Categories and Ontological Dependence

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When working out the structure of the world, and what depends on what, one of the important questions to address is how entities traditionally assigned to different categories relate to each other. What, for example, is the relation between things and events? Or events and instances of properties? Or any of these and states of affairs? Are any of these ontologically dependent on any of the others? Can we spell out this "ontological dependence" in any more specific or clearer way?

Connected with this question is a question about the categories themselves. Consider the category of properties itself (as opposed to just the properties that fall within it). Does it ontologically depend on anything else? Are there dependence relations between the categories themselves, as opposed to the members of the different categories? And if there are relations of dependence between categories themselves, or between categories and various non-categories, can we spell out this dependence in any more specific or clear way to illuminate it?

In this paper I want to do two connected things. The first is to explore, in general terms, some of the issues that come up when we start considering ontological categories and questions about relations of dependence between them (either between the members of one and the members of another, or between the categories themselves). The second is to discuss one particular way we could try to illuminate the apparent dependence relationships between categories (or apparent categories): by exploring and tentatively defending a particular account of how ordinary things are related to events, and how we might relate the putative category of "physical object" (or "thing", as I will call them) to the putative category of "event".

Talking About Categories

The technical term "category" has a long history in philosophy: and rather than trace that history, I will instead only try to be clear about what I will mean by the term. "Categories", as I use the term, are very general *kinds* of entities, where those entities are collectively very different from entities belonging to other categories. (I am thus using "category" in an ontological sense, rather than in a sense where a category is primarily a linguistic or conceptual or psychological entity.) Drawing up a list of categories, and specifying the relationships between categories, seems to have been one of the traditional tasks on the metaphysician's to-do list. Traditionally, it was thought by some that a list of categories could be drawn up which was exclusive and exhaustive: that is, everything would belong to exactly one category: though I will not insist on this here.

Aristotle is probably the original exemplar of a philosopher who offered a theory of categories (though it is notoriously controversial what that theory was): on one reading, he offered a list of ten categories of substance, quantity, quality, relation, place, time, "position" (which seem to be processes, e.g. sitting), states, actions and passions. (Aristotle *Categories* 1b25-2a4) A contemporary working in a broadly Aristotelian tradition, albeit with another strand of interpretation about Aristotle's categories, is E.J. Lowe, whose *Four Category Ontology* offers… an ontology of four categories, of particular objects, modes, kinds and attributes (Lowe 2007). Of course, many philosophers have wanted to say more in a theory of categories than just to list those categories.

One suspicion some readers might harbour is that "category" is best seen as a technical term specifically of Aristotelian and neo-Aristotelian metaphysics. But I think attributions of theories of categories, in my sense, can go well beyond metaphysicians who see their theories in Aristotelian terms. Early David Lewis, for example, had an ontology of concrete particulars, and sets, and nothing further: this seems to me a clear case of a two-category ontology. This sort of ontology seems to have been shared by Quine, at least some of the time. I specify the "early" David Lewis since categorising his later position is slightly trickier, after the introduction of natural sets and the at least temporary lack of

commitment on the issue of whether there were universals or tropes (Lewis 1983), and the later structuralism about classes (especially Lewis 1993).

One immediate and difficult question about categories is their metaphysical status. Are categories a special sort of entity, and if so what sort? If they are not a special sort of entity, how are we to understand category talk? Presumably if there are no such things as categories, we can still paraphrase many of the claims we want to make about categories as generalisations about the entities said to belong to those categories. Falling back on paraphrase does have serious limitations, of course, as e.g. Quine's early attempts to salvage nominalism attest. If category talk is best understood realistically, as about a range of genuine entities, presumably categories are general properties, or at least property-like entities. For convenience, I propose to talk for the rest of the paper as if categories are entities in their own right: even if they are not, presumably some sense can be made of this talk via paraphrase, or as a convenient fiction, or in some other way.

It is tempting to think that some categories of entity are fundamental, and some are not: it is a popular view that some of the entities of microphysics, like perhaps quarks and hadrons, are among the fundamental entities, and it is tempting that some entities like smiles and shadows are derivative. Furthermore, the notion of comparative fundamentality seems to make sense: maybe faces are not among the fundamental entities of the universe, but smiles might be less fundamental still than faces, for example by displaying the right kind of ontological dependence on faces and how faces are.

The fact that we can compare some pairs for relative fundamentality does not show that any two entities can be so compared, as if there were a great chain of being connecting everything to everything else. (Though such a chain would be convenient for some metaphysical purposes.) At least in some cases where one entity is less fundamental than another, it is because the less fundamental is grounded, in whole or in part, in the more fundamental entity; or because the former ontologically depends (or metaphysically depends) on the latter. One

could use these expressions in usefully different ways, and perhaps when the terminology settles down we will do so.

My suspicion is that the most interesting relationships in this area between categories, and members of categories, will be relationships whereby one ontologically depends on another: absolute measures of how fundamental two categories are, or even the comparison of those measures, will, I predict, seem less important. (The issue of what is most fundamental and what is not is of course an important topic, but this seems to come to the issue of which things do not ontologically depend on others at all versus which things do.)

