

Truthmakers and Predication

Abstract

To what extent do true predications correspond to truthmakers in virtue of which those predications are true? One sort of predicate which is often thought to not be susceptible to an ontological treatment is a predicate for instantiation, or some corresponding predication (trope-similarity or set-membership, for example). This paper discusses this question, and argues that an "ontological" approach is possible here too: where this ontological approach goes beyond merely finding a truthmaker for claims about instantiation. Along the way a version of the problem of the regress of instantiation is posed and solved.

A theory of truthmakers has often gone hand-in-hand with a theory of facts, or states of affairs. In one direction, this seems understandable: if, for whatever reason, one thinks that there are facts in the world, and especially if they are abundant, so that whenever a proposition "p" is true, there exists a fact that p (and if no "false facts" or other such things exist), then facts make for tempting truthmakers: whenever a proposition is true, then necessarily there is something which makes that proposition true: there is a fact that p. Truthmaker theorists would typically like something stronger: they would like the necessity connecting the existence of truthmakers and the truth of the corresponding proposition to be *de re* rather than *de dicto*: not just that necessarily, when p is true there is a fact that p, but also that for any fact that p, necessarily when it exists p is true. (This would not be the case, were facts to have their truth-making features contingently, as in Parsons 1999). One dream is to have a theory in which truth supervenes on being, in the sense that there can be no difference in what propositions are true without a difference in what exists (the converse would also presumably hold, but this is uncontroversial, or should be). In this sort of theory, the facts, or states of affairs, can be identified with truthmakers.

I will leave to others for now the task of explaining why we might want a world of states of affairs (a world of facts, and *therefore* things). But it is tempting for a few reasons: it copes well with our pre-theoretical habit of employing quite general linguistic procedures to use expressions apparently referring to states of affairs in subject positions in sentences and employing quantification over them; it provides a smooth theory of events—if we

are going to have a thing every time there is a change, then why not when things stay the same? (Shouldn't we think that persistence and stability are events, albeit boring ones?) and it provides for causal relata which are much easier to systematically fit into a theory of causation (see Menzies 1989). Finally, there is the push to truth-makers, or facts, from a correspondence theory of truth—where true claims correspond to pieces of the world. If the world must have different pieces in order for different claims to be true, then facts seem to be an appropriate sort of building block to think of the world as being made of.

With facts in place, all sorts of claims can have ontological underpinnings - all sorts of claims can have facts as their truthmakers. The truth of "The electron is spin up.", for example, is not merely underpinned by the electron (the existence of which is presumably a necessary condition for the truth of the statement): it is also underpinned by the fact that the electron is spin up. This fact is something in the world, and in an obvious respect the assertion of the existence of this fact amounts to much the same as the assertion that the electron is spin up, given a background theory of facts. (I have deliberately picked a very simple example: if there are complex, non-fundamental facts of the sort we believe in—e.g. that a given chair is wooden—this fact will itself be constituted from more simple facts). Note, however, that we need not say that the claims "the electron is spin up" and "the fact that the electron is spin up obtains (or exists)" literally *mean* the same thing, when the latter claim is intended literally as the assertion of the existence of a fact of a certain sort. I take a fact's obtaining and a fact existing to amount to the same thing. This is not a universal usage: there are those who take talk of the existence of facts to be a category error, and those who think that all possible facts exist, but only the privileged actual few obtain (see e.g. Plantinga 1974). My usage of "fact" here is also at variance with those who use "fact" to refer to true propositions.

Of course there will be those who will want to claim the two sentences mean the same thing. But there are all sorts of reasons someone may deny that "the electron is spin up" and "the fact that the electron is spin up obtains" mean the same thing. A nominalist, for instance, may accept the former and reject the latter: presumably they will thus want to distinguish the meanings of the two. Or one might think that the reference of the noun phrases of the two sentences are different: the former may *express* a fact, while the latter explicitly refers to it, for example. Or one might think it a matter of synthetic metaphysical discovery (albeit perhaps one implicit to some degree in our pre-theoretic metaphysics) that the former is true just in case the latter is: in which case one will not

want to identify the meanings of the two, and make the connection an analytic one. I in fact favour taking the two claims to mean different things, partly for the sorts of reasons I outline. (I do not agree with the nominalist objection, of course, but I think nominalism is at least a *prima facie* coherent position). Or at least I want to say this if “fact” talk is to be taken at all robustly. What is the connection, then? I think it is at least as strong as strict bi-implication—one could not be true without the other being true.¹ This modal connection between the two is not brute, however, so there may be some stronger connection. Identity of truthmakers is one attractive connection which appears to obtain²—and we are all familiar with the accounts according to which postulated identities do not need to rest on *a priori* semantic connections between the names for the objects, but are instead discovered *a posteriori*. So might it be with truthmakers: despite its “philosophical” nature, there is nothing to stop metaphysics from being an *a posteriori* investigation.

One way to have a comprehensive truthmaker theory would reject the existence of “bare” truths: reject the existence of any truths not corresponding in the appropriate way to a truthmaker. (E.g. “the electron is spin up” as understood by a nominalist—there is an electron, all right, which is an ontological correlate of the claim, and the existence of which is hardly irrelevant to its truth, but its existence does not guarantee the truth of the claim). Truth would supervene on being, in John Bigelow’s apt phrase: it would not be possible for there to be exactly the same things, but some proposition being true in one place and false in another (there could not be truths which did not correspond to facts which made them true).³

¹ Maybe this is too strong: suppose that there was more than one possible fact which would make it true that a particular electron was spin up. It may be that the former could then be true while the latter be false. If the actual spin-up fact is S_1 , and a merely possible spin-up fact for the very same electron is S_2 , then the claim “the fact that the electron is spin up obtains”, at least interpreted *de re* and as actually uttered is false in a world where the electron exists with the S_2 fact. However, “the electron is spin up”, even interpreted *de re*, is true in such a world.

