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D. M. Armstrong

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## A WORLD OF STATES OF AFFAIRS

D.M. Armstrong

### 1. States of affairs defended

This is a position paper or trailer for a larger work in progress and having the same title. My hypothesis is that the world is a world of states of affairs. I think that I am saying the same thing as those who have held that the world is a world of facts not things. So it may be in order to begin by saying why I use the phrase 'state of affairs' rather than the word 'fact'. This is all the more in order because it is common among those who patronize facts to use 'state of affairs' to mean no more than *possible* fact. My states of affairs, however, are all existents.

In my view, the word 'fact' is much too closely tied to the notions of statement and proposition. It is natural to think of facts as the 'tautological accusatives' of true statements and propositions. Given this, to each true statement or proposition there corresponds its own peculiar fact. This is quite unsatisfactory for my purposes. I have therefore taken over the phrase 'state of affairs'. It sounds less colloquial and more like a term of art, which is desirable. Those who are lost to all shame and use acronyms in their philosophical publications can abbreviate it to 'SOA'.

The general structure of a state of affairs I take to be this. A state of affairs exists if and only if a particular has a property, or a relation holds between two or more particulars. The relations are all *external* relations, that is, in no case are they dictated by the nature of their terms. In the jargon of possible worlds, it is not the case that in each world in which the terms exist, that is, in which the related particulars exist, the relation also holds.

It is generally conceded by philosophers that what particulars exist is to be determined *a posteriori* as a result of empirical investigation. It is not so generally conceded that what properties and relations exist is also to be determined empirically, but it seems equally important that this concession

should also be made. Contemporary philosophy tends to use the terms 'property' and 'relation' in such a way that properties and relations are tautological accusatives of monadic and polyadic predicates respectively. And for certain purposes this is undoubtedly convenient. I take the liberty of talking in this way myself where there is need. In that looser way of talking, properties and relations are determined in discourse, not determined empirically. But I make bold to say that the properties and relations that enter into *states of affairs* are the true or real properties and relations. Or if you recoil from such pre-Moorean language, they are the fundamental properties and relations.

States of affairs have as constituents particulars, properties and relations. I hold that the properties and relations should be taken to be *universals*, thus making it possible for different particulars to instantiate the very same property or different pairs of particulars to instantiate the very same (dyadic) relation. But for those who think that universals, even these non-semantic universals of mine, are creatures of darkness, there is an interesting alternative here. One can take the properties and relations of particulars to be particulars themselves. Using the transitive and symmetrical relation of exact resemblance one can then construct equivalence-classes of these property and relation particulars. It turns out that these equivalence-classes are able to reflect many of the properties of universals (though not all) thus perhaps 'saving the phenomena' without the need to admit universals. (See my 1989, Chap.6, Secs. V & VI.) The identification of these equivalence-classes can still be an *a posteriori* affair. For most versions of this *trope* theory, states of affairs will still be required to unite ordinary particulars with properties and relations, although the 'rules of composition' will not be exactly the same. Even if one reduces ordinary particulars to 'bundles' of trope properties, the various bundlings would still appear to be states of affairs within the meaning of the act.

Returning, though, to my preferred alternative, which is to accept universals, we find that the necessity for states of affairs may be, often is, challenged. Why is anything more needed than particulars and universals, monadic and polyadic? The answer to this comes from one of the fundamental assumptions that drive this ontology. It is the need for truths to have a truthmaker (a phrase introduced by C.B. Martin) or an ontological ground (the phrase used by Gustav Bergmann). Let it be the case that the particular *a* exists, and the property-universal *F* exists. It is clear, in general at least, that these two entities could exist and yet it fail to be the case that *a* is *F*. If the latter is to be true, then some truthmaker is required. The state of affairs of *a's being F* is suggested as that truthmaker, as the ontological ground.

A spectacular case is provided by non-symmetrical relations. It is unlikely that *loves* is a relation in the true ontological sense. The relation is surely not identical in all cases where an *x* loves a *y*, which is required for a universal. But let us here overlook this point. Let *a* love *b*, and *b* love *a*. The two states of affairs are presumably independent. Either could have occurred without the other.

Yet the two different states of affairs involve exactly the same constituents. How are they to be differentiated? *Only* by this, it would seem: they are two different states of affairs. Hence we require states of affairs in our ontology.