The most interesting dependence relationships involving categories are usually going to be relationships between their members: e.g., on the Aristotelian picture, accidents depend on their substances. Will the categories themselves mimic the standard dependence relationships of their members? Supposing smiles depend on physical objects like faces, and that they belong to different categories, should we think the *category* of things like smiles depend on the category that faces belong to? I suppose if we think of the categories themselves depending on their members, if dependence is transitive we may get e.g. the category of sets depending on the non-sets if the sets depend on the non-sets: but even here it would be an extra step to have the category of sets depend on the *category* of non-sets. While relationships of grounding or dependence between the categories considered as entities themselves are a topic worth considering in a full theory of categories, my attention in this paper will largely be directed to how we might answer general questions about how members of apparently different categories relate: e.g. how properties relate to their members.

Dependence Relations Between Members of Categories, and Between Categories Themselves

Let us suppose that both talk about categories and talk about ontological dependence are in good standing, and turn to examining the options that face us

when we consider questions about the relative fundamentality of different categories, construed primarily as general questions about the members of the categories: how do members of category A relate to members of category B?

Independence

One of the most straightforward options is for one category to be entirely independent of the other as far as ontological dependence goes. There would presumably be independence between two categories which were each entirely fundamental; but categories might be non-fundamental and yet independent of each other because they stand in different chains of metaphysical dependence.

Independence is straightforward, but it does seem to block prospects of offering an account or explanation of the one category in terms of the other. In some cases no doubt this in entirely welcome. But many metaphysicians will not be happy with all categories being independent of each other, so independence will probably not always be the preferred option. The Aristotelian tradition has often gone with the idea that all other categories are somehow dependent on the category of substance, or of primary substances, for example. That could still allow for categories being independent as far as ontological dependence or relative fundamentality goes: there could be two categories which both depend on primary substance but which are not more or less fundamental than each other.

Elimination of One Category

In a case where it seems that entities of one category depend on entities of another, or a category itself seems to depend on another, we can avoid having to specify how this dependence works by denying that we have two distinct categories here. Eliminiativism about the mental is a well known extreme example of this: if there are no mental states at all, we get around having to explain the connection between mental states and physical states.

Elimination can proceed simply by rejecting the existence of a category and its members: we can dissolve the puzzle of how finite beings depend on an infinite

divine being altogether if we reject the existence of divine beings, and any special category that e.g. God might have been supposed to belong to. (That will still leave puzzles about what, if anything, finite beings depend on, but it will deal with questions like the question of how they depend on God, by rejecting a presuppostion of that question.) Eliminativism will often bring with it its own explanatory burdens, and may be well advised to find entities in the new ontology at least similar to some of the rejected entities. (Presumably there is something somewhat like pain in the world, even if eliminativism about the mental is correct!)

Demotion of a Putative Category to a Lesser Kind

Another way we can deal with a supposed case of one category being ontologically dependent on another is not to reject the existence of a category and its members (or most of its members) outright, but rather to decide that we did not have a case of relations between categories at all: that one (or both) of the supposed categories were not categories after all. Since I am not using a very theory-laden characterisation of what it is for a classification to *be* a category, I take it this will come to thinking that the two different kinds of things are not so radically different after all, so that it no longer makes sense to treat them as separate categories. One relatively uncontroversial example might be the case of living things and ordinary physical non-living things. Once we discover that vitalism is false and there are not two radically different sorts of matter in the world (living and non-living), it becomes more natural to see living organisms as of the same general kind as non-living things: perhaps even to see life as a complicated chemical process.

Sometimes deciding that one of the classifications we were interested in is not a category after all will feel unsatisfactory, at least when we are primarily interested in accounting for the relations between the *members* of the categories rather than the categories themselves. Deciding that living creatures do not form a category does little to help us work out how they might ontologically depend on non-living things (e.g. their chemical components or, on some views, the aggregate of their current molecules). But sometimes deciding that we do not

have distinct categories to relate because one of the alleged categories is not a category at all can be helpful, or so I want to claim. The example discussed in the second half of this paper is a case of this, or so I will claim.

Reduction by Identification of Categories

Sometimes when it seems we have two closely connected entities or phenomena, we really only have one entity or phenomenon under two descriptions or two guises. The way the positions of the morning star and the evening star seem to be correlated through the year is nicely explained when we realise the one is identical to the other. So it might be with categories. I suspect that reducing the number of categories we believe in through this method is relatively rare, since it would seem to require that every entity of each category to belong to both categories.

When reduction by identification is available, it offers two advantages over the "demotion" strategy. One is that it seems slightly simpler, since in the strategy above a story needs to be told about what status the "demoted" classification has, while no such further story is needed here; and the other is that the identification strategy does not require revision in one's beliefs about which classifications are categories: both apparent categories would indeed be categories, albeit the same category. These advantages seem minor at best, however.

Primitive Dependence Links

The four strategies canvassed above are all strategies for denying, one way or another, that we have a genuine case of two categories connected by relations of ontological dependence – e.g. that we really have two distinct categories, one of which is grounded in the other. What should we say, though, when entities of one category are all grounded in another, or are less fundamental relative to that category?

One recently popular move is to take the claim that one obtains in virtue of the other, or that one is metaphysically explained by the other, or that one is

grounded in the other, or one is relatively fundamental compared to the other, or some other such claim in the vicinity, as *primitive* and not further analysable – not just not further analysable for the purposes of that project, but not further analysable full stop. Examples include Fine 2001, Cameron 2008 p 3, Schaffer 2009 p 364. Distinguish Rosen 2010, who as I read him is claiming only that we *need not* provide an analysis or metaphysical account of these sorts of notions in order to be able to use them in good conscience in metaphysics.

