such there are—are neither spatio-temporally nor causally connected to *us*; and (hence) they are candidates for the standard kinds of causal epistemological arguments which are offered in defence of nominalism. But it might be said that these kinds of objections are unduly parochial: the problem about genuine abstracta is that there are no agents—actual or possible—which have epistemic access to them.

Third, I shall assume that modal reality is very generous: if we need lots of duplicate worlds, then we can have them. Moreover, I shall suppose that we are entitled to the various primitive predicates which are required by the framework of Lewis (1986): counterpart, duplicate, and so forth. Once again, it may well turn out that these predicates are both theoretically and ontologically primitive. Since we take over much of Lewis’ theoretical framework, we end up with some of the dubious consequences of his view. In

particular, we shall end up with a correlate of the claim that there are no distinct necessarily co-extensive properties. (Perhaps this is one point at which the acceptance of impossibilia might be thought to be a good idea.)

Some people might be disposed to think that, even granted the resources which I have listed, there is no way that thorough-going nominalism has a large enough ontology to provide truthmakers for (surrogates of) all of the claims which we should ordinarily wish to endorse. In particular, you might wonder what is going to happen to mathematics and set theory, under this regime. However, I take it that the strategies mentioned in the Appendix of Lewis (1991) show that one can trade in mathematical and set-theoretical commitments for mereology and plural quantification, provided that there are enough mereological atoms.² There may be problems which stand in the way of adopting these strategies if one is also a resemblance nominalist; but, at least initially, there is reason to hope that the vast ontology to which we have helped ourselves will suffice for all of the claims which we wish to make. (You may also be worried about modality. Even though I have helped myself to Lewis' modal realism, there are some primitive relations in that theory which may be difficult for a resemblance nominalist to explain. Again, we leave this question for later exploration.)

3. Resemblance Nominalism

The kind of resemblance nominalism which I have in mind is committed to a single primitive resemblance predicate which is comparative, contrastive, and variably polyadic. Roughly, it has something like the following form:

x_1, x_2, \dots are more like x_1, x_2, \dots (taken together) than y_1, y_2, \dots (taken together) or z_1, z_2, \dots (taken together) or \dots ; and y_1, y_2, \dots are more like y_1, y_2, \dots (taken together) than x_1, x_2, \dots , or z_1, z_2, \dots , or \dots ; and z_1, z_2, \dots are more like z_1, z_2, \dots (taken together) than x_1, x_2, \dots (taken together) or y_1, y_2, \dots (taken together), or \dots ; and \dots

Here, there may be as many as proper class many variables amongst each of the x_i, y_i, z_i , and so forth; and there may be as many as proper class many kinds of variables x_i, y_i, z_i , and so forth. (It is a nice question whether my nominalist has the resources to allow that there can be such a predicate; more about that later.)

Given that we have the primitive objective resemblance relation which is encoded in this predicate, we can then go on to define up a large collection of apparently nominalistically acceptable 'properties'. First, we shall suppose, there are ways of 'dividing' all of the possibilia so that each of the possibilia is either one of the x_i or one of the y_i , and for which it is true that each of the x_i is more like all of the x_i taken together than like all of

² See also Nolan (forthcoming), which makes a strong case for the claim that, given plural quantification, mereology, and a proper class of possibilia, one has the power of set theory without the need for any distinctively mathematical ontology or ideology (including classes and class-theoretic predicates).

the y_i taken together; and each of the y_i is more like all of the y_i taken together than like all of the x_i taken together. (Example: we can ‘divide’ the possibilia into those things which are mereological atoms, and those things which are not.) We can then introduce predicates which apply just to the x_i (and predicates which apply just to the y_i , if so desired).

Next, we can take things which have been singled out by one application of the primitive resemblance predicate, and use them as the basis for further ‘subdivision’. And, after we have introduced appropriate predicates, we can iterate this process. (Example: we can ‘divide’ the coloured possibilia into those which are this particular shade of colour, or that particular shade of colour, or ...) Thus, although a predicate effects a ‘division’ amongst possibilia—between those to which the predicate applies, and those to which the predicate fails to apply—we do not need to suppose that the things on either side of the ‘division’ are things to which our primitive resemblance predicate applies. Consequently, we can accommodate the observation that, very often, something which is not F is more like all of the F s taken together than it is like all of the non- F s taken together. Consider, for example, the case of buses and cars. Arguably, a bus is more like all of the cars taken together than it is like all of the non-cars taken together; but, I shall suppose, there is some genus—transport, or road transport, or the like—within which buses are more like the non-cars than the cars.

This way of constructing resemblance nominalism avoids some of the difficulties which plagued earlier formulations of the doctrine. Price (1953) defends a view according to which the extensions of predicates are determined by resemblance to paradigms. However, it seems plausible to think that any finite collection of objects will have more than one property in common—this is particularly clear if we accept Goodman’s claim that any pair of things is alike in ever so many respects, and unlike in ever so many respects—and, if so, then there is no way of escaping reference to ‘resemblance in such and such respect’ in formulating the primitive resemblance predicate. But, if we talk about possibilia—and if we allow ourselves the usual combinatorial assumptions about possibilia—then all of these kinds of difficulties go away. Even if we suppose—speaking with the realist about classes for a moment—that every class of objects is a property, it will still turn out that there is only one property which all and only the members of a given class have in common. If we consider all of the red possibilia, there is no property which only they have apart from the property of being red. (Recall that we are accepting that there cannot be distinct necessarily coextensive properties, so predicates like ‘is either red or red’ do not provide a counterexample at this point.) Perhaps this is not an argument in favour of coupling resemblance nominalism to modal realism; but it is surely an argument in favour of allowing the application of predicates to be determined by consideration of the application of the primitive resemblance predicate to possibilia as well as to actual entities.³

³ It might be instructive to compare our formulation of the primitive resemblance predicate with the related formulation given in Lewis (1983):

x_1, x_2, \dots resemble one another and do not likewise resemble any of y_1, y_2, \dots

Here, Lewis is after a characterisation of a primitive objective resemblance amongst things which might serve as a nominalistically adequate characterisation of sparse universals, and he suggests that the predicate

4. A Toy Model

The nature of the primitive resemblance predicate may be clarified by the provision of a toy model. I emphasise that the model in question is not to be taken seriously: the idea is to construct a model which will help realists about universals to understand what it is that is being claimed to be primitive by my resemblance nominalist.