² Again this may be slightly too strong, for the reason given in the previous footnote.

³ Bigelow himself does not understand the supervenience of truth on being in this way: he rather intends the weaker claim that the truth supervenes on what there is *and how it is*. This is rather closer to being trivial.

This kind of rejection of “bare” truths amounts to something even stronger than “truthmaker maximalism”: the claim that for every truth there is a truthmaker.⁴ What it adds is that the truth depends on the truthmaker for its truth – something that may often be implicit in truthmaker talk in any case, but might seem more dubious to someone who thought of “facts” as highly dependent entities, ontologically depending on what is true about things. It also includes the claim that a truthmaker’s existence “guarantees” the truths that it truthmakes: one traditional way to try to ensure this is to insist on truthmaker essentialism, that the existence of a truthmaker necessitates any of the truths it makes true. (It does not make them necessary, but the claim that a given truthmaker exists strictly implies the related truths.) Perhaps this guarantee can be cashed out in some other way (for one motivation, see the discussion on p 13), and perhaps something more fundamental than the mere modal covariation is required, but I will not try for more specificity here. Once we have added this conception of facts as fundamental, we have the opportunity to “ground out” many truths ontologically – and so in some sense, to offer an ontological analysis of what it is for various different truths to be true. The sense in which this is an analysis will be discussed further below.

It should be noted, however, that the rejection of bare truths does not commit us to thinking there is a distinct truthmaker for every truth – only that every truth has some truthmaker or other. A standard thought here is that existential statements, for example, are made true by each of their witnesses, and do not need any special “existential facts” in addition. The fact that Rover is a dog is enough of a truthmaker for “there is at least one dog”, for example: once we have this fact we do not need to hunt further for “some-dog” facts, somehow less specific than any of the facts about the existence of particular dogs. Some truths will thus have many truthmakers (every fact that so-and-so is a dog will do to truthmake “some dogs exist.”). Furthermore, one and the same truth might have different truthmakers in different worlds in which it is true: again, “there is at least one dog” may be true in a world lacking all the actual dogs, provided that some other dogs exist there (the fact that non-actual Petunia is a dog will do, for example.) While it would be convenient for some purposes to have a one-one correspondence between truths, on the one hand, and facts or truthmakers, on the other, I will be following contemporary orthodoxy about truthmakers and suppose that many truths can share a truthmaker, and one truth can have many truthmakers.

⁴ For an extended discussion of truthmaker maximalism, see Armstrong 2004.

What has been sketched is one picture of the role of truthmakers: it is of course not the only picture available, but the fact that it is particularly expansive in its claims makes it useful as background to the topic I wish to discuss in this paper. I wish to address one question about how far the realm of facts, or truthmakers, can be made to do their ontological work. Truths involving the straightforward predication of "spin up" can be accounted for in terms of the existence of facts: the fact is all you need to exist for the electron to be spin up. There is a question of whether this can be extended to all predicates (and other pieces of language—whether an ontology of facts or truthmakers can adequately handle "negative truths", or modal truths, or moral truths, or subjective truths, or quantified truths...). One of the challenges is a question about whether property possession can be handled ontologically: whether a particular object having a property, or in particular some particular objects standing in a relation, can be "analysed" ontologically: whether we can take this to be a matter of the obtaining of a fact of a certain sort (the fact that the object has the property, or stands in the relation): a fact, the obtaining of which does not have to be analysed in terms of predication.

Several people appear to have answered this in the negative. David Lewis, in "New Work for a Theory of Universals" (1983 p 353 & n14), denies that predication in general, and in particular predication involved in saying that objects have properties, can be reductively analysed ontologically. "For how could there be a theory that names entities, or quantifies over them, in the course of its sentences, and yet altogether avoids primitive predication? Artificial tricks aside, the thing cannot be done". Nobody seems to have specifically disputed this verdict, though as I will argue the materials to dispute this verdict have been supplied now and again by those providing truthmakers for claims about instantiation (see Armstrong 1997 p 118-119). Primitive predication can be avoided, at least in this case, and so the suspicion that "bare" truths lurk at the heart of a truthmaker theory can be avoided. David Lewis uses the claim that everyone is committed to primitive predication to defend nominalism and various moderate realist views from needing to answer a question posed by the "problem of predication". No doubt it will still remain controversial whether we need any general answer to the question of what it is for an object to merit the application of a predicate. But I think it is interesting that there is an alternative to the usual strategy of treating some predication as primitive, basic, and unanalysable.

The way to avoid it is very simple. Take the case of the electron's being spin up. What is the truthmaker for the predication in this case? Obviously, just the fact that the electron

is spin up. The way the world is which, together with the meanings of our words, makes the claim "the electron is spin up" true is just the fact obtaining. This looks like a reductive analysis: for what were putatively two truths, a truth about the spin of the electron and the truth about the obtaining of a certain fact, turn out to be only one. And the second truth can be expressed merely as an existence claim—if we have a constant to denote the fact, it can be expressed in 1st order logic using only an existential quantifier, and identity. There is no need for a non-logical predicate of any sort. Of course, if saying of something that it exists, or that it is self-identical, is to indulge in "primitive predication", then by that standard, I have not done away with primitive predication. When the question is whether there are theoretical commitments which cannot be treated as being merely ontological ones, however, it should be clear that imputing existence is a different matter from ascribing more standard properties.