Perhaps we will need to take some metaphysical resource in this area as primitive and not susceptible to a deeper account in other terms, but I think it is too early in the day to give up hope for a further metaphysical account of grounding, or ontological dependence, or any of the other members of this family of connected metaphysical resources. Or at least we might hope that in any particular case of relative fundamentality, grounding, ontological dependence or what-have-you there will be a further metaphysical story to be told – it might be that something like grounding is a genus of which other connections are species.

At the very least, presumably it is a good idea to explore alternative metaphysical hypotheses to those which postulate primitive connections in this family whenever there seems to be a metaphysical connection between entities of different categories.

Analysable Dependence Links

The final option on my list is that there are grounding links between distinct categories, but that we do not have to have any primitives in out theory like ontological dependence, or any of the related notions like grounding, fundamentality, metaphysical *in virtue of* etc. Positing relationships like this need not be the end of the story.

One way to try accounting for relationships of ontological dependence is to cite other sorts of relationships between entities. One entity might be a part of another, for example, or one entity might be an instance of another (as a particular is an instance of property), or one might be a set-theoretic member of

the other. One might even think that numerical identity could give rise to relations of ontological dependence or grounding – perhaps grounding is not always irreflexive, or even if the predicate "grounds" cannot yield a truth when flanked with the same referring expression, it may still be possible for a sentence of the form "a grounds b" to be true even when a=b, and maybe even because a=b. (See Jenkins, this issue).

Of course, merely citing the existence of a part-whole relation, or a relation of instantiation, or set-membership, or even identity will not do enough to uncontroversially establish the existence of a relationship of ontological dependence, let alone which direction that dependence will go. (Perhaps wholes depend on parts, but perhaps some parts depend on wholes; properties of objects might be held to depend on those objects, or vice versa, and so on.) More would need to be said about how internal relations of various sorts could serve to establish a relation of grounding, or ontological dependence, or relative fundamentality, or whatever, without the need to use any of those latter resources as theoretical primitives.

No doubt some of the options for providing further accounts in cases of ontological dependence have not even been articulated yet, and in any case here is not the place to try to canvass all the ways that might be tried. Suffice it to say that there are potentially many options under this heading for theorists.

The case study discussed in the second half of this paper seems to me to point in the direction of a satisfying account of how ordinary things might depend on certain events, for example – though as far as this paper goes, I will have little *argument* that it must be seen as delivering this benefit. Perhaps it only shows rather than says why it is a case where there is a further explanation of ontological dependence. It would be a further step to claim that these sorts of moves are available when genuinely distinct categories are involved, of course.

Part II: She's Really Happening

Above, I have stated what seems to me the options when accounting for apparent dependence connections between categories, and indicated that I think it would be good to have a further story about that grounding connection where it is available. The discussion in the previous section would be unsatisfyingly abstract, on its own: we would like to supplement a bare taxonomy of options with a sense of how exploring those options would go, and in particular how we might establish an ontological connection between two putative categories which, if correct, removes some of the mystery of how the two categories are connected. As a first step in that direction, then, I thought it would be worthwhile to discuss a particular proposal to integrate entities of apparently two different categories.

At first glance, there seems to be a distinction of a deep, categorial sort, between things like tables and chairs and people and stars, on the one hand, and events like cricket matches, window breakings, tumbleweed movements, match lightings, and so on. Furthermore, it seems that the two kinds of entities are intimately linked – no tumbleweed movement without a tumbleweed moving, for example. So we might well look for a view according to which one of these kinds of entity ontologically depended on the other. The most common way to do this traditionally seems to have been to have the events depend on the things (following the lead of Aristotle). Other strategies include nominalism about events of various sorts: if event-talk is really just indirect thing talk, for example, then we might hope to have an ontology only of things and not events in addition. Yet another strategy consists of "constructing" events as, for example, sets of entities of other kinds: Lewis 1986a defends a theory of events as sets of regions, for example. Provided we have a story about the grounding or fundamentality connections between sets and their members, such theories can yield answers about the fundamentality connections between events and the entities that are supposed to be their members.

The three approaches I mentioned in the previous paragraph are all approaches where the apparent fundamentality links are further explained – or in the case of identifying events with sets, at least the fundmentality link between events and

things is subsumed under a more general fundamentality link (between sets and their members) – that link, in turn, might be further explained, or it might be taken as primitive. The approach I want to outline, and defend in at least a preliminary fashion, is also one which seeks to explain the appearance of a grounding relation between things and events, without taking such a relation just as a primitive. The approach will be to suggest that things just are events – that every ordinary thing is identical to an event.

After outlining the particular form I think this view should take, offering some arguments in its favour, and parrying one kind of immediate objection, I will return to the issue of where this suggestion fits into the taxonomy of options offered in the first part of the paper, and the issue of whether it, in fact, does explain the appearance of grounding relations between events and things. The picture of events and things offered here is intended in part as an illustration of one kind of interesting option for explaining apparent grounding, but it is also hopefully interesting in its own right as a conjecture about the relationship between ordinary things and events.

Things as Events

Consider a particular comprehensive event that involves me: call it my "intrinsic life history". (The event I have in mind includes my "future history", not merely what has happened in my life so far.) It began when I did, it is always found where I am found, and is composed of all the sub-events that have to do with changes to my intrinsic properties. As I grow more massive, or occasionally become less massive, this intrinsic event involves those changes. If you were to chart its spatio-temporal trajectory, it would exactly match mine. (I take it most events have spatio-temporal trajectories - there are answers not only to when World War II was, but also where it was at different times, though obviously it was less well bounded in space than e.g. a football match or a chicken hatching.)