Alas, one person's *modus ponens* is another person's *modus tollens*. The case just considered moves David Lewis to deny that there are any states of affairs, conceived as things composed from particulars. For, he reasons, it is impossible that two different things could be made out of *exactly* the same constituents. This leads him to assert that the only way that wholes can be composed out of parts is by that austere form of composition envisaged by the mereological calculus. For in this calculus there is one whole and one alone that a given set of parts compose. So for Lewis there can be no states of affairs. The world must be a world of things. A Quinean ontology, an ontology of the subject alone, with the predicate giving us not ontology but mere 'ideology', seems inevitable (Lewis, 1983). He might allow universals, but they will just be unusual things.

Here is a reason for thinking that mereological composition cannot be 'the cement of the universe'. Mereological wholes *supervene* upon their parts. This, indeed, follows from the fact that, given certain parts, there is only one possible whole which they compose. Different metaphysicians differ in their permissiveness with respect to what things can go together to make a whole. Some censorious persons will not let the Sydney Opera House get together with the square root of minus one. ('What next?', they say.) Lewis is completely permissive in this respect and I pretty much go along with him there. For us, Lewis and Armstrong, given that the putative parts are logically compatible, then the whole supervenes. (As indeed the parts supervene on the whole.) What supervenes, however, appears to be *ontologically* nothing more than what it supervenes upon. So, I reason, if mereology really is the only form of composition that there is, then ontologically there is no real composition in the world. This I take to be an absurd conclusion.

So I believe that we should accept the truthmaker argument from predications, non-relational and relational, to states of affairs. It is interesting, and even somewhat surprising, that these entities can differ although their constituents are exactly the same, but I recommend that we simply follow the wind of the argument. Only if someone could come forward with a non-supervenient form of composition that nevertheless allowed only one possible whole to be constructed out of exactly the same parts, would I be inclined to look critically at states of affairs.

States of affairs prove their worth at many points in ontological analysis. They illuminate the topic of causation, in particular singular causation, as will be noted in a later section. Somewhat surprisingly they seem to cast light on the nature of classes (Armstrong, 1991). But here it may be of worth to look briefly at the topic of *structural universals* which Lewis, in particular, finds a vexed one (Lewis, 1986). Consider a carbon atom, *a*, which is bonded in the familiar cross-

shaped pattern separately to four hydrogen atoms: *b, c, d, e*. The particular which is the mereological sum  $a + b + c + d + e$  is a methane molecule. It is straightforward, *given states of affairs*, to describe the structure of this methane molecule. With C = carbon, H = hydrogen, and B = bonding, we have *Ca, Hb, Hc, Hd, He, Bab, Bac, Bad, Bae*. To get a description of the (putative) structural universal *being a methane molecule* we should first substitute existential quantifiers for the particulars (together, of course, with non-identity clauses for these quantifiers). This gives us an assertion that the structural universal is instantiated. Abstracting from the assertion of instantiation we have a description of the universal: an individual that is a carbon atom, four further individuals that are hydrogen atoms, and where ..... etc., etc. The structural universal is a certain *type* of conjunction of states of affairs. It would, of course, be open to someone to think of this as a structure of universals instead of a structural universal. But although it may not be of the first importance to resolve that dispute, one reason for going the latter way and calling it a universal is to provide for the (epistemic) possibility of 'structures all the way down'.

States of affairs are thought to labour under a certain further difficulty, though. It is a difficulty most usually articulated for the particular case of an ontology of particulars and universals, but seems to be a general one. It is the difficulty of predication, the difficulty of the nexus of instantiation (as they say in Iowa), the difficulty of the non-relational tie (W.E. Johnson and P.F. Strawson), the difficulty of the formal distinction (as Scotus put it), the difficulty of participation (as Plato had it). Is not bringing the constituents of a state of affairs, the particulars, the properties and the relations, together into states of affairs, a further relation in which all the constituents stand? But then the new relation is just a further element which requires to be integrated along with the other constituents. Most contemporary opponents of universals take comfort from this argument. Often it seems to be the only argument they have to set against the multifarious difficulties facing their particular variety of Nominalism!

Well, those of us who accept states of affairs do have to accept what one might think of as an operator that takes constituents of states of affairs to states of affairs (and, in thought, to merely possible states of affairs). But I think that we are under no compulsion to take this 'formation' of states of affairs as a further constituent, something on the same level as the original constituents. One reason for this, I suggest, is that once the putative states of affairs are reached, all further 'relations' in the regress that our Nominalist friends say that we must accept *supervene* upon the states of affairs. That a state of affairs having certain constituents exists, is, I take it, a contingent matter. But all the alleged further relations in the regress flow necessarily from the structure of the state of affairs. So I suggest that this supervenience is a sign that these 'extra' relations do not have to be taken seriously ontologically.