I should stress some of the things that this "ontological reduction" does not achieve. I am not claiming that it is a semantic reduction: that one could infer, from the meanings of the words alone, from the statement that a certain named fact exists to the truth of the proposition that the electron is spin up, unless the fact is described as "the fact that the electron is spin up", or some such. Furthermore, this is by no means intended as any sort of eliminative reduction: it would be foolish to deny that the electron was spin up, simply on the grounds that it is a fact that the electron is spin-up.⁵ Finally, one need not suppose that the fact itself is simple or unsusceptible to further analysis—it may well have internal structure of some sort, either of simpler facts, or perhaps of non-facts (the electron and the property of being spin-up, perhaps). Nevertheless, in this case at least primitive predication has been rejected in favour of ontological commitment. Furthermore, if this is to count as an analysis (trading in primitive predication for ontological commitment), there seems no reason why it cannot be perfectly general.

Lewis's comment about the impossibility of doing without primitive predication occurs in a discussion of a particular case of predication, one which has been thought to be a particular problem possibly since the middle ages, and certainly for much of the twentieth

⁵ Perhaps it is one of these senses which Lewis intended in his rejection of primitive predication. If he did intend one of these, however, then it does not seem to be the *tu quoque* intended against Armstrong's relation regress, since Armstrong, unlike at least some of his nominalist targets, seems to be in the business of providing an ontological analysis of predication rather than an eliminative reduction of predication, or a semantic hypothesis about the meanings of predicate applications.

century. (And there may be hints of it in Plato and Aristotle). It is the problem of the predicate for instantiation. Objects, we want to say (well, I want to say), have properties and stand in relations. However, saying what the connection between objects and their properties and relations is notoriously difficult. Some have found in this talk a motive to eschew property and relation talk altogether (though with the usual theoretical schizophrenia: as soon as they begin speaking with the vulgar, nine times out of ten they forget their nominalist scruples). Among the rest of us, however, this much is uncontroversial: noun phrases standing for properties and relations (e.g. their names) appear with noun phrases referring to their objects connected with dyadic predicates in true sentences, in these sorts of cases. For example, "My father and I stand in the relation of parent to child", or "This table has the right shape", or the old chestnut "Socrates has wisdom". These sentences, and the predicate "has", or the triadic (or higher-adicity) predicate "..stand in.." are parts of ordinary English. More technical jargon which metaphysicians use also does this job. "The apple instantiates redness" or "Bill and Mary jointly instantiate the loving relation", for example. At the very least, dyadic predicates, or predicates with higher adicity, are employed in true utterances in these sorts of cases. (In fact, for ease, the predicate of instantiation in the case of relations is often taken to hold between an ordered n-tuple of objects and a relation: so in the loving case, instantiation would hold between the ordered pair <Bill, Mary> and the relation of loving. While this may not be the most metaphysically perspicuous way of talking, I'll talk this way as shorthand, since dealing with one dyadic instantiation predicate, or its relatives, is easier than dealing with a host of multi-adic instantiation predicates).

The metaphysical analysis of these cases is more controversial. One obvious attempt is to suppose that, when these predicates are satisfied by the relevant objects, a relation holds between those objects: that is, a relation holds between a property and an object, or a relation and some objects. After all, that's what realism is all about—taking there to be an ontological correlate to predicates (or some privileged predicates) as well as to noun-phrases. Doing this, however, brings on a regress: the dreaded regress of instantiation. For, as the argument goes, if we need a relation (call it Instantiation) to relate a relation and its relata (e.g. if we need Instantiation to hold between Bill and Mary, on the one hand, and Loving on the other), then we will need another relation (Instantiation2, let us call it) to relate Instantiation with the things it relates (in this case, Loving and its relata).

And we will need another relation again (Instantiation3) to relate Instantiation2 with its relata, and so on forever (see Ryle 1939). Or so the objection goes.⁶

It is not transparent how this is meant to be an objection: the charge that this is inconsistent is false, and people often withdraw to the charge that it would be uneconomical. Fortunately the argument does not work as it stands: no reason has been offered so far (nor is standardly offered)⁷ for assuming that the Instantiation relations at each stage must be distinct. (One possible reason is if each has a different adicity - ordered collections vs multiadic Instantiation). The regress of relations need not get started. However, there does seem to be a regress of token cases of the relation of Instantiation: the Instance <<Bill, Mary>, Loving> seems distinct from the Instance <<<Bill, Mary>, Loving>, Instantiation>, which is distinct from the Instance <<<<Bill, Mary>, Loving>, Instantiation>, Instantiation>, and so on. If we are to handle the predicate of Instantiation ontologically, and take there to be for each case of a true predication of Instantiation some thing in the world, the existence of which guarantees the truth of that predication, then one might think that an infinite regress looms.

