Universals*

First, let me say what an honor it is to participate in a conference devoted to the work of E J Lowe. I consider Jonathan both an awe-inspiring philosopher and a good friend. Jonathan is one of those philosophers who seem invariably likely to be right. When you discover that you disagree with him, you have the sinking feeling that you will eventually be forced to concede. Thus it is likely that I shall be told that I've missed the point in much of what I say here. If that's so, I welcome the chance to be set straight. If anyone has a prayer of doing that, Jonathan does.

Universals as an acquired taste

The remarks that follow are intended, not as objections to Jonathan's 'four category ontology', but as requests for clarification. When it comes to ontology, I have the flat-footed belief that, if you can't figure out how it works, if you can't whistle it, as Charlie Martin would put it, you don't get it. This is where I am with Jonathan's ontology. I think I have a grip on the modes and substances, but I'm in the dark about universals.

This sets me at odds, not only with Jonathan, but with those who regard ontology as a chalk-and-blackboard affair: ontological problems are tamed by providing intricate formal accounts of those problems. Not only am I too dense to get much out of such accounts, I find them unsatisfying in the way you might find 'lite beer' unsatisfying. Although few in this room would agree, contemporary analytical metaphysics strikes me as scholastic and unproductive, metaphysics blended unobtrusively with the philosophy of language, nothing at

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all like the metaphysics developed by my heroes in the Enlightenment: Locke, Descartes, Spinoza, Leibniz, Kant.

Let me call attention to two features of these philosophers' views, features they share despite important differences elsewhere, features that today would be regarded with deep suspicion. The first feature is a belief in properties coupled with a denial of universals. Locke *et al* regarded properties as *modes*, what we nowadays (and for no very good reason, so far as I can tell) call *tropes*. Today universals have the upper hand, so much so that they constitute the default conception of properties. Universals are the reigning heavyweight champs: you can oust universals only if you have a decisive argument against them. I am content to put myself in the company of Locke and his successors, however, and regard universals as the odd ducks. My suspicion is that belief in universals is part of what is involved in the indoctrination we all undergo *en route* to the Ph D. We get used to the idea, and so learn to swallow our initial qualms.

A second feature of what I think of as enlightenment philosophy is one that would today be regarded by many philosophers as scarcely intelligible. This is the idea that there is no guarantee that things populating our world belong to the ontological categories we might take them to belong to when we engage in conceptual analysis.

For Locke, Descartes, and Spinoza, material objects answering to sortals turn out to be modes, not substances: particular ways the particles are organized, or, alternatively, localized 'thickenings' of the One. A famous, but ill-understood, instance of this is Locke's assessment of persons. Locke takes issue with Descartes: persons are not thinking substances. Persons are not *substances* at all. Persons are modes—or perhaps gappy sequences of modes. Although Locke is clear on the point, this feature of his view is rarely emphasized—perhaps

because it is thought of as an embarrassment.

Today such views are interpreted as eliminativist. If trees, for instance, aren't substances but ways the corpuscles are organized, then *there are no trees*. If the view is eliminativist, however, it is not obviously eliminativist about trees. What are eliminated are certain favored philosophical theses and their posits.

I do not expect much support from this audience for these observations, but I would like at least to note that they were regarded as having merit by a diverse and much admired collection of philosophers.

What are universals?

I began with an admission: I don't 'get' universals. In saying this, I am not being coy. I am admitting failure. I am admitting that, although I have learned to talk the talk, I really have no idea what I am talking about when the talk concerns universals.

I have roughly the same feeling when I try to understand Kant. After many readings, I begin to feel comfortable with Kantian locutions. But, when I pause to think about it, I find that I am still in the dark as to what these boil down to. In my more cynical moments, I wonder whether commentators on Kant really understand better than I do, or whether they have just become completely comfortable with Kant's prose. As someone who initiates graduate students into the cult, I sometimes wonder whether philosophical education is most pernicious when it de-sensitizes us to questions of the kind smart undergraduates ask. How often do we adopt views not because we understand them, or because we have good reasons for holding them, but because we have grown comfortable with them?[1]

1. Growing comfortable with the right views is a requirement for admission to what is now regarded as the 'profession' of philosophy.