My intrinsic life history has an intimate connection to many of the same range of intrinsic properties that I do: when I possess an intrinsic property, it includes

the event of my possessing that property, and almost vice versa. Almost, since plausibly it includes events of my parts possessing intrinsic properties, and I do not have all the intrinsic properties that my proper parts do, though when one has intrinsic property *P*, I have the intrinsic property of *having a part which is intrinsically P*.

Furthermore, there seems to be a necessary connection between me and my intrinsic life history: I could not have failed to have one, and the one that I have could not have failed to shadow me in the distinctive sort of way that my life history does.[1] The view I wish to defend is that not only me, but all things are identical to their intrinsic histories.

(Do I suffer from vicious circularity in picking out the particular events I mean to identify things with here in terms of those very things? I do not think so: I am presupposing my audience has ordinary competence with both thing-talk and event-talk, and I assume that my audience is able to pick out things and their histories antecedent to grasping my theory. You already have that competence without falling prey to vicious circularity, as, I suppose, do I. If my project were to explain to someone who only had information about events, or concepts of events, which events the ordinary things were, then my specification may not be very useful – but insofar as I am indicating which event I have in mind to an audience who I presume is competent already both in thing-talk and event-talk, relying on the audience's competence with thing talk hardly seems illegitimate.)

I am not the first to maintain the view that things are events (or the entities I am calling events, which I suppose some would rather call processes). Process philosophers like Whitehead are obvious candidates to be precursors. One stage, at least, of Bertrand Russell seems to have had this view (Russell 1927). Quine notoriously thought that ordinary objects were the same general kind of thing as events (Quine 1960 171). And I have contemporaries: Mark Steen in Steen

[1] If changeless states do not count as events, and I could have been always changeless, not even undergoing creation or destruction, the necessary connection between me and my history would be less straightforward. I leave aside these complications for simplicity in this paper.

2005, for example, and Brian Weatherson in recent unpublished work (Weatherson unpublished).

I will resist the urge to trace the history of the doctrine in this paper. Despite this reasonably illustrious history, it seems safe to say that most philosophers are not yet convinced. So it seems worth presenting some arguments for the view, and some comments about what must be among the first objections that will come to mind for its opponents.

Before offering those arguments, it is worth making a few comments about what I intend to mean by "thing" and "event". Perhaps it is easiest to say what I have in mind by my use of "thing" to point to examplars: things are entities like tables and chairs and puddles and people and stars and hedgehogs… and so on. It should be clear that I intend to use "thing" more narrowly than its general use where it covers every entity whatsoever (and perhaps even the non-entities, if there are any). I intend to mostly be talking about "ordinary" things – finite entities in space and time, and I intend to leave out entities such as e.g. numbers or propositions. It is difficult to tell whether some entities (such as those of fundamental physics) are supposed to be very much like ordinary things as opposed to e.g. states. I suspect I will have enough on my plate arguing that ordinary "medium-sized dry goods" are things, and so if a reader focuses on those cases she should not be too misled, even though it seems to me that if the argument works for ordinary things it will work for many decidedly non-ordinary things as well. I will talk just of "things" from now on, though the implicit restriction to ordinary things of the sort indicated is implied.

Events require a little more comment. I shall take it that there are such things as events, which is not uncontroversial, but hopefully readers will already believe in football games, bonfire lightings, car breakdowns, rain showers, and many others. I shall also take it that events are located in space and time, and my view for what it is worth is that some are fairly directly perceivable: cricket matches, volcanic eruptions, and so on.

I intend to use the word "event" broadly to cover so-called processes as well as so-called events, performances as well as activities, and in general to cover all sorts of occurrances and happenings. (See Casati and Varzi 2006 for a discussion of such proposed distinctions.) An issue arises about how "fine grained" events are: whether there can be two events involving the same thing in the same place at the same time, for example, such as a sphere spinning and also a sphere heating up. I am inclined to think they are fine grained enough so that these should be counted as distinct events, though if events are coarse-grained enough so that this does not normally happen (e.g. on Davidson's view), I suspect that would only help the case that we can identify some with things.

My comments above on events leave many philosophical questions about events unaddressed. It does seem a virtue to be relatively neutral about many of these issues for the purposes of this paper. Of course it is important that I do not presuppose some view of events inconsistent with the hypothesis that they are things. Indeed, resolving whether any such theory of events is correct should presumably not be done in isolation from the arguments that ordinary things are identical to events, so it seems right to not decide any such question about events in advance of those arguments.

Arguments For the Theory that Things are Events

I shall begin by setting one traditional kind of argument for things being events aside. This kind of argument, which has been quite influential at times, is that science, or in particular theories in fundamental physics, works best with a fundamental ontology of events or processes or states rather than things more normally conceived: and it is sometimes further suggested that since these theories do not postulate things distinct from events (/processes/states), neither should metaphysicians. Further, according to the argument, not only should we not postulate independent events, we should not even stay neutral on the issue but should reject the existence of things distinct from events.

The main reason why I wish to avoid discussing particular arguments in this genre is that, when they are any good, they turn on issues of interpretation or evaluation of physical theories that are complicated and usually require a good deal of information about the physical theories, and the evidence for those theories, to evaluate. Furthermore, the detail matters in different ways for different physical theories. There is a case to be made that the best way to understand relativity theory is with an ontology of point-events on worldlines. There is a case to be made that field interpretations of the standard model are to be preferred and that the postulated fields are more state-like than thing-like. And there are a number of other ways to try to find support for an ontology without events and things as belonging to distinct ontological categories, some involving even more up to date physics.