Pretend that there are only three properties, and that each object either has or lacks each of these properties. Pretend, further, that one of these properties is whiteness. Finally, pretend that no two (actual or possible) objects can share all of their properties. (This last pretence is merely for simplicity; nothing turns on it.) Then there are eight (actual or possible) objects, four white and four non-white. Let the degree of resemblance between two objects be the number of properties which they share. Then it turns out that the degree of resemblance between any white object and all of the white objects (taken together) is 8 (obtained by adding the degrees of resemblance pairwise), and likewise for the degree of resemblance between any non-white object and all of the non-white objects (taken together). On the other hand, the degree of resemblance between any white object and all of the non-white objects (taken together) is 4, and likewise for the degree of resemblance between any non-white object and all of the white objects (taken together). So it turns out, as required, that each white object is more like all of the white objects than it is like all of the non-white objects; and each non-white object is more like all of the non-white objects than it is like all of the white objects. (Of course, from the nominalist perspective, this model takes on the pretence that there are properties. This is just to make vivid to the friend of universals what the relation of degree of resemblance is supposed to be. According to the nominalist, the 'predicate' which expresses this alleged relation is going to be taken to be primitive.)

Perhaps we might make the model even more simple, by considering only two properties, W and X. Then we shall have four objects, which can be characterised as follows: $a_1 = \{ W, X \}$; $a_2 = \{ W \}$; $a_3 = \{ X \}$; and $a_4 = \{ \}$. a_1 and a_2 are the W-objects; a_3 and a_4 are the non-W-objects.⁴ Given a pair of objects, give them 1 point for each respect in which they are alike (either both having or both lacking a given property). Then a_1 has a 2 point resemblance to a_1 and a 1 point resemblance to a_2 , a grand total of a 3 point resemblance to the W-objects. Similarly, a_2 has a 3-point resemblance to the W-objects; and each of a_3 and a_4 has a 3-point resemblance to the non-W-objects. On the other hand a_1 has a 1 point

will be both contrastive and variably polyadic, and that the strings of variable might even be uncountable. It is not clear to me whether Lewis primitive predicate is different from the one which I have given, though I suspect that it is. Certainly, there seems to be no element of degree of resemblance in Lewis' formulation (and this addition seems necessary if the account is to yield more than sparse universals). Moreover, I am not sure what contribution the 'likewise' makes in Lewis' formulation; and nor am I entirely sure whether 'resemble one another' is meant to be explained in terms of pairwise resemblances.

⁴ Of course, this notation *isn't* meant to suggest that I am supposing that objects are sets of properties. It's just a convenient way of saying which properties each object has.

resemblance to a_3 and a 0 point resemblance to a_4 , a grand total of a 1 point resemblance to the non-W-objects. Similarly, a_2 has a 1 point resemblance to the non-W-objects; and each of a_3 and a_4 has a 1 point resemblance to the W-objects. Thus, for each W-object, it is true that it has a greater point resemblance to the W-objects than to the non-W-objects; and likewise, for each non-W-object, it is true that it has a greater point resemblance to the non-W-objects than to the W-objects. In this case, it is crucial that I count the resemblance of each thing to itself in the calculations. This isn't true if we have three or more properties; hence my decision to work with three properties. Note, by the way, that I *did* count the resemblance of each thing to itself in the calculations in the previous paragraph; the point is just that I didn't need to.

There are various ways in which these toy models are problematic. For starters, they are based on the assumption that no objects can share all of their properties. If you give up this assumption, then you need to weight the calculation by 'dividing through' by the number of objects of each kind in the collection. Clearly, if there are only finitely many objects, then no problems will ensue. Moreover, if there are infinitely many objects, there seems no reason to expect trouble: there will still be finite 'average differences' for the similarity between objects and collections of objects which can be calculated. (In this case, one needs to ensure that the order in which comparisons are made does not matter.)

A related assumption which is built into these models is that there are only finitely many properties. If there are infinitely many properties, then it is hard to see how any calculation of this kind could get off the ground. Moreover, this problem is not helped if we suppose that there are also infinitely many entities: for any pair of objects, it is now likely to be the case that they share infinitely many properties, and that they also fail to share infinitely many properties. Of course, as we noted earlier, this is one of the reasons why we do not want to take pairwise resemblances to be primitive—and hence explains why a model in terms of pairwise resemblances has to suppose that there are only finitely many properties.

Another assumption which is built into these models is that degrees of resemblance can be determined by counting shared properties. As Lloyd Humberstone pointed out to me, if we start with objects, and think of abundant properties as sets of objects, then any two objects will have the same number of properties in common. The argument for this conclusion is due to Wantanabe (1969), who proves three theorems which 'establish that any two objects are equally similar to each other as any other two objects, and are equally dissimilar to each other as any other pair, insofar as the number of shared properties is regarded as a measure of similarity and the number of properties which are not shared is regarded as an indication of dissimilarity' (377–8). However, since my construction starts with properties—rather than objects—it is not obviously subject to exactly this kind of objection. Nonetheless, it must be admitted that it seems highly doubtful that counting shared properties is a good way of determining degrees of resemblance.