It helps when these views incorporate an element of the outrageous. This gives them an air of excitement. It also insulates them from one sort of criticism, the sort that begins with the observation that they are in some way outrageous.

I am probably alone in this room in having these thoughts insofar as they concern universals. Universals have had, after all, a long and distinguished history. Astute philosophers have embraced universals. The idea that such philosophers might not have known what they were talking about sounds hollow coming from a light-hitting metaphysical middle infielder.

I am not arguing against universals, however, merely expressing my own inability to have a clear idea of what they are, what they do, and why they are supposed to help us understand the world.

David Armstrong thinks of universals as being wholly present in each of their instances. Sphericity is wholly present in every particular sphere. I don't get it. Yes, I know, universals are different from particulars. A particular sphere cannot be wholly present in two distinct places at once. But, Armstrong tells us, particulars are one kind of thing, universals another. This truth about particulars has no application to universals. It is unfair to try to think about universals using particulars as the model. But then I don't know *how* to think about universals.

Jonathan rejects Armstrong's conception of universals. Universals *have* instances but are not identical with their instances. Jonathan and Armstrong agree that universals depend on the instances; the instances are 'metaphysically prior' to the universals. It's easy to see how this might be so for Armstrong. A universal is wholly present in its instances; if there are no instances, there is no place for the universal to *be*. Matters are less clear in Jonathan's case.

Think of a situation in which some universal not previously instantiated comes to be instantiated. Arguably, this happens whenever we create a 'new' element in a collider. Now we have the instance and the universal. Do they come to be

together? The universal wouldn't have existed without the instance. This suggests an asymmetrical dependence of some kind. *What* kind? Once in place, the universal is supposed to be what it is *in virtue of which* the particular is what it is.[2]

Yes, I know, the idea that universals 'come into existence' is hopeless. But why? Imagine a world in which element *E* is created in a collider. The corresponding universal exists—presumably 'timelessly'—in this world. Now imagine a world, indiscernible from the first up to the moment *E* is about to be created, that ceases then to exist. In this world, there are no *E*-instances so no *E*-universals. Do the worlds differ universal-wise up to the *E*-creating event?

I am sure there are answers to such questions, but, I am at a loss to imagine what the answers might be. My impoverished universal concept lacks projectability.

Some will roll their eyes and note that, well, *come on*, universals are not *concreta*; universals are *abstracta*. Universals are not parts of the space–time edifice. Let it be so. But what exactly are we letting be so? What, for instance, constrains claims about *abstracta*? And how are *abstracta* related to *concreta*? We have the universal sphericity and we have the sphericity of this sphere. I like to think that, when the sphere rolls in a particular way, it rolls in that way because of *its* sphericity. What has the universal to do with this? How does appeal to the universal here help me understand why *this* sphere rolls?

Sphericity is what Jonathan sometimes calls an attribute. Let me note in passing that this use of 'attribute' differs from Descartes's and Spinoza's use. For Descartes and Spinoza, extension is an attribute. This attribute is possessed by

2. Jonathan tells us that universals 'depend non-rigidly' on their instances (a universal requires only some instance or other), but the instances 'depend rigidly' on the universals. Examples of rigid dependence are the dependence of a hole on its 'host', and the dependence of a heap of stones on the stones making it up (3, 1). It takes more than I have to move from these examples to relations borne by instances to the universals of which they are instances.

objects by virtue of those objects' being extended in determinate ways: being one meter square, for instance, or being crimson. By 'attribute' Jonathan means 'property or relation conceived of as a universal'.[3]

Instances of these attributes are modes. Here Jonathan's usage diverges from Locke's, Descartes's, and Spinoza's in a different way. If sphericity is an attribute, the sphericity of this sphere is a mode. Jonathan's modes are instances of universals. Locke's, Descartes's, and Spinoza's modes are not instances of universals, however, because, in their worlds, there are no universals.