Whether a genuine regress looms, and if so whether there is anything wrong with that, I will leave aside for a moment.⁸ First, I should point out that this problem is not particularly a problem for a believer in universals (as one might have thought from my discussion, since “Instantiation” is often a technical term reserved for that link between universals and the things which have them). Other conceptions of relations are just as liable to problems with the connection between relations and their relata. Take perhaps the best known account of relations, as being sets of some kind. They may be no more

⁶ This objection is sometimes called “Bradley’s Regress”, but I think this is a mistake. There is a regress argument in Bradley, and it is interesting, but I believe it is different from this one. Here is not the place for Bradley exegesis, however.

⁷ This is not always true: in my opinion a version of the “copy theory” of instantiation discussed in Plato’s *Parmenides* would justify this distinctness assumption. Objections are sometimes raised on type-theoretic grounds for a relation to relate itself to anything: but these objections are no stronger than the type-theoretic assumptions which support them, and while some might endorse type-theoretic restrictions on relations, one need not—and I think should not, since the mathematical paradoxes of self-reference can be avoided without it, and the paradoxes of self-reference cannot in general be solved merely through type-theoretic devices.

⁸ For a general discussion of infinite regresses and what might be wrong with them, though, see Nolan 2001.

than the sets beloved by extensionalists, or they may be only a restricted sort of set: those hallowed by the aura of naturalness, or being in some other sense “special” (see Lewis 1986, though he is prepared to use the name “relation” for unnatural and non-special sets of various sorts). The sets are sets of ordered n-tuples, and an Instance of a relation is an ordered n-tuple which is a member of that relation. (For simplicity I shall restrict my attention to dyadic relations – so I shall treat relations as being sets of ordered pairs). What ordered pairs are is itself something people can disagree on: they may themselves be reduced to sets (e.g. in the Wiener-Kuratowski way), or one could even if one wanted treat ordered-grouping of objects as being on a par with set-grouping, and not reducible to it. (Or one could reduce sets to ordered collections, as von Neumann (1925) can be interpreted as doing if his functions are considered as functions in extension).

Such theories can be interpreted as giving a partially ontological cashing out of what it is for a relation hold between some objects: for a standard relation to hold between two objects, the objects must exist, they must belong to an ordered pair, and that ordered pair must be a member of the relation, which is a set. So we have reduced e.g. loving to the existence of various objects plus the holding of membership relations.

In this sort of theory, however, there is a (putative) "relation" which resists treatment in these terms. It is of course the "relation" of membership. (Or several membership relations if the relationships of belonging to ordered n-tuples are not reduced to set membership.) At the risk of simplicity, I shall assume that some reduction to set membership is possible for these relationships – via the Weiner-Kuratowski method, for example). To all appearances, it cannot be that an object is a member of a set just in case there is a set of ordered pairs, the first member of each is a set and the second one of its members. For a start, there is no such set in orthodox set theories. It would violate the axiom of foundation, having itself in its transitive closure. Employment of a few standard ZF axioms can derive all sorts of fun paradoxes from it: the paradox of the Russell set, and Cantorian paradox, most straightforwardly. The move to classes (treated ontologically) only pushes the problem back a step: while there is a class of all the relevant pairs for the set-membership relation, there is no class for the pairs needed for the class-membership relation (many classes cannot be members of ordered pairs, according to standard class theories like Kelly Morse, or Gödel-Bernays-von Neumann). One might try to handle this by invoking categories consisting of categories which are

pairs of classes and members of those classes, but the same sorts of problems are still, it seems, only deferred, not dealt with.⁹

Even if the issue of the existence of a suitable collection of the needed ordered pairs is somehow coherently dealt with, there is still a problem which I think more properly analogous to the regress of Instantiation. The relation of Membership is explicated, on the view I am discussing, as being a matter of membership holding between ordered pairs and Membership (and indeed Membership holding between those pairs and certain objects). And that is a matter of membership holding between Membership and an ordered pair of another ordered pair together with Membership. And that is a matter of Membership holding between an even more complex ordered pair and Membership, which is a matter of... An immediate worry is that of circularity: that membership has not been accounted for ontologically after all. This regress is the same problem, with “membership” standing in place of Instantiation.

Finally, an analogy to the regress of Instantiation can be produced in a trope theory which does not rely on unanalysed ideology. Trope theories come in many different varieties, but since time is short, I ask pardon from those proponents whose theories will be neglected in my comments. A trope theory's fundamental ontology consists of property-instances: Socrates's whiteness, my thirst, electron Fred's spin. What the relationship between tropes and individual objects (like Socrates, me, or the electron Fred) is varies from theory to theory: it may be a matter of mereology, or of set membership, or some *sui generis* internal relation ('constitution', or some such). However, a trope theory worth its salt will also make room for more general properties and relations: when I am thirsty and you are thirsty, then we have something in common (or, if "thirst" is not a genuine property, pick a sparser, more worthy candidate). What these *general* properties or relations (whiteness, as opposed to Socrates's whiteness) are will also vary. Some trope theories accept full-blown universals as well, so they have the problems of a defender of universals. Others take general properties and relations to be sets of tropes: thus embracing the difficulties of the set-theoretic approach I mentioned. One can avoid both in various ways, e.g. via a relation of exact similarity, or a dyadic predicate of co-tropeing. Normally a similarity predicate or co-tropeing predicate would be taken as primitive, and not cashed out in ontological terms, but clearly if they were a regress would likely ensue:

⁹ It is in part for these sorts of reasons that David Lewis, for example, rejects a “relation” of membership, and treats “is a member of” as a piece of ideology: see Lewis 2002 pp 7-10.

there would be co-troping tropes relating tropes of the same kind, and further co-troping tropes holding between the first level co-troping tropes, and so on.