No doubt, there are other problematic features of these models as well. However, to insist on these difficulties is to forget the purpose for which these models are designed: namely, to explain to realists about universals just what it is that the resemblance nominalist is

taking to be primitive. In these simple models, the resemblance between a thing and a “collection” of things is explained in terms of pairwise resemblance between the thing and each of the things in the collection of things; however, in reality, the resemblance nominalist is going to take the resemblance between a thing and a collection of things to be primitive. Put roughly, the primitive expression is of the form ‘this thing is more like these things than it is like those things’. (Actually, it might be useful to have a more complex primitive, of the form ‘this thing is more like these things than that thing is like those things’; this would make the formulation which I gave even more complicated.)

I guess that some people will claim that this is not a very plausible or lovable primitive: surely resemblance between a thing and a “collection” of things depends upon resemblance between that thing and each of the things in the “collection”. Quite generally, realists about universals insist that judgements of the form ‘this thing belongs with these rather than those’ depend upon the noting of similarity in a particular respect rather than on noting resemblances between things and large ‘collections’ of things. But whether this is a decent objection to resemblance nominalism depends upon the theoretical advantages which accrue to the view and its competitors; it is not something which can be decided by appeal to this kind of intuition alone.

5. In (Faint) Praise of Thorough–Going Resemblance Nominalism

Thorough–going resemblance nominalism has some attractive features. I shall mention just a few of these features here. I leave it to you to decide whether you think that it is an economical or extravagant theory: those who discount quantitative parsimony, who accept that the possibilia of modal realism are just more of the same kinds of individuals to which everyone is already committed, and who are prepared to countenance the various primitive predicates—resemblance, mereological, counterpart–theoretic—which the view requires, may well be disposed to say that the theory is quite virtuous. Moreover, anyone who is not well–disposed towards set theories should also give thorough–going resemblance nominalism more than a passing look.

If we compare thorough–going resemblance nominalism with the kinds of nominalisms which are examined by Armstrong (1978), I think that we ought to draw the conclusion that it fares quite well. If there are any genuinely problematic regress arguments, then thorough–going resemblance nominalism seems not to fall victim to them. (Of course, thorough–going resemblance nominalism does assume that there is primitive predication—but, as Lewis argues, it is hard to see how one could develop a theory which does not involve some kind of primitive predication.) Moreover, thorough–going resemblance nominalism is based on a straightforward rejection of Armstrong’s intuitions about direction of dependence for applicability of predicates and for causal relations—if these are genuine costs, then they are costs which the theory hopes to cover with its other virtues. And, finally, thorough–going resemblance nominalism appears to have

sufficiently extensive resources to provide truthmakers for all the claims which there is reason to accept. In general, I think that it is pretty clear that this kind of nominalism is more attractive than the bare predicate, concept, class or mereological nominalisms which Armstrong dissects.

How thorough-going resemblance nominalism fares in comparison with either ostrich nominalism or realism about universals is a quite different matter. On the one hand, if you share the intuitions behind the various kinds of ‘one over many’ arguments—or the other intuitions upon which Armstrong’s views are based—then you are not likely to be impressed. On the other hand, if you are sceptical about the various kinds of ‘one over many arguments’ and regress arguments which friends of universals typically deploy, then you might think that it would be better to opt for ostrich nominalism, and to grant less to the friends of universals than my nominalists seem prepared to grant. Here, I should just show my hand. I think that the kinds of cases which Jackson discusses require some kind of response: the ostrich may have a perfectly good account of the predication which is involved in sentences of the form ‘Fa’; but it is far from clear that the ostrich has anything good enough to say about the sentences discussed in section 7 above. Finally, if you don’t like possibilism, or mereology, or plural quantification, or complicated primitive resemblance predicates, then you are certainly not going to be in the least bit impressed—though, even so, you might be prepared to admit that there are hard choices to be made: if it’s to be a choice between possibilism and universals, it is not clear that the latter are much more palatable than the former.

There are various ways in which thorough-going nominalism can be developed which may make it look even more attractive. As it stands, it promises to deliver a nice account of the determinate / determinable structures into which predicates fall. However, I think that it also promises to deliver a nice account of vagueness and of comparative naturalness of properties. Let me say something briefly about each of these matters.

Vagueness seems easy. In many cases, it will turn out that there are individuals which could be transferred from one side of a ‘division’ to the other without upsetting the requirements which are imposed by the primitive resemblance predicate, or at any rate, a close cousin of the primitive resemblance predicate. Rather than saying that ‘all of these are more like these than those’, we might say that ‘most (perhaps almost all) of these are more like these than those, and none of these is more like those than these’. In these circumstances, there will be lots of closely overlapping predicates which could be defined—and hence reason to adopt ‘vague’ predicates which in some sense do the job of all of them. Of course, this suggestion does have the cost of introducing further complexity into what was already a rather complicated primitive; and moreover, there is a serious question how the ‘most (almost all)’ is going to be explained when we are talking about large cardinal ‘collections’. Nonetheless, it seems to me to be a suggestion which is worth exploring.⁵

⁵ Brian Weatherson (private correspondence) has suggested an even better and more natural way of getting vagueness from the materials to hand. “Let S be the set of definitely bald things. I presume that S is ‘natural’, everything in S resembles the things in S more than it resembles the things in not-S. Say we arrange the things in the penumbra in order: a, b, c, and so on. The idea is that the following sets also have

Naturalness is harder. The intuitive idea is to say that comparative naturalness of properties is a matter of the minimum complexity of the procedure which gets one from the primitive resemblance predicate to the definitions of the predicates in question. The most natural properties effect an immediate division amongst the whole class of possibilia: each of these things is more like all of these things than it is like all other possible things; and all other possible things are more like all other possible things than they are like these things. The next most natural properties effect a division amongst ‘collections’ of possibilia which were identified at the first step. And so on. Of course, while this procedure does identify a perfectly objective ordering of natural properties, it should not be supposed that it gives the same ordering as other familiar proposals. Moreover, it should also be noted that this is merely the simplest proposal of this kind which could be developed: there may well be more complicated ways of developing a scale of naturalness for properties from the materials to hand.⁶

No doubt there are other virtues which are possessed by thorough-going resemblance nominalism. However, even if I could think of them, I do not have the time to discuss them here. Instead, I shall now turn to a discussion of some of the difficulties which this kind of view faces.