Some universals, the 'characterizing universals', are attributes. But there is another category of universal: the kinds. Every object, this sphere, for example, is an instance of a kind (and perhaps of *many* kinds). The kind is not just a complex attribute. Indeed the relation the kind bears to an attribute is the very same relation borne by a particular object to its modes. This sphere's sphericity is a way this sphere is. Sphericity, the attribute, is a way the corresponding kind is.

One traditional function of universals is a unifying function. Particular spheres share a single property: many spheres, one sphericity. I have already confessed that I do not understand how this works. It will be no surprise, then, when I say I understand even less well how it works in the realm of universals.

Let me explain. The sphericity of this sphere, a mode, is distinct from the sphericity of any other sphere. I like to think that modes are 'non-transferable'. Jonathan would agree. Modes are dependent entities. A mode owes its identity to the object of which it is a mode. I think I have a grip on this.

But now consider a spherical kind. Sphericity is a way this kind is. Here, however, the situation differs from the mode case. Presumably many different kinds are spherical. (Or if they aren't, substitute some attribute that is shared among the kinds.) How does this work in the realm of universals? One and the

3. Jonathan describes both universals and modes as 'ways' (ch 1); see also Levinson (1978).

same universal characterizes distinct kinds. In the realm of universals, however, there is only *one of them*, only one sphericity. What is it for that universal to characterize this kind and to characterize this other distinct kind?

Some would regard this as a ridiculous question. It's of the essence of universals that they are shared. So *what's the problem*? I am not saying that there is a problem here, I am saying only that I don't know *what* to say. I don't find it illuminating to appeal to relationships between particular modes and objects to which those modes belong to explicate relationships between property universals and kinds.

So I have a couple of nagging worries. First, we now seem to have a one-over-many problem in the realm of the one. At this point, I find myself completely at sea. Second, you might think that, if the relationship between attributes and the kinds they 'characterize' is the same as that between modes and particular objects of which they are modes, then attributes are ways kinds are. In that case, they would seem to owe their identity to the kinds they characterize. But, according to Jonathan (chaps 7 and 10), the reverse is true: kinds depend both for their identity and for their existence on the attributes.

The characterizing relation, is an internal relation in which dependence goes one way in the case of particulars, and the other way in the case of universals. A mode is such that its existence necessitates, but is not necessitated by, the object it characterizes. So it would seem, turning this around, that kinds necessitate, but are not necessitated by, their attributes. I see how this works in a formal way: if you have a spherical kind, you have sphericity. But I wonder whether this sheds light on the characterization relation as it pertains to universals. You can't have a red ball without having red and spherical modes. Yet these modes identities are wrapped up in the ball's identity in a way the identities of attributes are not wrapped up in the kinds they characterize.

Let me put this more plainly. I see how the relation between a mode and the object it characterizes could be an internal relation: if you have the object and you have the mode, you have the object's being characterized by the mode.[4] But the internal relation between a kind and its attributes is a *different* relation, not one that illuminates what it is for a kind to be characterized by an attribute.

Undoubtedly there are tidy responses to each of these worries. I have the sneaking suspicion, however, that I will not be helped by those responses. I could be wrong. A part of me wants me to be wrong (at least about this). But I feel like Charlie Brown and the football; in the back of my mind I know as I rush toward the target, it will elude me.

Universals as Explanatory

Suppose we set aside these pathetic autobiographical worries. Suppose we learn to love the universals, including the kinds. One benefit is that universals explain so much. Well, we are assured that they explain much. I admit that I am not really very clear *what* they explain.

Appeal to the kind electron is meant to explain why all electrons are alike, the kind horse explains why all horses, insofar as they are horses, are alike. I can see how this might be so if you thought of the kinds as patterns or molds used by God to stamp out objects that populate the world. But this is not what Jonathan, Brian Ellis, and others who regard kinds as universals have in mind.