Now we have seen that the regress of Instantiation, or an analogous problem, arises for those theories attempting to handle predication without primitive non-ontological resources. As far as finding truthmakers goes, though, the regress need cause no special problem (as some will have been wanting to point out since I raised it). Remember that at each step there must be a fact: there must be a fact that Bill loves Mary, a fact that the ordered pair of Bill and Mary Instantiate Loving, the fact that the ordered pair of <Bill, Mary> and Loving Instantiate Instantiation, the fact that the pair <<< <Bill, Mary>, Loving>, Instantiation> instantiates Instantiation, and so on. However, we have no reason to suppose each of these facts is distinct. Indeed, nothing we are so far committed to stops us from saying that the fact that <<<< <Bill, Mary>, Loving>, Instantiation> Instantiates Instantiation is identical with the fact that <<<<< <Bill, Mary>, Loving>, Instantiation>, Instantiation> Instantiates Instantiation, and that <<<<<< <Bill, Mary>, Loving>, Instantiation>, Instantiation>, Instantiation> is also the same fact, and so on *ad infinitum*. Ontology for each truth, and no infinite regress of facts, but only of descriptions of facts: and it should never be thought that an infinite regress of descriptions is something to worry about per se.

It was once fashionable to mutter that facts had no clear principles of individuation, and were suspect. Unfortunately, it turned out that very little had clear principles of individuation, and few mutterers thereupon turned into thoroughgoing ontological sceptics. But my identification of most of the hierarchy of instantiation facts will worry some who do not necessarily demand necessary and sufficient (and non-trivial) identity conditions for every entity mentioned. Others might suspect the manoeuvre of being ad hoc (though what it is exactly for a manoeuvre to have this feature is unclear, and how much of a disadvantage this is likewise). So let me adduce some reasons why one might welcome the identity conjecture.¹⁰

¹⁰ Armstrong 1997 p 118-9 seems to endorse the identity conjecture: perhaps surprisingly, since his instinct in the 1997 work is often to allow additional supervenient things (additional properties and relations, states of affairs etc.) and attempt to establish that they are an “ontological free lunch”. Here I will try to articulate some reasons for the identity conjecture.

The first is that some sort of reduction is very desirable here, for supervenience reasons. According to the theory, when one has one stage of the hierarchy, one must have the stages above it: it can't be a fact that a pair and Instantiation together instantiate Instantiation unless the pair of that pair and Instantiation instantiate Instantiation, and so on up the ladder. These further facts are all supervenient, and we would like an explanation of this supervenience. Armstrong supposes that supervenient facts like these should not be among the fundamental furniture of the universe: that they should be "no real addition to being", and an "ontological free lunch". I find the thought attractive, though it is very hard to satisfactorily spell out the details. One cannot just postulate a necessity and then declare "free lunch", of course (and Armstrong agrees - see Armstrong 1997 pp156–157, where he rejects "brute necessities"), but Armstrong is not always careful to explicitly provide the explanation which his ontological free lunches require (and after all, as we know from everyday life, the cardinal rule is that if you think you're getting a free lunch, that means you've already paid for it somewhere else). Identity is always a good internal relation to invoke to explain superveniences, where it is available: for a case where can be no change in Bs without change in As is not mysterious if each B is identical to an A, for there can be no change in something without a change in that thing. Similarly, the existence of the bottom of the hierarchy necessitating the existence of the rest is no longer mysterious if the fact described by the description at the bottom of the hierarchy (or near the bottom) is identical to the facts picked out at each of the other stages: for it is not mysterious that the existence of something should entail the existence of itself.

Another, lesser consideration is that the hierarchy after <<<Bill, Mary>, Loving>, Instantiation> instantiating Instantiation consists of orderings of the same elements— while the relation of "constitution" between "components" of facts should not be that of mereology, and while different facts with the same "components" may need to be admitted (to handle non-symmetric relations: the fact of Bill's loving Mary tragically need not be accompanied by the fact of Mary loving Bill), one may still not wish to postulate "relations that generate", in Goodman's phrase, more than necessary: metaphysical relationships which produce more than one object from the same "components". In any case, it is surely a necessary condition for identifying putatively different facts that all of the components of one are components of the other, by the indiscernability of identicals.

The last is a point that I am still groping at. Consider the facts of Bill, Mary, Loving, Instantiation taken all together—the whole hierarchy, whether real or putative. It is this whole mess which captures something important: to speak in what is possibly an unhelpful metaphor, the "glue" that holds the ontological commitment together. It is other tokens of this sort of hierarchy which "glue" the ontological commitments together. If we take it to be a genuine hierarchy, it has a great deal of internal structure. This great deal of internal structure contributes little to our theory: perhaps the most that can be said of it is that it preserves the analogy between Instantiation and relations like Loving (just as a case of Loving must have a putatively distinct fact of Instantiation "above" it, so must a case of Instantiation). Simplicity grounds (which I take to be the reason people intuitively reject all of that unparsimonious and complicated internal structure) count against this internal structure—and one of the easiest way of simplifying the whole thing is taking the whole mess to be a matter of a single fact. The explicit invocation of simplicity in this context is just to employ a familiar argument from a perspective external to the hierarchy, rather than the perspective from "the bottom of the ladder", so is probably not a distinct argument from the first one offered. In an area where methodology is so far from explicit, though, the fact that the point has intuitive force from more than one perspective might have persuasive power even if it adds nothing to the justificatory scales.