6. Semantic Theories

One of the outstanding problems for any nominalist proposal is to provide a decent account of semantic theories. This problem is particularly severe in the case of the thoroughgoing resemblance nominalism which is the current topic of investigation. There are at least three quite different kinds of worries which arise. *First*, there are worries about the primitives which are required for semantic theories: can our nominalist find acceptable surrogates for the word and sentence types which are typically quantified over in standard presentations of semantic theories? *Second*, there are worries about the role which set-theory plays in standard semantic theories: can our nominalist find acceptable surrogates for the sets which are typically quantified over in standard presentations of semantic theories? *Third*, there are worries about familiar and readily acceptable natural language claims which appear to involve reference to or quantification over nominalistically unacceptable entities: can our nominalist either explain away or else find

the property that everything in the set resembles things in the set more than it resembles things outside the set: $S \cup \{a\}$, $S \cup \{a,b\}$, $S \cup \{a,b,c\}$ and so on, until we have the set of things which are definitely not bald. I leave it to you to restate the idea without using set theory.”

⁶ If you think that naturalness increases as you move from determinable to determinate, then you will think that the proposal sketched in the text is not even *prima facie* plausible. Perhaps such people might be happier with the suggestion that the naturalness of a property is determined by how much more on average each F-thing is like the F-things than it is like the things with which the F-things are contrasted at the point in the construction at which the predicate “F” is defined. In that case, it might be that we need a new and even more complicated primitive resemblance predicate in order to define naturalness; but I shall not attempt to construct such a predicate here.

nominalistically acceptable surrogates for these claims? I shall say a little about the first two kinds of worries in the present section; the third kind of worry will be discussed in succeeding sections.

There are at least three different kinds of worries about the primitives which are required for semantic theories. *First*, it is clear that any semantic theory must be couched entirely in the vocabulary of ‘tokens’ rather than ‘types’, since our thorough-going resemblance nominalist does not accept that there are types. Perhaps this overstates matters slightly—it would be enough if we could find a nominalistically acceptable analysis of, or surrogate for, talk about ‘types’—but it seems clear that there is a formidable difficulty here. *Second*, given that our semantic theory ought to extend to all possible languages, and given that it seems that it ought to be possible to have a name for pretty much any object, it is hard to see how there could be enough name tokens to do the job. Similarly, if we suppose that there can be lots of primitive predicates—perhaps as many as one for each ‘collection’ of objects—then it is hard to see how there could be enough predicate tokens to do the job. *Third*, even if we have enough name and predicate tokens, there are still problems about how to allow for relatively unrestricted concatenation of them to form sentences without appealing to nominalistically unacceptable means: concatenation sounds very much like a set-theoretic operation, of a kind which our nominalist is determined to repudiate.

I don’t know of any really satisfactory response to these worries on behalf of thorough-going resemblance nominalism. We might try the suggestion that each thing is a possible name for itself. Further, we might try saying that the fusion of all the things to which a given predicate applies is a possible predicate which applies to those things. Of course, if we are too liberal about how many predicates there are, then this will lead to massive ambiguity: mereological decomposition is not unique. If we insist that primitive predicates can only be determined by the mechanism which was described in section 3, then it may be that we can avoid this ambiguity, though it is not obvious that things will turn out so nicely. But, even so, it is hard to see what account we could give of concatenation here: clearly, we can’t just take the sentence to be the fusion of the name and the predicate. Perhaps, if there is enough redundancy in modal reality, we could try ‘slimming down’ our predicates by omitting duplicate entities from some worlds, and then use duplicates which are not world mates from those distinguished worlds to serve as names. To make this work, we shall need to insist that there are limits on the size of things which can be named—perhaps names have to be restricted to things which belong to a single world—and we shall also want it to turn out that predicates always apply to objects in many different worlds. With these conditions satisfied, we shall be able to tell by inspection which parts of a sentence are names and which are predicates. Since it may be that we shall need some restriction on the size of name, predicate, and sentence tokens in order to avoid paradox, it might be possible to argue that the restrictions which are imposed by this kind of scheme are acceptable. But I remain to be convinced.

There are also different kinds of worries about the role which set theory plays in semantic theories. One worry—which carries on from where we left off in the previous paragraph—is that there is a great deal of compositional structure in standard semantic

theories, beyond the concatenation of names and predicates: can we really hope to tell a nominalistically acceptable story about this compositional structure without ever appealing to set theory? And another worry is that there are many set-theoretic entities which are quantified over in standard formulations of semantic theories: predicate extensions, quantifier domains, and so forth. Can we find nominalistically acceptable surrogates for all of these?

Bigelow (1981) argues that these worries can be met: it is possible to give a semantics for λ -categorical languages without anywhere appealing to nominalistically unacceptable set-theoretical entities. On his approach, what one does is to introduce a primitive multigrade signification predicate, and then use this relational predicate in the construction of a semantic theory which agrees everywhere—or, at any rate, pretty much everywhere—with standard set-theoretical semantic theories but which itself makes no use of set theory. Since this approach seems congenial to thorough-going resemblance nominalism, I shall suppose that it can be used to answer the worries which we are currently addressing. While the primitive multigrade signification predicate is an extra theoretical primitive, it seems well-suited to the task of paying its way.

7. Some Tricky Cases

There are lots of sentences whose proper analyses seem to commit us to properties—or, at least, to set-theoretical constructions involving concrete individuals. Consider, for example⁷:

- (1) Red is a colour.
- (2) The dresses are the same colour.
- (3) Napoleon has all the virtues of a great general.