Perhaps the kind explains the fact that the properties of electrons (and horses) covary as they do. But what is the fact that we are explaining? The fact that there are electrons? No, that is something we turn to science to explain. The fact that the electrons are all alike and the horses are alike insofar as they are

4. As Jonathan notes, if you have the *mode*, you have the object's being characterized by the mode (10, 17).

horses? Well, it is a fact that the electrons and horses *are* alike. But is this a fact that requires explaining? As a lover of modes, I think of similarity as an internal relation: if you have the relata you have the relation. But if that is so, then the similarities we find among the electrons and among the horses seem not to require further explanation.

In what way might kinds 'explain uniformities amongst particulars' (10, 11). I will be told that the answer seems obvious: the particulars are alike just in virtue of being instances of a single kind. But how is this *explanatory*? There is the kind and there are the particulars, its instances. In what sense does the presence of the kind *explain* anything?

Suppose, following Locke, you thought that kinds were nominal. You would then have the name or the concept and its instances. It would be hard to see the name or concept as being explanatory, but why would a universal kind be any more explanatory? In each case we can say that individuals have the features they have because they are electrons. In the one case, they count as electrons because they are instances of a universal; in the other they count as electrons because they answer to the name or concept. In both cases we have a 'because'; in neither case do we have an informative explanation.

Perhaps kinds explain why we have electrons and not near-electrons. (A near-electron is just like an electron but differs in some small way: a near-electron might differ slightly in its mass.) Yes, but all it takes is one near-electron and we have the near-electron kind.

A 'particularist', Locke, for instance,

> cannot explain why all electrons have similar powers and liabilities in terms of structural or 'categorical' similarities between them. Above all, [a particularist] cannot explain in these terms why all electrons have the same

combination of powers and liabilities, and why certain other combinations of powers and liabilities are not to be found in any actually occurring species of fundamental particle. (10, 8)

We explain why electrons are alike by noting that they are instances of a single kind, the electron kind, that possesses all the electron properties. But how does the presence of this kind explain the absence of particles with other combinations of 'powers and liabilities'? The kind electron in no way excludes these other kinds, any more than particular electrons themselves exclude the possibility of particles with undreamt of combinations of properties.

So here I am. I can't see what exactly it is that the kinds are supposed to explain or make clear. I shall have more to say on this point presently. First, however, a look at dispositionality.

Dispositionality

Perhaps we can make progress by considering Jonathan's account of dispositionality. Here the idea is that an object, *x*, is *disposed* to *F* when (i) the kind of which *x* is an instance possesses *F*, but (ii) *x* is not *F*. This grain of salt is disposed to dissolve in water. Then the kind, salt, but not this grain of salt, possesses the property of dissolving in water.

Consider this electron, *e*. Let us suppose that electrons annihilate when they encounter a positron. So *e* is disposed to annihilate on encountering a positron. This will be the case, even if *e* never encounters a positron. But now the electron kind is supposed to possess the property of annihilating in concert with a positron. It, the *kind*, doesn't possess this property dispositionally; we are *explaining* dispositionality. So the electron kind *is* annihilating. Well and good, but it is also repelling other electrons and doing much else besides.

The picture here is of the kind as being God-like: wholly 'in act'. A kind *is doing*

all its instances *could* do. As the electron example suggests, one reason this might be hard to swallow is that some of what an instance of a kind would do apparently excludes its doing other things. An electron would repel other electrons. Presumably, then, the electron kind is 'characterized by' repelling electrons. But an electron would annihilate were it to encounter a positron. So the kind electron, in addition to repelling other electrons is annihilating.

I don't want to say that this picture is impossible, but I admit I do not understand it. I do not see how a kind could be, timelessly perhaps, characterized by apparently incompatible properties. My puzzlement stems not from deep philosophical concerns, but from something far simpler: I just don't get it. I don't see how it's supposed to work.