Perhaps an argument is this: the only advantage, so far as I can see, for treating the facts of instantiation as a genuine hierarchy, is the analogy with other, more normal relations, like Loving (or pick some sparser, more fundamental relation if you prefer). If this is the only reason, it seems likely it is the only reason why treating Instantiation differently from the "normal" relations might merit the charge of ad hocery. But Instantiation, if it operates in this way, is disanalogous to two other "connections"—the classic "internal" relations of identity and part-to-whole. In the case of the "relation" of identity (or perhaps better property, since while it is often thought to have two argument places, they have to be occupied by the same object), we do not normally think that everything needs to have a distinct "self-identity" fact tagging along to be the ontological ground of the claim that it is identical to itself: though I suppose this has sometimes been held, for instance by some of those who commit themselves to heccaeties or "thisnesses" of objects, where these are supposed to be the object's particular self-identity. It seems to me that we do not need a numerically distinct existent to guarantee my self-identity: I am of course a perfectly adequate truthmaker for it, but I see no particular reason to find a constituent of me (necessarily dependent but non-identical) to be a more minimal truthmaker for the

identity claim. Furthermore, if we did, we would be off on a regress of identity facts, since that constituent would have to be self-identical, and so would require an identity fact, which would be self-identical... The most natural way of locating a truthmaker for an identity statement, I feel, is to say that the minimal truthmaker for it is the object involved itself.¹¹¹²

(Note: you might think that finding truthmakers for identity statements is just part of the more general problem of finding truthmakers for necessary truths. If, however, you think a true identity statement is existentially committing, and you also reject Barcan formulae, this is not the same problem, since Daniel Nolan = Daniel Nolan is then contingent: it fails in any world in which I do not exist. I am interested here primarily in what truthmaker corresponds to truths expressed using an existentially committing sense of the identity predicate, which makes the issue one of truthmakers for contingent truths. The relation is still internal, however, since it necessarily holds when its relata exist: I cannot exist without being self-identical).

Similarly, there is a problem of the truthmakers for claims about mereological relationships. When X is a part of Y, my intuition, at least, suggests that all that is needed is X and Y: we do not need a distinct case of a part-whole relationship. (At least this is so when we are employing the generous standard of part-whole given by classical mereology: if being a part of something requires some proximity or external relations to other parts of that thing, then some more external relationships may need to hold as a constituent of the part-whole relationship). The part-whole relationship also seems to be

¹¹ This is so for positive identity statements, at least: whether either relatum of a non-identity statement is a sufficient truthmaker, or both are required, or none (but merely the absence of a (necessarily non-existing) truthmaker for the negation thereof), is a matter I need not address here.

¹² A problem related to the “problem of the many” might arise here: one may think that less than all of me is enough for the identity statement to be true: me minus my hair is arguably a truthmaker for Daniel Nolan = Daniel Nolan, since it would be enough for me to exist (and a fortiori be self-identical). The problem that there are arguably many truthmakers for the claim that "Daniel Nolan = Daniel Nolan" is similar to the problem that there seem to be many objects which have a claim to be Daniel Nolan (the undetached hairless part, the undetached legless part, the maximal one with hair and legs, and at least millions more). A story which works for the latter will hopefully be adaptable for the former. This problem by itself does not seem to give us much reason to take a truthmaker with no claim to be me to be a truthmaker for my self-identity, however.

an internal relationship, though less so than identity: unless mereological essentialism is true (and it does not seem to be), things can have more or fewer parts than they actually do.¹³ Nevertheless, there is some connection: plausibly an object cannot have too many of its parts be different¹⁴, and plausibly this necessity is grounded in the existence of the actual nature of the whole, rather than anything extrinsic. Again, "part-whole facts", numerically distinct from the whole and the part but necessarily connected to them seem otiose: and in addition they will generate infinite regresses, given generous composition principles. (Take the classic example of a car and a part of it, say a wheel: given those two, there will be a fact of part-whole holding between them: so (with a generous principle of composition) there will be a whole consisting of the car, its wheel, and the part-whole fact, and so there will be part-to-whole facts of their all being related to the new fusion, and these facts, together with the previous fusion, will form a new fusion...). Mereology is powerful, and adopting classical mereology multiplies the entities one is committed to, but not, one would think, to the extent of generating infinite commitments from finite materials.

¹³ Being four-dimensional about objects makes mereological essentialism slightly more palatable, and removes temporal counterexamples, depending on how we describe cases (I can, and do, lose hairs—but if all that means is that my four-dimensional "worm" only partially overlaps the "worms" of my hairs, this is not a case of my four-dimensional totality being different at different times).

¹⁴ Again, I am mostly concerned with the modal case, and I think this proposal is most plausible across times. Near the end of its life, an organism may have very few atoms in common with the organism at the beginning: but in another possible world where there was a similar organism which never had any atoms in common, we are more likely to think that that organism must be a distinct one. This is especially true if we consider organisms which are different in character as well. Take an actual dog, Fido. Now, we are tempted to think that there may be a possible world where Fido is treated very differently, comes to have a very different personality, eats different food, and so on. A case where all of this happens, but the dog in that world comes from the same initial parts as Fido (e.g. the same fetus) is clearly a possibility for Fido. When we have a case of a similar fetus, but one with no atoms in common or only a few atoms in common, and which grows up to be a dog with a very different character and lifestyle from our actual Fido (but the same as our previously mentioned counterfactual Fido), we are much more likely to think that that isn't a possibility for our actual Fido – that is just a different dog, albeit one with interesting early similarities to Fido. Some take this to merely reflect a Kripkean essentiality of origin. I do not think that origin is quite so central, but I would not be surprised if we tended to count early overlap as more important than later overlap.