While such arguments are important, establishing *either* that a given theory needs only events and not things in addition in its ontology *or* that a given theory's ontology is so privileged that we should not postulate things unless that theory does so would be tasks that would require at least paper-length treatments of their own, and both would have to be carried out successfully to make such an argument work. Even if such an argument could succeed, I should not attempt it in this paper.

1. The Argument from Parsimony

I expressed a preference, above, that we should believe in fine-grained events and states, rather than only Davidsonian sort which include everything going on in a given space-time region. Things seem not so fine grained: the sphere-heating-up and the sphere-spinning are the same sphere, presumably, but different events.

Armed with fine-grained states, we arguably do not need anything else to construct a theory of the world sufficient to predict and explain the course of experience, answer questions about what causes what and what general patterns there are in the world, and so on. Suppose, (maybe *per impossibile*) that there

were free-floating states in a world distributed analagously to the states in this world: some parts of the world would include gains or losses of mass, some surfaces would have light-reflection events occur on them, some seeings would be caused by some light-reflection events, and so on. The correct predictive theories of that world would do rather well to predict the course of events in our world, even if those theories left out any mention of underlying distinct things.

If there is no need to add things that are in addition to the states that we should in any case accept, parsimony suggests that we should not postulate this extra kind of entity. The issue is, of course, whether there *is* any need to postulate a separate category of things, which might arise even if we admit that the states only theory from my envisaged world can predict, and offer explanations for, many of the states we find in our world.

For one thing, the person who takes things to be in a distinct ontological category from events will likely think that the theory from my imagined world would be silent or mistaken on many of the important questions in our world: where the things are, what they are like, and so on. It is hard to evaluate whether an additional postulation is needed or necessary for a theory when there is not even much agreement on what is to be predicted or explained: someone who thinks that we need theories to predict and explain both the states discussed and also a separate category of things will think that the sort of predictions and explanations offered by the cut down theory are unsatisfactory: they predict and explain less than is necessary.

This sort of stand-off about what needs to be explained, and so what theories postulate enough ontology to do the requisite explanation, seem to me very difficult to adjudicate to the satisfaction of both sides. Still, it must be conceded that there is at least a *prima facie* case that the theory being argued for is more parsimonious than a theory that accepts all the events in question *plus* additional things as well.

As well as a direct appeal to fewer entities being postulated (and at least one fewer kind of entities being postulated), a theory may secure a valuable parsimony advantage by making fewer postulates that are distinctively worrying. The next argument in favour of identifying particular things with particular events might be particular forms of parsimony considerations – parsimony about necessary connections of a certain sort. I am not sure whether forcing the next consideration into the mould of a parsimony consideration is procrustean or not, so I will list it as an argument separate from the parsimony argument.

2. Solving the Puzzles of Necessary Thing-Event Connections

Whenever I stand up, there is an event, a standing up. Furthermore, this seems so of necessity - plausibly, there are no possibilities where I stand up but there is no standing up. As well as this necessary connection, there seem to be a range of necessary connections between me when I stand up and the event: there has to be a standing where and when I stand, and other features of me are reflected in what sort of standing up it is, and vice versa. (I cannot stand up quickly without a quick standing up, for example.)

There are plausibly necessary connections the other way. There cannot be an event of standing up without something standing up (or perhaps some things standing up collectively). When such an event occurs, something stands up: and it is not that the event causes the thing to stand or vice versa. So there seem to be deep necessary connections between two very different sorts of entities - entities like me, on the one hand, and entities which are events, on the other.

We would like a theory to explain these necessary connections, and the millions of others that connect events and the things that figure in them. The connection between me standing and the event seems part of a much broader pattern of entity-event connections, and as well as telling us which are connected to which, it would be desirable to have an explanation of these connections.

One way for a theory to account for these connections would be to set out a range of necessary principles of event-theory, axiom by axiom, together with a story about how we came upon such a rich range of necessary truths, and why these principles should be seen as necessary rather than just a theory of how events and things happen to interact contingently. (Perhaps the range of fundamental event principles are delivered directly by metaphysical intuition?) But we might hope to do better. A particular reason why we might hope to do better is that it does not feel like we really have two very different phenomena to be connected here (with necessary connections or otherwise): thinking that the event of my standing up is very different from me standing up can almost strike one as metaphysical double-vision.

It is not enough to explain these necessary connections to just say that me and the event of my sitting are both events, of course: arbitrary necessary connections between different events are no less mysterious than arbitrary necessary connections between different things. But I think it can be part of the explanation, when put together with a theory of how smaller events are constituents of bigger events. Here is not the place to essay a general theory of the relations between events: but the idea would be to explain the necessary connection between my sitting down and a larger event that is a candidate to be me in the same way that we might explain the necessary connection between the truth of "I am bipedal" (a predication of me rather than anything else) and the existence of two objects, my legs.[2] More carefully, we might insist that there is a necessary connection between the event of my sitting down and the event that is me because of a necessary overlap between those events - the event of my sitting down arguably essentially involves aspects of the environment distinct from me, such as a surface on which to sit. But it seems to me to involve some events intrinsic to me too.

[2] Of course, in one sense of bipedal, an animal is bipedal if it belongs to a species which typically possesses two legs - in this sense amputees and those suffering from birth abnormalities are bipeds too. I believe there is another good sense such that something is bipedal iff it has exactly two legs (or maybe the legs plus feet).