## 2. States of affairs rule

Having said something in defence of states of affairs, let us advance to the proposition that states of affairs are all that there is. It is not denied on this view that there are things—particulars—nor is it denied that there are properties and relations. But it is denied that there is anything that exists outside states of affairs. It is denied that there is anything that is not a *constituent* of one or more state of affairs. (A point of usage. I generally reserve the word ‘part’ for mereological parts, speaking instead of constituents of states of affairs. Constituents are a sort of part, too. But they do not obey the axioms of the mereological calculus, so it has seemed advisable to employ another word instead of part.)

If states of affairs are all there is, then there are no ‘bare particulars’ meaning by this phrase particulars conceived to exist in independence of any state of affairs. (I am here hijacking a term used by Gustav Bergmann and his followers. In their usage bare particulars can be found within states of affairs. But it seems to me that the phrase calls out to be used as I use it.) Equally, there are no uninstantiated universals. Every property is a property of some particular. Every relation holds between two or more particulars. I do not know that there is any very strong pressure to postulate bare particulars. Uninstantiated properties and relations are a different matter. There are semantic arguments for their existence. The idea is that they are required to be the meanings of predicates that, while meaningful, nevertheless fail to apply truly to anything. I think that these arguments can be treated with a certain indifference. But there is a strong *prima facie* case for uninstantiated laws of nature and some of these seem to demand uninstantiated universals. Again, some philosophers have proposed to give an account of possibilities and possible worlds by appealing to uninstantiated universals (Forrest, 1986, Bigelow and Pargetter, 1990, 4.5). In a complete treatment the arguments from uninstantiated laws and from possibilities would have to be carefully considered. I have tried to deal with the argument from laws elsewhere (1983, Ch.8). Not everybody thinks I have been successful, but here I will assume this important step in my argument.

I do not suppose that those who accept that there are universals will find it too difficult an idea that properties and relations are literally, if un-mereologically, parts of states of affairs. But that particulars should be in the same situation—tables and thunderstorms—may seem a strange, not to say a ratbag, view. I think that the sense of paradox is eased if we draw a distinction between the ‘thin’ and the ‘thick’ particular. Let me emphasize, however, before drawing it, that the distinction does not introduce any further entities into this ontology.

The thin particular is the particular considered in abstraction from all its properties. Although not bare, it is very thin indeed. (But you can be thin without being bare.) For me, all thin particulars, although numerically different,

are, as it were, indistinguishably different. Particulars may be said to have or rather to be haecceities or thisnesses, but they have no mysterious inner and particularized essence that marks off one from another and accounts for their numerical difference. The secret of numerical difference is simply numerical difference. Different particulars may be parts of other particulars, parts which include, I hold, temporal parts, or overlap other particulars. This is the mereological sense of the word 'part' and, with Lewis (1993), I take this identity of parts to be best understood as partial identity. But that is about all that can be said about the thin particular. Notice, however, that it is not hidden, as Locke had it hidden. Even in our most basic, most elementary, perceptions we are aware of particulars, though of course particulars as having certain properties and relations, that is: particulars in states of affairs.

So much for the thin particular. The thick particular is the thin particular considered along with all of its intrinsic, that is, non-relational properties. It is a much more familiar creature. But, on the scheme proposed, what can it be except a state of affairs or conjunction of states of affairs? The existence of conjunctive universals is a somewhat controversial but not too important an affair. I allow them, provided that the conjunct universals are all instantiated by the same particular, but some philosophers do not. Suppose we allow them. Then we can roll up all the non-relational properties of a particular into a single, but far from simple, conjunctive universal. We can call it that particular's *nature*. Now consider the state of affairs of that particular's having that nature: *a's having N*. This state of affairs is the thick particular.

I will just note a pleasant anticipation of the thin/thick distinction by Herbert Hochberg. He spoke of 'Socrates' and 'big Socrates' (n.d.). In true Iowan style, however, the object he was talking about was not a philosopher but a white square patch.