Nor do I see how it is supposed to help us understand dispositionality. Concrete objects never, or only very rarely, do all they *could* do. This matchstick would ignite were it struck. What it the truthmaker for this dispositional assertion? Suppose that matchsticks are instances of some kind, *K*, and that *K* is characterized by igniting-when-struck. The matchstick would also taste metallic were you to touch it to your tongue. So the matchstick kind is also tasting-metallic-when-tongue-touched. The matchstick would puncture your eardrum were you to poke it into your ear. So the matchstick kind must possess the property of puncturing-an-eardrum-on-insertion-into-an-ear. It's hard to see how all this—and of course this is but the tip of a dispositional iceberg—could characterize a single object, no matter how fabulous.

There is some hope here, because the object in question, the kind, is a universal, and it's hard to know what constrains claims about universals. If such claims are constrained by consistency, however, I'm at a loss to see how one universal could encompass so much apparently incompatible diversity.

Let me mention a more technical difficulty for Jonathan's position as I

understand it. This grain of salt would dissolve in water. Thus the kind salt is dissolving in water. The kind enters into or is characterized by a relation to the kind water. Of course this grain of salt might never dissolve; it might never come into contact with water. Still, it is water-soluble. Suppose this grain of salt exists outside the light cone of any water. In that case, although soluble, the grain *could* never dissolve. (I mean all this to be consistent with Jonathan's position.)

But now suppose the world were such that *no* salt is within the light cone of any water. In such a world would salt be water soluble? I am strongly moved to think so. Yet in this world there are no instances of the relation salt dissolving in water. This would suggest that, in the imagined world, the salt kind is *not* characterized by water solubility (and importantly, water is not characterized by the reciprocal universal). Jonathan seems to deny this, but I don't see how he is entitled to deny it given the idea that universals require instances. In a world where no salt dissolves, what connects solubility to the salt kind? The salt is there, *all* there, and *it* is soluble. But how could this be in virtue of the kind salt's dissolving?

As long as we are imagining worlds, let's imagine a world in which water, but not salt, is altogether absent. Would salt lack solubility in such a world? Why should it? Yet here, surely, it won't do to say that the salt kind includes solubility in water: the kind water is absent in a world lacking instances of water. Consider a universe consisting of a single, 'relaxed' rubber band. It would seem that it could be true of this rubber band that it would stretch (or that it is flexible). But there are no instances of stretching, hence no universals to characterize the kind of which this rubber band is an instance. Now imagine the rubber band is stretched. Here we have the universals neatly in place. But it is hard to see anything like an order of explanation moving from the universal to the

particular. It is hard to see that the rubber band is flexible *because* the kind stretches.

When you consider the endless dispositionalities possessed by every object, and when you recognize that only a tiny fraction of these will ever be manifested, you will not find it difficult to suppose that there could be dispositions present in the world but never manifested. Here I am thinking not of particular dispositions—the solubility of this grain of salt—but of types of disposition. It would be near to miraculous if there were not genuine kinds of dispositionality never manifested in the actual world. Jonathan appears to be committed to the denial of this apparent possibility.

In this regard Jonathan's conception of dispositionality resembles David Armstrong's. Both are a species of conception that seeks to explicate dispositionality in terms of actuality, both apparently hold that, if *F*'s are disposed to *G*, then some *F*, somewhere, *G*'s. Perhaps, however, we should admit dispositionality as a fundamental feature of the ontological landscape, a feature that cannot be reduced to the non-dispositional.

If you go this way, one important piece of the defense of universals falls away. We might not need—we might not *want*—to appeal to universals in accounting for dispositionality.

Kinds Real and Nominal

Armstrong's universals exist in, and only in, the spatio-temporal world. What of Jonathan's. Jonathan is cagey on this point: universals 'are not spatiotemporally located entities: they do not literally exist in the places or at the times in and at which their particular instances exist.' (10, 4). On the one hand, universals are immanent. This suggests spatio-temporality and scientific respectability. But immanence turns out only to mean that universals require instances. On the

other hand, universals are distinct from their instances. Universals are not *in* their instances, and not someplace else either.