The mereology case is less straightforward, since, once we reject mereological essentialism, we are likely to think that the whole can exist without the part, the part without the whole, and we may even accept that both the whole and the part can exist without the part being a part of that whole. (Think of a bicycle assembled of slightly different parts – a gear that is actually a part may be left on the shelf in another world, co-existing with the bicycle without ever being a part of it.) This suggests that some other condition is needed besides the existence of the whole and the part, and so suggests the need for a “further fact” beyond the existence of the whole and the part. Perhaps this should drive us to give up the intuition that nothing else is needed, or this observation together with the intuition may drive us back into the arms of mereological essentialism. Another option would be to reject the modal criterion for when a further fact is required, at least in its full generality: to allow that sometimes a fact F can be a truthmaker for p even if F could exist but p be false. (This would be a denial of truthmaker essentialism.) If we then wanted to retain the view that all truths were to be accounted for ontologically, in something like the sense developed in this paper, then it would not be so much that truth supervenes on what exists (i.e. no difference in what is true without a difference in what exists), but rather that it stands in some other intimate relation to existents (saying that truth is “constituted” by what exists, or that truths hold “in virtue of” what exists, might be labels for this, though both expressions tend to be weasel-words). I will suppose the intuition that the part-whole relation requires nothing more than the existence of its relata can somehow be vindicated, and so the regress of mereological facts does not arise. Those who do not want to follow me in this supposition need not, for present purposes – the case of identity is enough to establish an analogy for instantiation, and if mereology is not analogous to identity in this respect, we still have one analogue to work with.

In both of the cases of the "classic" internal relations, the facts of their obtaining are better seen as not being like the facts of the obtaining of external relations between objects (even the most simple case of external relations: relations intrinsic to their relata). In both cases, I think the most plausible identification of the relevant truthmakers are the objects themselves: the object itself, in the case of the identity relation, and the whole (or the whole and the part) for the part-whole relation. The analogous thing to do in the case of finding facts of instantiation is to identify the instantiation fact with the first order fact: (so that the fact that Loving holds between Bill and Mary is identical with the fact that Instantiation holds between Bill and Mary, on the one hand, and Loving on the other). This is not to deny that there are facts of instantiation, let alone deny that there are

truthmakers for claims concerning instantiation, any more than identifying Hesperus with the planet Venus is a denial that Hesperus exists. But it does deny the existence of numerically distinct instantiation facts, let alone an infinite hierarchy of them every time something has a property or stands in a relation.

If we did something analogous here, and denied that the facts of instantiation were anything over and above the first order fact, we would still have avoiding predication which could not be analysed ontologically. For we would still have facts, the existence of which amounted to an object instantiating a property (or some objects instantiating a relation): the existence of the first-order fact is all that is needed for the "instantiation fact", and to assert the existence of this fact is enough to assert something which is sufficient to guarantee the truth of the relevant proposition concerning instantiation. Again, it may not be a priori that the existence of this very thing is the existence of the fact that Bill loves Mary, and we are not in the business of attempting to supply a non-enthymematic inference of the form "A exists, therefore Bill loves Mary", where "A" is a placeholder for some or other proper name.

Identifying instantiation facts with ground-level facts faces some difficulties: we have the puzzling question of what the status of the supposed "relation of Instantiation" is. These puzzling questions extend to other internal "relations". Is the relation of identity a constituent of everything? Is the relation of part-to-whole something numerically distinct from a given whole and one of its parts? If so, we have ontological multiplication, and odd-looking regresses. If not, we struggle to find a "one through many" uniting these cases, as well as a semantic value for expressions like "the relation of identity". Perhaps we should just embrace "Logical Forms", as the Plato of the *Parmenides* and *Sophist* would have us do, or perhaps we should re-open the Pandora's box of searching for non-committing paraphrase of claims apparently about such relations. (I'd like it to be true that Identity is an equivalence relation, for example, but it's tricky to see how this could be so if there were no such thing as Identity). I think the question of what to say about whether there are genuinely "ones through many" in cases where things putatively have similar mereological structures, or through many different facts of instantiation, is a question which I will not attempt to answer here.

As an alternative to taking the ground-level fact to be the Instantiation facts, one could take there to be an Instantiation fact as well as the ground-level fact. Thus, one could have two facts in the example I was using: the fact that Bill and Mary stand in the

relation of Loving, and the fact that Instantiation holds between Bill and Mary on the one hand, and Loving on the other. This would have some advantages: Instantiation can more smoothly be taken to be a component of the second fact than of the first, and it would preserve a distinction between Instantiation facts and all sorts of other facts. Instantiation facts would be ones in which objects(or –tuples of objects) were related by Instantiation, whereas basic ones like Bill and Mary being related by Loving would not be facts of this sort. Instantiation could be more of a genuine one-through-many in this approach, since there would be a relation of Instantiation which would be present in all and only the instantiation facts. If the second fact is identified with all of the rest of the facts in the putative hierarchy, the infinite regress of instantiation facts can still be avoided, as before. And this regress would have been of Instantiation facts with the same ultimate constituents (in my example, Bill, Mary, Loving, and Instantiation), so it is a tempting candidate for a reduction such as this identification to be carried out. This approach has the final advantage of confining the "oddity" of the identification of so many facts described differently to specifically Instantiation facts, rather than having to say that every fact we come across is also an Instantiation fact with this feature. Confining oddity to an area of our theory which has traditionally thought to need an unusual solution may be thought to be an advantage over changing our conception of ordinary facts as well.