To gain a somewhat more concrete grip on the doctrine that the world is nothing but a world of states of affairs let us consider another doctrine which I uphold and which I call the doctrine of Naturalism. This is the proposition that the world consists of, and is exhausted by, the single, public, spatio-temporal system. (Naturalism is not to be confused with Physicalism, the doctrine that this space-time world involves nothing more than the entities and laws recognized by a—completed—physics. A Naturalist need not be a Physicalist, although I myself accept both theses.) In the order of knowledge the doctrine of Naturalism must be accorded a higher epistemic credit-rating than the states of affairs doctrine, although I uphold both. After all, the thesis that the world is a world of states of affairs is no more than a *philosopher's* thesis! But in the order of being, if I am right, the space-time world is nothing but a huge conjunction of states of affairs. To *exhibit* this would be a huge undertaking, and, *prima facie*, there are all sorts of ways that we could work out the identification, depending upon the answer to all sorts of scientific and philosophical questions concerning the nature of space and time. For instance, the world might turn out

to consist of genuinely atomic particulars which are space-time points, perhaps having field properties, and the concatenation of these points might constitute space-time. This is just one scheme, and not one that I have any particular affection for, although I have no particular dislike of it either. But it illustrates a little more concretely, if still unexcitingly, what a world of states of affairs might be like.

It may be noted that the *unity* of the space-time world is not constituted by the mere conjunction of the state of affairs. A conjunctive state of affairs, as we may call such a conjunction, has a merely mereological unity, which is to say no real unity at all. The real unity is given by the fact that all the particulars are directly or recursively linked to each other by real, that is external, relations. These relations appear to be exhausted by causal and spatiotemporal relations.

The states of affairs, which includes their constituents, constitute the ultimate truthmakers for all truths. This gives occasion to say something about truth. Two theories of truth, in particular, fight in the breast of any right-minded, not to say clean-living, philosopher. I, at any rate, have oscillated between the two for many years. The first is the Correspondence theory. To say that *p* is true is to say that this proposition corresponds to reality. The other is the Redundancy theory. To say that *p* is true is, fundamentally, to say no more than to say *p*. My suggestion now is that both theories have got hold of part of the truth about truth. The Redundancy theory is satisfactory at the more superficial level of usage, the *truth-predicate*, formal semantics, and, I think, truth-conditions. But our statements and propositions do correspond or fail to correspond to reality. Their correspondent is the *truthmaker*, the ontological ground, for that statement or proposition. But it is vital to realize that the correspondence is not a one-one affair. To think so is to fall into the gravitational field of the Redundancy theory and as a result to postulate a fact peculiar to each true proposition. It is this error, I believe, that has led to dissatisfaction with the supremely natural view that truth is or involves correspondence to reality. The correspondence of truth with truthmaker is actually many-many. It is a totally disorderly affair. I now think that there must be a truthmaker for every truth, even necessary truths, although the latter do not require a great deal in the way of truthmaker. It is a, perhaps the, major metaphysical enterprise to determine the general nature of the truthmakers for the various sorts of true discourse. That the basic truthmakers are states of affairs (and of course their constituents) is, I have been arguing, the beginning of ontological wisdom.

### 3. Higher-order states of affairs

One of the attractions of the metaphysics of the *Tractatus* is that the facts that constitute the world are all of the same order. There are no facts about facts.



This doctrine is again upheld by Brian Skyrms in his 'Tractarian Nominalism' (1981). Unlike Wittgenstein, Skyrms explicitly makes the constituents of his facts particulars and universals, the latter dividing into properties and relations. He might have been privy to my thoughts. He uses the word 'Nominalism', unwisely in my view, not to deny universals but to betoken that he denies the existence of any facts of higher-order.

It seems, however, that there is no escape from such facts (states of affairs). The knock-down case, I believe, is the one pointed to by Russell, what he called 'general facts' (1918, p. 93). I will speak of facts of totality or, in my own terminology, states of affairs of totality. Consider all the electrons, past, present and future. Particular *a* will have properties sufficient to make it an electron. So will particular *b*, and so on. Does the conjunction of these states of affairs serve as a truthmaker for the truth that these are *all* the electrons? I don't think it can. For it is *contingent* that these are all the electrons. These states of affairs could all exist and yet not exhaust the totality of electrons.