Even if you complain that there are still mysteries here in accounting for necessary connections between events, at the very least we have reduced two mysteries to one. Whatever we say about things, we already face the challenge of explaining why, necessarily, when I wink in the day that wink is part of my day's activities, and necessarily part of my intrinsic history (but not necessarily part of the daily occurrences in my office, even if it is in fact part of those occurrences). If the necessary connections between things and events are a special case of the necessary connections between events which we anyway recognized and had to explain, we reduce two problems to one.

It is worth noting that when I spoke of necessary connections between entities, I have wanted to stay rather neutral about whether these necessary connections are best understood as *de re* or *de dicto*: whether there is a necessary connection between this entity and this one, or whether rather it is necessary that there be such-and-such a connection between entities described in certain ways. In fact, I suspect many of these connections do not fit the paradigm of *de re* connections. While it is necessary that when I sit, there is a sitting, I do not wish to claim that I could not sit without that very sitting - another event of sitting could occur instead. (Perhaps the event of my slumping in a chair is distinct from the possible event of my assuming the lotus position on a concrete floor or being pushed onto a throne: even if I actually slumped on a chair, perhaps I could have sat and been associated with one of these alternatives instead.) There often seem to be matters of generic dependence (or its inverse): the event could not exist without my sitting somehow, and my sitting could not have happened without some sitting event. Again, the details of the exact way we should spell out the apparent necessary matters of thing-event connections need not be spelled out in detail, but I thought it worthwhile to signal this variety of options lest the reader be misled by a too narrow conception of what it is for there to be a "necessary connection".

I do not wish to claim that the only satisfactory potential explanation of the apparent necessary connections between things and events involves taking things to be a variety of event. My guess is that contemporary philosophy is still

in the early stages of canvassing the options for accounting for apparent necessities, and my guess is some theories may want a role for things as a distinct category here. (One might think one needs a distinct category of things as a "glue" between different events to help explain the connections between those events, for example.) So it is unlikely that this second consideration in favour of identifying things with certain events will be decisive on its own.

Whether or not the consideration about necessary connections is in some sense a special case of the parsimony advantage, I think it is important to take note of it in its own right. Discovering that different kinds of talk are criss-crossed with necessary connections can sometimes clue us into thinking that the talk is not about radically different phenomena (compare, for example, the way that the interconnection of talk about me as a person and my mind goes along with reasons to suppose I am not entirely distinct from my mind). Necessary connections also seem to call for particularly metaphysical explanations, or at least philosophical ones: and while in principle it must surely be an option to resist such calls, it can be a particular advantage of a metaphysical theory that it holds out the prospect of satisfying explanations here.

3. The Argument From Borderline Cases

According to the view I am most concerned to oppose, things and events belong to different ultimate ontological categories: there is a deep difference of kind between my arm and the waving of my arm. However, there seems to me rather to be a continuum of intermediate cases between paradigm things and paradigm events. Rather than identifying some point at which to locate the crossing of fundamental category, I think it would be better to deal with these continua, and particularly the intermediate cases in them, by allowing that things and (non-thing) events belong to the same ontological category and that the line between them is not a very deep one, and may as a result not even be a particularly sharp one - to the extent that we leave some entities uncategorised, there is no deep distinction in reality to sort them into one pile or the other. [3]

[3] These hard-to-classify cases need not be "borderline" in any sense related to vagueness.

A match lighting is a paradigm event, and its burning down and going out is a pretty standard event too. The match itself is supposed to be a thing, as is, for example, a tree, or a forest for that matter. (One might think that talking about a forest is only plurally talking about trees: but we count forests, talk of them growing and shrinking, and so on. In my view it is a mistake to not be able to see a forest for the trees.) What about a forest fire? Some things we are inclined to say about them make them seem like events: they start and finish, they can happen (particularly in dry summers), and trees and forests seem to be things that participate in them. Other things that are said about forest fires make them seem more like things. They can move from place to place, they can grow or shrink, they take up space. They consume things like trees and leaves. It is very natural to talk about them in ways analogous to the ways we talk about living creatures: metaphors of forest fires eating and being hungry, racing or moving slowly, thriving or not, and so on. Notice that these analogies are with living creatures, not just events that involve living creatures.

There are respects in which forest fires are unlike living creatures, and also unlike simpler things that may go through a forest destroying it, like a bulldozer. Bulldozers are more long-lived than forest fires, have a more sophisticated process bringing them into existence, and are artifacts (though I suppose some forest fires are arguably artifacts, at least those that are deliberately lit). Forest fires, if they are things, are less dense and solid than bulldozers. Despite these differences, it is tempting to see a forest fire as a more transitory and disperse entity of the same basic category as a bulldozer or a colony of soldier ants or a deer.

On the other hand, it is tempting to see the forest fire as at the end of a continuum of events. The forest fire that rages for days through a forest does not seem different in kind from the burning of a single match. Perhaps fires on matches raise the same kind of trouble as forest fires. How about other oxidisation processes? Consider the rusting of a piece of iron - the not very spectacular event that may occur on a patch of exposed iron on the side of a

beached ship, for example. That is more boring than a forest fire in various ways, only happens to one thing (or a number of very similar things, if different pieces of the iron are to be counted as different things), and it seems rather like a paradigm event or process. That rusting seems of the same basic ontological category as a forest fire.

Or consider another example. Most people know there is a striking large red spot (called the Great Red Spot) on Jupiter. It is several Earth diameters across, and has been a stable feature of Jupiter since we had telescopes. Many spots are things: pimples are things, for example, and plausibly spots on mammals are patches of fur or skin. Many of the entities we see on the surfaces of planets are things: oceans on earth, or craters on the moon. "Being spotted" might be a state or an event, but a spot itself does not seem to be one.