Perhaps we can obtain guidance on this point by considering what Jonathan says about laws. Jonathan follows Armstrong in distinguishing law statements from laws themselves. Laws are universal states of affairs, kinds characterized by various attributes. A law expressed by the sentence 'Electrons have negative charge' comprises a kind, electron, characterized by an attribute, being negatively charged.

Laws on this view do not govern. Kinds do not influence or control their instances. Kinds are not cause-like. Indeed, any ontological dependence here goes in the other direction: kinds metaphysically depend on their instances.[5] This is the doctrine of immanence. So what is the role of kinds? What exactly do kinds explain? Well, electrons exhibit negative charge because they are instances of the electron kind, a kind characterized by being negatively charged. But for all they contribute, kinds might be shadows or (perish the thought) *terms* or *concepts*.

Someone who doubted universals might nevertheless accept the contention that electrons are negatively charged as expressing something like a necessary truth, though one subject to revision. Why is this electron negatively charged? Because it wouldn't be an electron otherwise. Both Jonathan and someone who embraced this more deflationary view will say this. Is Jonathan's answer somehow meatier, more ontologically serious?

Suppose you thought that law statements served a predictive function. Do the kinds have the upper hand here? Kinds don't direct traffic. We can say that any

5. Kinds depend 'non-rigidly' on instances; instances depend 'rigidly' on the kinds. As noted earlier, it is hard to see 'rigid' dependence as ontologically deep. At the risk of losing all credibility, I suggest that the dependence of instances on kinds resembles the dependence of dogs on the dog concept or term. If there were no dog concept, there would be nothing called a dog, although there might be plenty of dogs.

of their instances will, in similar circumstances, behave similarly. But we could say the same, substituting terms or concepts for kinds-as-universals. Suppose the concept of gold includes gold's being soluble in *aqua regia*. Then we can say that whatever answers to this concept is soluble in *aqua regia*.

My aim is not to replace kinds with terms or concepts, nominal kinds, but to encourage Jonathan to explain more clearly what advantage kinds-as-universals have over terms or concepts in this regard. Is it that an abandonment of kinds leads to rampant Humeanism? How so? Someone such as Locke who rejected universals might take modes to be powers. This gold dissolves in *aqua regia* because it has the power so to dissolve (and, significantly, *aqua regia* has the reciprocal power to dissolve gold). Notice that this gold's power to dissolve is a power to dissolve in *any aqua regia*; and this *aqua regia*'s reciprocal power is a power to dissolve *any* gold. Individual bits of gold are indifferent as to instances of *aqua regia*: any would do. Similarly, volumes of *aqua regia* are indifferent as to portions of gold.

Does any of this presuppose universals? If it does, I don't see how. It assumes that different individuals can be alike in answering to our gold and *aqua regia* terms or concepts. We might even think of the terms and concepts as expressing *kinds*. The kinds in question would not be universals, however, only collections of particulars similar enough to fall under the appropriate term or concept.

Lest anyone imagine that appeal to terms or concepts here is ontologically frivolous, let me remind you of two points. First, kinds conceived of as universals reside above the spatio-temporal fray. It is very hard to see them as anything more than pale reflections of goings-on in the world around us. Second, we do not invent terms and concepts *ad lib*. Scientific terminology reflects hands-on involvement with the world.[6]

6. It is worth nothing in passing that Enlightenment philosophers who had no use for universals

According to Jonathan,

> we can truly say of any particular instance of *aqua regia* that it has the causal *power* to dissolve gold and of every instance of gold that it has the causal *liability* to be dissolved by *aqua regia*. Indeed, in my view, the fact that a particular instance of *aqua regia* has the power to dissolve gold is simply a consequence of two more fundamental facts: the fact that it is an instance of *aqua regia* and the fact—the law—that *aqua regia* dissolves gold. In short, particular objects derive their powers and liabilities from the laws governing the kinds which they instantiate. (10, 7)

Jonathan says that the power of *aqua regia* to dissolve gold is a *consequence* of facts about kinds, that objects *derive* their powers from the kinds. To the unwary reader this might suggest a picture of the kinds as somehow operative in the spatio-temporal world. But the sense in which it is true to say that the power of *aqua regia* to dissolve gold is a 'consequence of' or 'derives from' a universal is hard to distinguish from the sense in which it is true to say that this is a 'consequence of' 'derives from' instances of *aqua regia being aqua regia* by virtue of answering to the *aqua regia* term or concept.