This last point might be conceded, but, it may be objected, why not accept here a truthmaker that would fail to be a truthmaker for the same truth 'in another possible world'? My answer to this is that the truthmaking relation, although many-many, is an *internal* relation, one that supervenes upon, is necessitated by, the nature of the terms. One point here is that the correspondence relation is not a spatio-temporal or a causal relation, and Hume long ago pointed out that these are the only plausible candidates for 'relations of matters of fact' i.e. external relations (see the *Treatise*, Bk.1, Pt.1, Sec.V, & Pt.3, Sec.1). But the matter can be approached more directly. That it is true that a certain collection of electrons is *all* the electrons is surely only true because there are no more of them. If there are more, then it is not true. That there are no more of them is then part of the truthmaker. But this is a higher-order state of affairs or fact.

It seems, then, that there is allness or totality in the world. Here is one logical constant that does signify. I don't think that the notion can be *analyzed*, but I think we can categorize it a bit further. Allness appears to be a relational property of sorts, in the same sort of way that being a father is a relational property (as opposed to the relation of fathering, on which being a father supervenes). Consider the class or the aggregate (mereological whole) which happens to be the class or the aggregate of the electrons. What makes it *all* the electrons? Is it not that it stands in the totalling relation—the alling relation—to a certain property, the property of *being an electron*? The class or aggregate which happens to be the class of all the protons stands in the very same relation to the property of *being a proton*. It alls being a proton, we might say. We have a relation which is a universal here, it seems, and on it supervenes the allness of certain classes and aggregate with respect to certain properties.

If we admit such 'general facts', then that will have a considerable bearing on the vexed question whether or not to admit *negative* states of affairs. For, as

is well known, given all positive states of affairs, and given the further fact of totality that these *are* all the positive states of affairs, then all negative states of affairs supervene. If so, then it would seem that we do not need to postulate the negative facts alongside positive ones. It is true that there are some arguments for negative states of affairs to be considered. There appear to be negative perceptions: perceiving that there is nobody in the room. There also appear to be cases of negative causation: lack of water causing death. Ontologically speaking, however, I think it can be made plausible that these are mere surface phenomena. It may be noted that negative properties are as suspect as negative states of affairs.

The account just sketched of totality or allness leads on to a certain view of the nature of number. Consider the salient relation that holds between *being an electron* and *being an aggregate of nineteen electrons* and also between *being a proton* and *being an aggregate of nineteen protons*. Peter Forrest and I have argued that there is a good case for identifying this relation with the natural number nineteen (Forrest and Armstrong, 1987). The account appears to generalize smoothly to the rational numbers and to the reals, thus permitting a univocal account of these sorts of number. In each case, a unit-universal stands in a certain ratio or proportion to an aggregate universal. With *being one kilogram mass* as unit-property, it stands in the 3.2 ratio to *being 3.2 kilograms mass*. That unit-property also stands in the *pi* relation to *being pi kilograms mass*. Perhaps the account can even be generalized to cover the infinitesimals of non-standard analysis.

Allness and the numbers turn out, on this scheme, to have at least a family resemblance to each other, reminding us of the thesis of Grossmann (1983, Secs. 137-142) that numbers fall into the category of quantifiers. But there is an important difference between allness and the numbers. The 'alling' relation is external. The numerical relations, however, are internal, flowing necessarily from the nature of their terms. That being so, the truthmakers for the holding of the relations are nothing more than the related terms. The relations are of the sort that can hold between windowless monads or the denizens of different possible worlds.

As I see it then, the integration of mathematics into the world of states of affairs should draw its inspiration from the *Tractatus* rather than from the hard-line empiricism of Mill, John Anderson, Quine and others. The states of affairs are contingent, mathematical truths are necessary, and the secret of necessity lies in the reduction of its ontological content.

The consideration of number has taken us away from the topic of higher-order states of affairs, because, unlike allness, the internal relations involved do not call for higher-order states of affairs. This may be the place, nevertheless, to say a word about such mathematical entities as the higher infinite cardinal numbers. The worry here is that there may be no aggregate or class of things which can stand in the right internal relation to some unit-property. But without

such a relation, on this theory of number, there would appear to be no such number. To this difficulty I reply by saying that mathematical existence is something less than full-blooded existence. For an infinite number to exist is no more than for the required aggregate or class to be a *possible* one, although this must be absolute not just epistemic possibility. This view (put forward e.g. by Putnam, 1967) is a trifle deflationary. But it does help with a difficult epistemological problem. How is it that in mathematics we can arrive at the result that a certain entity exists *a priori*, a result that, after checking of proofs, we do not regard as open to falsification, barring the unusual case of doubt being raised about the original premisses? If all we have really achieved is the weaker conclusion that something is possible, then it becomes easier to accept that such knowledge is possible *a priori*.