It is widely agreed that the Red Spot is a storm. Storms are normally thought of as events: they occur, they start and finish, and so on. The Red Spot stands in the middle of a continuum that has shorter-lived atmospheric events on one side and more stable "thing-y" sorts of visible surface entities on the other. Is there a deep question to be decided about whether The Great Red Spot is a thing or an event? Or does it seem to be a case we could treat one way or the other, depending on what was convenient, without thereby risking a deep ontological mistake?

Once we recognize that there are entities that seem as well classified one way or another, I think the best thing to do is to think that the event/thing distinction is not one of a fundamental difference in the world, but a somewhat arbitrary and anthropocentric one which we draw, or do not bother drawing, as seems helpful for us. Then we can safely think that where to classify forest fires, parliaments or the Great Red Spot is a decision to be left unmade, or that if they do fall on one side of the line or the other this does not a matter of important metaphysical discovery but rather of how our talk and thinking happened to go.

This could be resisted in a number of ways, I take it. One way would be to meet the challenge head on, classify the dubious entities one way or another, and argue that despite appearances these are after all very unlike things in the way that matters (or very unlike events, depending on the view). A slightly more sophisticated response would be to say that there are two entities in each case, one an event and one a thing, and our apparent willingness to talk of these entities first one way, and then the other, is because we do not carefully distinguish the two that are there. Perhaps there is a thing that exists where and when the forest fire does and it does the things we attribute to the fire in a thing-y way of speaking, and there is also an event (the firing of the forest, perhaps), which occurs where and when the fire is and includes the smaller events that make up the overall firing. A spot *and* a storm where we see the Great Red Spot, and so on.

If this strategy is pursued, the question then arises whether there is a thing corresponding to every event: is there a "rust", of the category "thing" rather than "event", where-ever there is some rusting? A "strike" thing whenever a match is struck? If things are not this abundant, we might reasonably ask where they give out and what the principled theory of this is. We will also probably get another continuum of like cases with a sharp ontological transition within them around the place where the underlying things give out. On the other hand, suppose we are sufficiently abundant with the entities of the category "thing" so that there are things which are fires, rusts, strikes, storms and the rest. This theory is arguably revisionary of common-sense about what things there are, and perhaps more violently so than the view that things are a special kind of event. Given this, the best response to these cases seems to be to allow that things and events are of the same general kind or category: and if they are of the same general kind of entity, then characterising them all as events, at least in my generous sense of "events", seems the natural theoretical move to make.

Dealing with Two Related Objections

A stock move in contemporary metaphysics when one wants to argue that there are distinct entities where others believe in only one is to consider temporal and modal features of the putative entities involved. It can be tempting to identify a piece of bronze and a statue when presented with a bronze statue: but the observation that the bronze pre-existed the statue, or that the bronze could survive flattening but the statue could not, are often offered as arguments that the two need to be seen as distinct.

Similarly, objections based on the different modal and temporal features of events and things are obvious initial responses to the hypothesis that things are identical to certain events. The objection that events have arbitrarily short "temporal parts" but things do not is a common one. The modal case seems even stronger - I could have had a different history to the one that I have, but surely my history could not have been a different history from the one it is. Let me deal with these objections in turn.

As it happens, I believe the best theory of how ordinary things exist through time is a perdurantist one, according to which they exist at different times by having different temporal parts at those times. But those who think the best theory of the existence of things through time is a non-perdurantist one, and who are not inclined to revise that judgement in the light of the prospect that things might be identified with events, only have an objection to identifying things with events on the above basis if they can also maintain that all events which exist through time do so by having distinct temporal parts at different times.

However, it seems to be a live option to hold that events (or some entities in this general class) exist across time without perduring. Indeed, if a number of the arguments against things perduring were persuasive, they would tend to show that not all events perdure either. Thompson's "crazy metaphysic" argument, which complains that "new stuff… keeps coming into existence *ex nihilo*" (Thompson 1983 p 213) as earlier temporal parts are replaced with later ones, would seem to also apply to a theory which held that new stages of my history keep coming into existence, replacing the stages of my history that existed only

in the immediate past. On some views of objects composed of temporal parts, they do not change: Mellor defines change as "a variation in a real property of something, provided the variation does not reduce to a difference between different parts of it" (Mellor 1981 p 9), which implies that perduring events (and perduring things, were there any) do not change, for example. Given the apparent fact that some event like things do change – Cricket matches become more or less exciting, wars become bloodier, or expand or contract – those who hold, for whatever reason, that perduring entities cannot change would be well advised to think that events like these do not perdure. It seems to me that many theorists who deny things perdure would be well advised to take various events (in my generous sense of "event") to not perdure, and consider identifying things with certain of those events.

What, then, about the modal problem? If I could have had another history, then consider a world where I do. It contains me, but does not contain my actual history. Presumably I could not be identical to my actual history in that world (otherwise it *would* exist in that world), and so by the necessity of identity I am not identical to my actual history here. Another version of this argument appeals to Leibniz's Law rather than the necessity of identity: I could have existed without my actual history, my actual history could not have existed without itself, so something is true of me that is not true of it, so we must conclude I and my history are distinct.