Going with Locke here is supposed to lead to Humean disconnectedness. Without the universals, it is mere cosmic happenstance that distinct bits of gold are all soluble in *aqua regia*. Jonathan again:

> For these philosophers, it would seem, laws must simply consist in regularities or uniformities concerning the powers and liabilities of particular objects. But how are such uniformities to be explained? Without the possibility of any appeal to universals, it might seem that such uniformities can amount to no more than cosmic coincidences. *I* can explain the uniform possession of a

were also major players in the scientific revolution.

> power to dissolve gold by all particular bodies of *aqua regia* by the facts that all of these particulars are instances of the same kind of stuff and that this kind of stuff is one in whose nature it is to dissolve gold—the latter fact constituting a natural law governing the kinds *aqua regia* and gold. But what can the opponent of universals say? (10, 7)

Imagine Locke noting that anything lacking the gold-dissolving power would not count as *aqua regia*. In what sense is it a better 'explanation' to appeal to a universal here? What explanatory advantage is there to saying that instances of *aqua regia* have this power because they are instances of *aqua regia*? It is hard not to see a proponent of kinds-as-universals as positing an entity—the universal—where none is called for, then claiming an explanatory advance.

You might worry that moving in Locke's direction makes powers, laws, kinds, and the like 'mind-dependent'. I don't see it. The objects possess their properties mind-independently, and the properties empower their possessors. Our singling some of these out for special recognition reflects our interests, but what is singled out is as objective, mind-independent as can be.

Three Little Puzzles

First, according to Jonathan kinds depend on attributes that characterize them. The dependence here is what Jonathan calls 'rigid existential dependence'. Examples of rigid existential dependence include the dependence of a hole on its 'host' and a heap of stones on the individual stones that make it up. Suppose kinds were bundles of attributes. In that case the rigid existential dependence of the kind on its attributes would resemble the dependence of a heap of stones on its constituent stones. But Jonathan is not a bundle theorist. Kinds are not made up of attributes, attributes are ways kinds are. Kinds, in this regard, are substances. This picture is harder to square with the thesis that kinds depend

rigidly and existentially on their attributes.

Second, Jonathan tells us that kinds are characterized by attributes, properties and relations regarded as universals. The doctrine is reminiscent of the idea that the forms are self-exemplifying. What's hard to understand, however, is how this could be so if universals are not (or 'not literally') in space and time. How could a kind be spherical, or dissolving, or rolling, or red if it is not 'literally' in the spatiotemporal world? Or are kinds not 'literally' spherical, or dissolving, or rolling, or red? If they are not literally these things in what sense are they characterized by these things?

Third, consider this grain of salt. It is an instance of the salt kind. The salt kind is dissolving in water, tumbling down an inclined plane, and reflecting ultraviolet light in a particular way, but this crystal is doing none of these. Why not? Why do some of the properties of kinds find their way into instances of those kinds and some do not? What is the selection mechanism here? It's hard to see how instances of kinds are in any way explained by those kinds when the kinds are one way, their instances another.

Conclusion

As noted at the outset, I do not regard anything I have said here as providing decisive reasons to doubt the existence of universals. At most, my observations suggest that defenders of universals need to provide those of us with tin ears better reasons for thinking that we couldn't live with out them. As a start, it would be good to have down to earth descriptions of the ontology universals, relations among universals, and relations of universals to particulars that do not rely on metaphor. If anyone can do this, Jonathan can.

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References

Levinson, J. (1978) 'Properties and Related Entities'. *Philosophy and Phenomenological Research* 39: 1–22.

Lowe, E J (2006) *The Four-Category Ontology : A Metaphysical Foundation for Natural Science*. Oxford: Oxford University Press.