Getting back to higher-order states of affairs, it is plausible that causation, singular causation, this causing that, is a relation between states of affairs. It is particulars that act. But they act in virtue of their properties and the effect of their action is determined by the properties of the thing that they act upon. This strongly suggests a relation between states of affairs. Putting it in a no doubt oversimplified way, that *a* is F brings it about that *b* is G.

Causation naturally leads one on to the topic of laws of nature. Indeed it may be that all the *fundamental* laws, the laws on which all other laws supervene, are causal laws. Singular causation exhibits a fair amount of regularity, and it is a natural hypothesis that each token of a causal sequence instantiates some law. It is true that there appears to be no *a priori* argument that takes one from singular causation to law, a point emphasized by Anscombe (1971). But, as suggested by Adrian Heathcote, there do appear to be good *a posteriori* grounds for identifying singular causal sequences with instantiations of laws (Heathcote and Armstrong, 1991).

In the Humean tradition laws are identified with cosmic regularities of a certain sort: 'cosmic coincidences' as that most honest of all Humeans, Jack Smart, calls them. If this traditional Empiricist position can be maintained, then there is no call here to postulate higher-order facts in explaining causes and laws. But, building on the work of many others, I have tried to show how implausible this position is in my 1983. Suppose, instead, as I think plausible, that laws should be seen as relationships holding between universals. We then have higher-order states of affairs, and ones that differ in type from facts of totality and the links between token states of affairs *apparently* present in singular causation.

If we think of a property as a *type* of state of affairs, the property F as the *something is F* type of state of affairs, then one can think of a nomic/causal connection of properties as a state of affairs where one type of state of affairs brings about a further type of state of affairs. But this formulation is not to be understood as a universally quantified truth about tokens of the types in question. It is a 'direct' connection between the state of affairs types in question, i.e. the universals in question, a connection postulated for its explanatory value. It

entails the corresponding universally quantified state of affairs, without being entailed by it. It is not supervenient upon mere first-order states of affairs. As such, it is a higher-order state of affairs.

It is interesting to note here the position of those who accept laws as relations between universals, but who hold that the relation is a necessary one. Since their laws hold in any possible world in which the 'antecedent' universal in the law is instantiated, for them laws supervene upon universals. Such a position seems incompatible with the view, which I defend, that the supervenient is ontologically nothing over and above whatever it supervenes upon. For surely what nomic connections hold between given properties is a substantial matter of fact? (Lewis has pointed out to me that those who hold that laws are necessary might well concede this point but go on to argue that the substantial matter of fact is that law-bearing universals, rather than others, are instantiated. I think I can still make my point, but it would certainly take longer.) Laws, then, I say, though relations of universals, involve higher-order states of affairs that are contingent. (By 'laws' are here to be understood the nomic connections themselves, not the true statements that such a connection holds.)

In Dretske, Tooley and Armstrong the sort of laws discussed are usually those linking two properties, generally called F and G in order to make the example as specific and concrete as possible. I think this is excusable. The issues are complex enough without having to concentrate from the beginning on some more lifelike but more tangled case. It remains true, though, that your average law of nature that has some claim to be fundamental will be a functional law that connects two or more quantities. This in turn means that a scientific or *a posteriori* realism about universals will have to concentrate particularly on universals of *quantity*. There are quite pressing problems.

Consider a quantity such as *mass* (or *rest mass*). There is a whole class of *determinate* universals, such as *one kilogram in mass* or *one ounce in mass*. What is the determinable *mass*? Is it also a universal? If it is, then is it a universal whose determinates are its instances, a universal which appears in functional mass-laws? If so, then it seems that we must postulate higher-order properties—properties of properties. A difficulty here, at least for me, is that this supposed higher-order property seems to be supervenient on the first-order properties. Determinates entail determinables. Hence I would have to say that we do not get a genuinely higher-order property. Yet we cannot treat a functional law as a mere class of laws—the class of the highly specific laws that govern the individual determinates. That would be a retreat to a Humean theory of functional laws, unacceptable to anybody who is upholding a theory of 'strong' laws.

This has been a survey, inevitably hurrying over many matters that demand a very much fuller treatment. Indeed, much that might have claimed a place has been omitted altogether. But I hope it has shown something of the attraction

and, you may think, the problems, that face the metaphysical programme that seeks to exhibit the world as made up of a single sort of constituent: states of affairs having in turn as their sole constituents particulars, property-universals and relation-universals.

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