The main flaw with this alternative is that it requires necessary connections between distinct existences: for there must be Instantiation holding Bill and Mary together with Loving, though the fact that Bill and Mary stand in the relationship of Loving is distinct from the fact that Bill and Mary, together with Loving, stand in the relationship of Instantiation. It seems that the necessity of the existence of an instantiation fact, given the first-order fact, would need to be taken as brute—whereas, of course, if the instantiation fact is identical to the first-order fact, the necessity of their co-existence is anything but mysterious. I am reluctant to postulate brute necessities beyond necessity (a principle Peter Forrest has called Hume's razor in Forrest 2001), so I do not find this approach attractive. From the point of view simply of providing truthmakers for instantiation statements, though, this theory would serve adequately also.

I doubt that I have quietened all worries on the score of treating Instantiation facts in an ontological manner. Many people have the idea that there is something wrong with the Instantiation regress, and showing that some putative problems are not insurmountable does not by itself quell this worry. One avenue of exploration is an avenue which hopes

to show that paradox analogous to the semantic or set-theoretic paradoxes flow from supposing that instantiation is a genuine relation – whether this is successful depends not only on establishing that useful theories of properties and relations must have the features suitable to raise paradox, but also on what responses are best for paradoxes of this sort (and I, for one, am not sanguine about my preferred approaches to semantic and set-theoretic paradoxes). Wholesale rejection of semantic language or set-theory have so far (thank goodness) not been the only options in those areas, so even if Instantiation has problems like that of Truth or Membership, that may not be its doom.

Finally, one may question the whole project of seeking an ontological treatment for our theoretical commitments—or in particular extending ontological commitments to areas where commitments are more comfortably expressed through use of predicates. This debate, however, is a bigger philosophical debate, and touches on an entire rationale for a truth-maker theory in the first place, so I hope I may be excused if it is not thoroughly addressed here. There is a lot of talk of “trading ideology for ontology”, in David Lewis (e.g. Lewis 1986 p 4) and elsewhere, but it is often unclear what is meant. I think a theory of truthmakers can serve as part of a theory of what it is to cash out theoretical commitments ontologically, and *contra* Lewis, such a theory need not leave some ideology unanalysed, in at least one interesting sense of “unanalysed”.

In this paper, I have hoped to establish that a "truthmaker" principle can handle truths about the instantiation of properties, and in at least one sense, an ontological reduction, (ontological explanation?) of an object's having a property can be had, without primitive predication. As well as demonstrating the possibility of applying a truthmaker principle to a difficult case, this result has the potential to show more. I am interested in a larger project of seeing how far our theoretical commitments can be understood ontologically (or how adequate a theory can be made while minimising non-ontological commitments), and how such theories measure up to non-ontological, "nominalist" schemes.

Instantiation is a classic trouble spot, and needs to be dealt with if the overall metaphysics is to be acceptable. Another "large" task of which this is a small part is the task of making sense of, and establishing, a correspondence theory of truth—a smooth account of what it is that corresponds to predications should extend to the predications of "having", property possession, instantiation, or whatever. Treating Instantiation ontologically has another specific benefit—it disarms the *tu quoque* Lewis 1986 levels against Armstrongian rhetoric against unanalysed predication in the debate about realism about properties and relations: to the extent that Armstrong's intuitive considerations support

realism, they need not be undermined by primitive predication at the heart of a realist theory of properties.¹⁵

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References

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

Armstrong, D.M. 1997. *A World of States of Affairs*. Cambridge University Press, Cambridge.

Armstrong, D.M. 2004. *Truth and Truthmakers*. Cambridge University Press, Cambridge.

Forrest, P. 2001. "Counting the Cost of Modal Realism" in Preyer, G. and Siebalt, F. *Reality and Humean Supervenience*. Rowman and Littlefield, Lanham, Maryland pp 93-103

Lewis, D. 1983. "New Work for a Theory of Universals". *Australasian Journal of Philosophy*. 61: 343-377

Lewis, D. 1986. *On The Plurality of Worlds*. Blackwell, Oxford.

Lewis, D. 2002. "Tensing the Copula". *Mind* 111.441: 1-14

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- Menzies, P. 1989. "A Unified Account of Causal Relata". *Australasian Journal of Philosophy* 67: 59-83.
- Nolan, D. 2001. "What's Wrong with Infinite Regresses?". *Metaphilosophy* 32.5: 523-538
- Parsons, J. 1999. "There is no Truthmaker Argument Against Nominalism". *Australasian Journal of Philosophy* 77: 325--334
- Plantinga, A. 1974. *The Nature of Necessity*. Clarendon Press, Oxford.
- Ryle, G. 1939. "Plato's Parmenides". *Mind* 48.190: 129-151
- von Neumann, J. 1925. "The Axiomatisation of Set Theory" in van Heijenoort (ed.) 1967. *From Frege to Gödel*. Harvard University Press, Cambridge MA. pp 393-413