The latter cases—which appear to involve second-order quantification—may be easier to deal with. At least *prima facie*, it is not implausible to suggest that these should have the analyses:

- (2') \forall_i (each dress is colour_{*i*})
- (3') $\&_i$ (if a great general have virtue_{*i*}, then Napoleon has virtue_{*i*})⁸

⁷ Some more tricky cases listed in Lewis (1983):

- (a) Redness is a sign of ripeness
- (b) Grueness does not make for resemblance amongst all its instances
- (c) There are undiscovered fundamental physical properties
- (d) Some characteristics, such as the colours, are more disjunctive than they seem

Some of these might at best be given nominalistically acceptable surrogates, rather than nominalistically acceptable translations; recall the concluding comments to section 1.

⁸ As Daniel Nolan pointed out to me, it won't do to analyse (3) as (3'') $\&_i$ (if all great generals have virtue_{*i*}, then Napoleon has virtue_{*i*}); some great generals fail to have *all* of the virtues of a great general. Of course, in (3'), 'a great general' is meant to be given a 'generic' reading; and it is a nice question how a

If you don't find these suggestions particularly natural, fear not—we shall discuss their acceptability a little later on.

The former case—which involves apparent reference to a higher-order entity—is tricky. Jackson (1977) argues that it won't do to give:

(1') Necessarily, anything which is red is coloured

as an analysis, because, while it is true that:

(4') Necessarily, anything which is red is extended

it is not true that:

(4) Red is an extension.

However, there is a further fact here which I think Jackson's argument fails to take into account. On the one hand, we have:

(5) Necessarily, for all x , x is coloured iff $\forall_i x$ is colour _{i}

but, on the other hand, we do not have:

(6) Necessarily, for all x , x is extended iff $\forall_i x$ is colour _{i}

though we do have:

(7) Necessarily, for all x , x is extended iff $\forall_i x$ has shape _{i}

Moreover, although we also have

(8) Necessarily, for all x , x is extended iff x is red or $\forall_i x$ has shape _{i}

we can discriminate between (5) and (7) on the one hand, and (8) on the other, on the grounds that (8) has an 'eliminable disjunct': the claim remains true even if the disjunct in question is omitted. Hence we can say that there are truths about the determinate / determinable relation which underwrite (1), while there are no corresponding truths which underwrite (4). For (4) to be true, there must be a claim of the form:

(9) Necessarily, for all x , x is extended iff x is red or ...

nominalist—or any one else—might offer to analyse this. I shall not worry about this question further: the focus of Jackson's worry is just the apparent second-order quantification.

which involves no ‘redundant’ or ‘eliminable’ disjuncts on the RHS. But there are no such claims.

(Actually, there is a complication here. Many of the disjuncts in (5) *are* redundant; nothing can be red unless it is some particular shade of red (or some combination of particular shades of red). We can fix this, I think, but it's tedious. Assume that the colour of anything which is coloured is a sum of uniform minimal colours (where 'minimal colours' are the maximally determinate colours)—we can make these minimal patches as small as points, if required. Then we have, first:

(10) Necessarily, for all x , x is uniformly minimally coloured iff $\forall_i x$ is maximally determinate colour _{i}

and second:

(11) Necessarily, for all x , x is coloured iff x has some parts which are uniformly minimally coloured.⁹

and, finally, a whole lot of definitions—i.e. claims which contain no redundant disjuncts—which connect colour _{i} to uniform minimal colour _{i} :

(12) Necessarily, x is red iff $\forall_i x$ is colour _{i}

where these colour _{i} are either minimal colour _{i} , or else defined already in terms of minimal colour _{1} . This analysis will be in trouble if there are no minimal uniform patches of colour _{i} ; if, that is, it is possible for two distinct colours to be ‘thoroughly mixed’, in the sense of Forrest (1995). I don't mind supposing that there must be minimal uniform patches of colour, nor supposing that this claim is both analytic and *a priori*.¹⁰

To the kind of suggestion outlined here, Jackson offers a twofold reply: on the one hand, it is impossible to write out the disjunction ‘ $\forall_i x$ is colour _{i} ’, since the list of possible colours is not finite; on the other hand, the nominalist cannot explain the disjunction by saying that it lists all of the colours, on pain of both circularity and violation of nominalist scruple. I shall examine these objections in the next two sections of this paper, beginning with the former.

⁹ We shall need to add something about exterior surfaces, etc., and about the proportion of surfaces which are uniformly minimally coloured, and so forth; I shan't fuss about these kinds of details here.

¹⁰ Given the complexity of this analysis, one might look for other replies to Jackson's argument. Another promising line of thought begins with the observation that it is analytic that, if x is red, then x is one of the colour _{i} , but that it is not analytic that, if x is red, then x has one of the shape _{i} . However, even if this suggestion is plausible in the present case, it won't do—alone—as a general analysis of determinate–determinable and genus–species relationships: it doesn't seem right to say that it is analytic that whales are mammals, or that helium is an inert gas. Perhaps we might try saying that there are different kinds of cases: sometimes mere necessity is enough, whereas other times we require analyticity. However, it is at least unclear that a suggestion along those lines will be acceptable. (In the case of mass terms—e.g. ‘helium’—we might look to an analysis in terms of the fusion of all of the helium; so perhaps that's a different kind of case again.)

Before we do this, it is perhaps worth noting that, since we have given ourselves possibilities, we may be able to help ourselves to Lewis' suggestion for analysing another class of problematic sentences. Consider, for example:

(7) Red is more similar to orange than to blue.

Lewis suggests analysing this as:

(8) A red thing can be more similar to an orange thing than a red thing can be to a blue thing.

However, there is another option open to us: perhaps we can say that all of the red things (taken together) resemble the orange things (taken together) more than the blue things (taken together). If we allow ourselves a sufficiently complicated primitive resemblance predicate, the correct analysis of (7) may just be handed to us on a platter.