There are a number of responses available to this challenge. I am convinced that *de re* modal predications are *inconstant*: that is, which modal claims concerning an entity are true can depend on how that entity is picked out in the claim. (see Lewis 1986b 248-263). The most famous theory of *de re* inconstancy is counterpart theory, but there are a number of other modal theories which give this result as well (I include various contingent identity theories such as those of Gibbard 1975 and Gallois 1998 under this rubric). If one of the standard stories about *de re* inconstancy is correct, then we can deal with these apparent modal differences easily: talked about as a history, an entity has one modal profile associated with it, talked about as a thing, another.

If inconstancy of *de re* modal predications is rejected, or it is allowed modal predications are somewhat inconstant but not *this* inconstant, then all is not lost for the things-as-events view. If there is no *de re* inconstancy, we would like some other explanation for our tendency to sometimes treat different possibilities as involving the events of this world and sometimes alternative events, even when the descriptions of those possibilities are very similar. When making a choice about what to say next in a discussion, I can describe myself as making choices about the course of a particular conversation which could go various ways, or I can describe myself as choosing between alternative conversations to have. One way to understand what is going on here is to think that there are a number of conversation-like events present: one is modally flexible enough so that it could go different ways, and another only exists if the conversation sticks exactly to its actual track.

In any case, we want to distinguish events of different "grain". We want to distinguish Smith's talking from Smith's talking loudly, even though these two events involve talking. Once we recognize two events, a talking and a talking-loudly, it is natural to think that these have different modal features: the talking might be loud or soft, but the talking-loudly would not occur were Smith to only talk softly. This multiplication of events seems even more well-motivated than the multiplication of things favoured by those who wish to distinguish e.g. the statue and the lump of clay on the grounds that the statue could do things that the lump could not and vice versa.

Armed with such a multiplication of events, with differing degrees of modal flexibility, the things-as-events theorist has a response to the modal worry. She can allow that the event we normally pick out with language like "Smith's history (including future history)" may be less modally flexible than the entity we pick out e.g. with the name "Smith". But as long as there is *an* event including the intrinsic happenings in Smith's life that exists if, and only if, Smith does, there is no modal objection to the claim that Smith is identical to *that* event.

Indeed, it may even have been the event that the things-as-events theorist had managed to pick out all along: given the multiplicity of history-ish events that there are, and our flexibility in going back and forth in describing alternative scenarios as having my life history with some qualitative changes, on the one hand, and an alternative life history for me, on the other, there seems to be features of exactly which events are being picked out that is determined by semantic context, speaker's intentions, or something in this vicinity. The things-as-events theorist is just as entitled to use the resources of English to describe events as her opponents, and seems free to pick out the event that she intends as the candidate event to identify Smith with. Even if this claim about the flexibility of English idiom is not successful (perhaps our talk of events is often indeterminate in reference because of multiple candidates for reference, rather than made true by some extra determination of reference, for example), the central metaphysical point stands: there are plausibly events with the right modal profile to match things, and the things-as-events theorist can identify things with the events that have the appropriate modal profile.

This Theory of Things and the Verdict About Categories

Hopefully enough has been said to illustrate the example theory in question, and why it might be taken as a serious conjecture about the relationship between things and events. If it is accepted, it would presumably do justice to the suspicion that things and events are not ontologically independent – that somehow there is a relation of ontological dependence between how things are, and how the events that involve those things are. According to the view outlined, things are identical to certain events, and so presumably the connection between things and *those* events is not particularly mysterious: being self-identical is a pervasive and presumably well understood phenomenon.

The connection between things and the events we are more likely to refer to in event terms in ordinary discussion, like sittings, kickings, growings and shrinkings, etc. will also hopefully be able to be specified without appeal to unanalysed ontological dependence: some of these ordinary events will be literal parts of the intrinsic histories (such as a stomachache), and some will

overlap these intrinsic histories (throwing a ball will be an event which is in part a part of the thrower's history, and in part a part of the ball's hisotry, for example, and the throw may even have parts outside both, if e.g. it involves some air movements). The relationship of part-to-whole, as it applies to events, is also the sort of thing which might plausibly help to explain cases of (at least partial) ontological dependence between events.

So the picture denies that there are categories of thing and event that are ontologically independent of each other, and also holds out the prospect of avoiding having to postulate primitive relations of ontological dependency between things and events. Presumably the plausible thing to say, if we adopted the view described, would be to deny that "thing" as I have been using the expression is associated with a category at all: "thing" is just a sub-classification of "event". Presumably for all the theory above has said it might even turn out that "event" is not itself a category: in fact, I would be inclined to think that events are just states of affairs that involve change, and that the categorial distinction in the area is between the category of states of affairs and categories that other entities belong to. But for present purposes let us just assume that "event", at least, marks a categorial distinction.

While I suppose that one could believe that "thing" was still a category (albeit that all things also belonged to the category "event"), presumably that will seem like a strange reaction if the outlined theory is accepted: there does not seem to be anything so special about intrinsic histories that would justify thinking of them as a radically different kind of thing from other ("non-thing") events. So the view is, I take it, best categorised by my option 2, the "demotion" option, about the classification "thing", though it does not in any way get rid of the things themselves.

This model will probably not be suitable to explain all apparent ontological dependence between categories, and we should be wary of any "one size fits all" approach to the topic. My aims here have been more modest than offering a universal solvent: I will have done enough if, firstly, the issue of ontological

dependence between categories and entities of different categories receives some more of the attention it deserves, and secondarily, if the hypothesis that ordinary things are events at least receives enough of an airing so my readers can tell me why they think that hypothesis is to be rejected.[4]

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