8. Minimalism and nominalism

In various places, Jackson has expressed some sympathy for minimalism about truth. We might characterise this as the view which says that the truth predicate is a handy device for expressing infinite disjunctions and conjunctions—e.g. a device which enables us to write 'What the Pope says is true' instead of ' \forall_i (the pope says that P_i and P_i)'—or as the view which says, roughly, that the complete theory of truth is captured in the claim $\&_i$ (' S_i ' is true iff S_i).¹¹ Since one can no more write out these infinite conjunctions and disjunctions than one can write out those referred to in the previous section, it seems plausible to suppose that Jackson would no longer put much weight on this first objection.

Perhaps, though, a better response would be to claim that the objection survives, and that it conquers minimalism about truth as well. I doubt it; I do not think that any kind of strict finitism is viable. (Since there are large issues here, I shall just state my opinion and move on.) Given that we are not going to give up our uses of first-order quantification and the truth-predicate, despite their infinitary character, we should not suppose that we ought to give up the nominalistic analysis of second-order quantification merely because of its infinitary character.

Perhaps it might be objected that there are really three quite different cases here which cannot be treated alike. However, it seems to me that we can make case for minimalism about first-order quantification and a case for minimalism about higher-order quantification which are fairly similar to the case for minimalism about truth. First-order

¹¹ For more on minimalism about truth, see Horwich (1998) and O'Leary-Hawthorne and Oppy (1997).

quantification exists for the sake of a logical need: it allows us to express infinite conjunctions and disjunctions, and it allows us to make do with only finitely many names. If everything had a name in our language—and, ideally, exactly one name in our language—and if we had the capacity to form infinite conjunctions and disjunctions with ease, then we would have no need for a separate quantificational apparatus in our language. Truth exists for the sake of a logical need: it allows us to express infinite conjunctions and disjunctions, and it allows us to make do with only finitely much primitive vocabulary. If every proposition were expressible in our language, and if we had the capacity to form infinite conjunctions and disjunctions with ease, then we would have no need for the truth predicate. Second-order quantification exists for the sake of a logical need: it allows us to express infinite conjunctions and disjunctions, and it allows us to make do with only finitely many primitive predicates. If—speaking with the realists about properties—every property were expressed by a primitive predicate in our language, and if we had the capacity to form infinite conjunctions and disjunctions with ease, then we should have no need for higher-order quantification.

In sum: I claim that the nominalist who offers the analyses suggested in the previous section is no worse off than the minimalist who offers to analyse ‘What the Pope says is true’ as ‘ \forall_i (the pope says that P_i and P_i)’. Those people who are disposed to take the minimalist analysis seriously should—at least on this count—also be disposed to take the nominalist analysis seriously.

9. Nominalism and the colours

Jackson’s other worry about the preferred analysis of colour talk is that the nominalist cannot explain the disjunction ‘ $\forall_i x$ is colour _{i} ’ which features in this analysis, except on pain of both circularity and violation of nominalist scruple. If the nominalist says that the ‘colour _{i} ’ are sufficiently numerous to name all of the colours, then the nominalist has quantified over nominalistically unacceptable entities, and has also made use of the very expression which is supposedly up for analysis. But what else can our nominalist say?

Well, given the resemblance nominalist analysis which was outlined earlier, the answer should be fairly predictable. What goes into the disjunction are predicates which pick out all the ‘collections’ of objects which are picked out by the application of the primitive resemblance predicate, starting with just the coloured things, and rejecting collections which also fall under non-ancestral determinables. Thus, for example, there is a predicate which picks out just the red things, but there is no predicate which picks out just the red cars, since these also fall under non-ancestral determinables such as transport.

Of course, the disjunction which is being analysed here is not one which belongs to English, or to any other natural language—and so there is a genuine question about where in our thorough-going nominalist ontology it ought to be located. As we noted in section 6, it is not easy to see how this objection can be met—however, it is perhaps

worth noting that a less thorough-going resemblance nominalist need have no trouble on this point.

There is another aspect of this analysis which might seem worrying, viz. the use of disjunction in order to simulate quantification. Surely—as we learned from Russell—it is just a logical error to suppose that any kind of infinite conjunction or disjunction can provide a surrogate for quantification. Yet, we cannot add in any kind of ‘and that’s all the colours that there are’ clause without violating nominalist scruple. I am not convinced that this is a genuine worry at this point. Given that we have an adequate answer to the previous worry, we are allowed to quantify over colour-predicates; and the story which we told a few paragraphs back enables us to identify all of the possible colour-predicates without supposing that there are any colours. If we think of our infinite disjunction as a surrogate for quantification, then we can and should also take it to have the support of a clause which quantifies over colour-predicates.

This same suggestion applies to the other analyses which we mentioned earlier: wherever we choose to analyse second-order quantification in terms of infinite disjunctions and conjunctions, there has to be some kind of quantificational backing which involves quantification over predicates (or perhaps other nominalistically acceptable entities). And, in saying this, we take back part of the argument from section 8: none of the genuine cases of minimalism is really plausible—quantification cannot anywhere be analysed in terms of infinite conjunctions and disjunctions, without the assistance of some kind of quantificational backing. (Even minimalism about truth requires a ‘and that’s all the propositions that there are’ clause. And minimalism about first-order quantification can just be ruled out, since there can be no quantificational backing provided in this case.) However, the objection to Jackson still stands: for, quantificational backing or not, the analysis is infinitary in character.¹²

10. Some Worries

The above discussion of thorough-going resemblance nominalism is a Swiss cheese: there are lots of details which remain to be investigated, and lots of problems which remain to be solved. For example, there are questions about disjunctive and conjunctive predicates, truthmakers for mathematical claims, the analysis of sentences involving higher-order quantification, and so on and so forth. However, rather than worry about the further development of the view, I shall here focus on what seems to me to be perhaps the

¹² Perhaps there is a different line which we might try in connection with the analysis of quantification in terms of infinite conjunctions and disjunctions, viz. that in the case of quantification over possibilities, no clause is needed since (1) there could not possibly be any further objects; and (2) it is analytic that there could not possibly be any further objects. While these observations may diminish the force of Russell’s objection, I doubt that (2) is really plausible; and, in any case, there still seems to be a clear difference in meaning between quantificational claims and infinite conjunctions and disjunctions.

most immediate reason for thinking that no acceptable theory of this kind could be developed.

Our formulation of the primitive resemblance relation is intended to give an analysis of polyadic predicates as well as monadic predicates. Consequently, as things now stand, this analysis commits us to the existence of ‘tuples—i.e., it commits us to the existence of nominalistically unacceptable entities. Moreover, while there are techniques available which ‘get the effect’ of plural quantification over pairs just using the resources of plural quantification over individuals and mereology, it is not clear that these techniques are going to be available to our nominalist. The problem is that the intuitive motivation for resemblance nominalism is the case of polyadic predicates is that there is resemblance between the ‘tuples in question: but the techniques of the Appendix of Lewis (1991)—the method of double images and the method of extraneous ordering—can yield at most resemblance between the objects which belong to the ‘tuples.

If we aren’t prepared to make do with resemblance between the objects which belong to ‘tuples, then the question arises whether we can find some other technique which will give us what we want. I suspect that if there are any such techniques, they will come at an unacceptable cost. To see why I say this, consider the following rough line of thought. The natural suggestion for the semantic value of a dyadic predicate is that applies to pairs which resemble one another in the appropriate way. If we are to do without pairs, then a natural thought is that we should try to find an analysis in terms of the application of a predicate to fusions of objects. But which fusions? In order to avoid problems raised by overlap, we shall need to consider something like fusions of the form $x+y+x'+x''+y'$, where $x+y$, x' , x'' and y' are mutually disjoint, x and x' are duplicates of x , and y' is a duplicate of y . If we could be guaranteed to always find such fusions, then we could say that Rab iff $R'a+b+a'+a''+b'$, where R' is a predicate whose application we already know how to explain. If x and y are sufficiently small, and Reality is sufficiently generous, then there is no immediate problem with this suggestion; so perhaps we could try stipulating that these conditions are met. The upshot is that we face similar difficulties to those which we encountered in our attempts to ensure that there are enough sentence tokens available for the purposes of semantic theorising: we have to impose apparently *ad hoc* limitations on the size of things, and we have to suppose that Reality is massively redundant.¹³ Of course, there is no argument that the proposal can be made to work even with the unlovely theoretical assumptions which I have suggested: however, it seems to me to be implausible to think that thorough-going resemblance nominalism can be made to work without something like them. And that’s not nice.¹⁴

¹³ Moreover, we import a kind of ‘arbitrariness’ in our transition from ‘tuples to fusions which many will find objectionable; after all, it seems clear that the scheme which we have picked is not the only scheme of its kind which could be adopted. See Forrest (1986), Armstrong (1986), and Sider (1996)—among others—for discussion of this kind of point.

¹⁴ Worse, there is a serious question whether we will be able to find a home for our primitive resemblance predicate under this scheme. At the very least, we shall need to introduce some considerations about ‘duplication’ before we can effect ‘divisions’ amongst *all* of the possible objects which there are.

Even if we could learn to love the odd metaphysical consequences of the view, there are also epistemological difficulties which might well give one pause. We don't have epistemic access to possibilia, except perhaps by way of their properties. So, in particular, it's hard to see how we could make or locate divisions amongst possibilia. What reason do we have to suppose that our uses of predicates track divisions amongst possibilia of the kind required by our primitive resemblance predicate? Since this is clearly an important question, we shall devote the final section of the paper to a kind of answer to it.

11. Fictionalism and Sparse Nominalism

The main metaphysical intuition which our nominalist has is that there is nothing but particular things (and perhaps set-theoretic constructions therefrom). These things make true certain resemblance claims, but there is no relation of resemblance which holds between them. However, given that the things do make true the resemblance claims, we can then talk as if there is a relation of resemblance (as I have done in earlier parts of this paper). Moreover, this making true of resemblance claims is a purely objective matter: it in no way depends upon us or our conceptual schemes which resemblance claims are made true by the things that there are.

As we noted at the end of the previous section, we might be sceptical about our ability to be able to make—or understand—the resemblance claims which are made true by the things that there are. Speaking with the realist about universals, there may be reason to doubt that our predicates track the fundamental divides in reality. Just as Armstrong holds that many of our predicates fail to express universals, our nominalist might think that there are no true resemblance claims which underlie the use of many of our predicates.

How might our nominalist respond to this predicament? Well, one possible avenue is to claim that our ordinary practice of making predications is founded on a fiction: we *pretend* that our predicates are properly supported by true resemblance claims, and then, under this pretence, carry on making the assertions which we ordinarily make. There are many different ways in which this fictionalist analysis of our practice might be developed; I shall not attempt to engage in any of this development here. Rather, I shall draw attention to some of the difficulties which are likely to emerge, even at this early stage in the game.

If we take this fictionalist route, then we may well end up with a kind of Lockean scepticism about the things that there are: hardly anything that we say turns out to be true of the things that there are, but is, at best, a pretence to truth (under the pretence that our primitive predicates are properly supported by true resemblance claims). Apart from the disappointment which this view entails, one might worry that we must now renounce the starting point of our enquiry: we sought to accommodate the intuitively acceptable claims

from natural language, but it now turns out that the materials which we brought to hand are not suited to the task. Perhaps, though, solace is not far to seek: perhaps we can say that, at least for the most part, since we only make assertions under a pretence, we only need acceptability under a pretence: instead of saying that our predicates are properly supported by true resemblance claims, say instead that we pretend that our predicates are properly supported by true resemblance claims, and leave the rest of the story as it was before. Of course, we shall want to be able to say that engaging in this pretence is useful—and that the property of being acceptable under the pretence is a valuable one for claims to possess. But perhaps we can say these things.

Moreover, our nominalist might take comfort from the example of others. John of Salisbury, John Locke, and David Armstrong are all philosophers who have claimed that we should not think that many of our ordinary predicates express universals, while nonetheless holding that the world consists of particulars and universals suitably arranged. Moreover, Salisbury and Locke both fairly explicitly claim that we should think of our ordinary predicates in a fictionalist light: we pretend that these predicates express universals, and then make all our use of them under this pretence.¹⁵ (Here, I am relying on a fairly loose understanding of Locke's distinction between real and nominal essence; I suppose that a nominal essence is just an essence according to a fiction. Perhaps, as Locke scholarship goes, this is a little incautious.) Finally, Armstrong himself says things which may commit him to a similar kind of view. When he talks about 'second rate properties', and so forth, one natural way to understand this talk is in fictionalist terms. The issue is complicated by questions about supervenience—but I see no reason why intuitions about supervenience could not be accommodated on a fictionalist proposal.

No doubt it is clear where this argument is going. Misery loves company. If there are epistemological worries about the kind of nominalism which was sketched in the earlier parts of this paper, they can be met by strategies which have been adopted by friends of universals. Sparse nominalism may not be the most familiar kind of nominalism; but, if it can help itself to the kinds of strategies which are used by realists about sparse universals, then it may hope to compete successfully with those views. (Plainly, there is a large assumption here, viz. that we can give a nominalistically acceptable account of the fiction which is invoked in the story. It would involve too much of a digression to try to pursue this question here.)

Of course, it might be that the epistemological worries can be met in other ways. Perhaps, for example, we do have reason to suppose that our uses of primitive predicates actually track divisions amongst possibilities of the kind required by the truth of primitive resemblance claims. In that case, our nominalist will have no need for the kind of fictionalist strategy hinted at above; and nor will her realist counterpart. Perhaps, for example, it may be that, for some divisions of objects into two finite collections, there is only one way of extending the division to all possibilities which fits in to the resemblance

¹⁵ Perhaps unsurprisingly, Vaihinger could also be added to this list—though perhaps Vaihinger might even be sceptical about the claim that Reality consists of particulars and universals suitably arranged.

nominalists scheme as outlined above. If so, then we get a kind of ‘meeting of the ways’ between our resemblance nominalism and the more familiar resemblance nominalism which is based on resemblance to paradigms. However—for reasons given near the beginning of this paper—it should not be supposed that the present suggestion is merely a trivial or notational variant of that more familiar kind of resemblance nominalism.

One final thought. If we are going to be fictionalists about lots of ordinary language predication, then perhaps we ought to consider being fictionalists about semantics for ordinary language as well. If it turns out to be the case that much of what we ordinarily say depends upon the presumption that there are both properties and sets, then there may really be no question of providing nominalistically acceptable surrogates for this talk. However, there is no immediate barrier to the claim that, under the presumption that there are universals (and sets, and so forth), we can give a systematic semantics for ordinary talk—or, at least, if there is a barrier, it remains to be demonstrated. Provided that we can give a nominalistically acceptable semantics for sentences of the form ‘under the pretence that ...’ or ‘according to the fiction ...’, we may have all the systematic semantics that we need. Of course, this thought is highly speculative, and it is quite unclear whether it could be developed satisfactorily; consequently, it seems like an entirely appropriate point at which to conclude this paper.¹⁶

References

- Armstrong, D. (1978) Universals and Scientific Realism, 2 vols., Cambridge: CUP
- Armstrong, D. (1986) “In Defence of Structural Universals” Australasian Journal of Philosophy **64**, pp.85–88
- Bigelow, J. (1981) “Semantic Nominalism” Australasian Journal of Philosophy **59**, 4, pp.403-21
- Burgess, J. and Rosen, G. (1997) A Subject with No Object Oxford: Clarendon
- Forrest, P. (1986) “Neither Magic nor Mereology: A Reply to Lewis” Australasian Journal of Philosophy **64**, pp.89–91
- Forrest, P. (1996) “How Innocent is Mereology?” Analysis **56**, pp.127–31
- Geach, P. (1957) Mental Acts London: RKP
- Goodman, N., and Quine, W. (1947) “Steps Toward a Constructive Nominalism” Journal of Symbolic Logic **12**, pp.97–122
- Horwich, P. (1998) Truth, revised edition, Oxford: Clarendon
- Jackson, F. (1977) “Statements about Universals” Mind **86**, pp.427–9
- Lewis, D. (1983) “New Work for a Theory of Universals” Australasian Journal of Philosophy **61**, pp.343–77
- Lewis, D. (1986) On the Plurality of Worlds Oxford: Blackwell

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- Lewis, D. (1991) Parts of Classes Oxford: Blackwell
- Nolan, D. (forthcoming) "Individuals Enough for Classes"
- Nolan, D., and Oppy, G. (forthcoming) Fact, Fiction and Fictionalism
- O'Leary-Hawthorne, J. and Oppy, G. (1997) "Minimalism and Truth" Nous **31**, 2, pp.170–96
- Parsons, J. (1999) "There is no 'Truthmaker' Argument Against Nominalism" Australasian Journal of Philosophy **77**, 3, pp.325–34
- Price, H. (1953) Thinking and Experience London: Hutchinson
- Russell, B. (1912) The Problems of Philosophy Oxford: OUP
- Russell, B. (1956) Logic and Knowledge London: Allen & Unwin
- Sider, T. (1996) "Naturalness and Arbitrariness" Philosophical Studies **81**, pp.283–301
- Watanabe, S. (1969) Knowing and Guessing New York: Wiley