

Minimalism and Coincidence: Comments on Varzi

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ABSTRACT

Achille Varzi [2000] has suggested a nice response to the familiar argument purporting to establish the existence of perfectly coinciding objects – objects which, if they existed, would trouble mereological extensionality and the “Minimalist View” of ontology. The trick is to defend Minimalism without tarnishing its status as a meta-principle: that is, without making any first-order ontological claims. Varzi’s response, though seeming to allow for a comfortable indifference about metaphysical matters peripheral to Minimalism, is not general enough to stave off attacks on extensionality from more sophisticated corners. However, Varzi’s argument bears a kinship with a more general argument against coincident objects. I consider how such an argument sits with the meta-doctrinal status of Minimalism.

The Cat and the Catstuff

I want you to consider first off, without preface or context, two questions: (I) *Can a cat survive the loss of its tail?* and (II) *Can a certain quantity of stuff survive the loss of any of its parts?* A natural answer – one that accords with so-called “ordinary intuitions” – calls for mereological essentialism regarding quantities of stuff but denies that doctrine when it comes to cats. Such a stance, however, leaves the door open to a well-known argument for the existence of perfectly coinciding objects, the existence of which runs contrary to other ordinary intuitions.¹

Cast the argument like so: Let ‘Tibbles’ name a certain cat and ‘Tib+Tail’ name the mereological sum of Tibbles’ body and her tail – or if you like, the quantity of “catstuff” or collection of simples, out of which Tibbles is made. According to our natural stance:

- (1) Tibbles can survive loss of its tail,
- (2) Tib+Tail cannot survive loss of its tail.

But then there is a property which Tibbles has and Tib+Tail lacks: Tibbles, but not Tib+Tail *can survive loss of a tail*. So they must be distinct. If the argument is sound,

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¹ The questions of whether this stance *is* natural or whether there is at bottom any sense to such a compliment are quite beside the point here. I mean to use “natural” only as a convenient label. The important question is how this stance troubles mereological extensionality.

then there are coinciding objects – distinct objects which simultaneously share exactly the same parts.²

Objects overlap by sharing some parts. This seems common: I overlap my heart, Broadway overlaps 116th Street, Tibbles overlaps her tail, and so on. Objects coincide when they share not just one, but all their parts. Some philosophers think that coincidence is also common. If so, mereological extensionality, the principle that there may be only one whole for any collection of parts,³ is commonly violated. Distinct, coincident objects are incompatible with the meta-doctrine Varzi (2000) discusses: Mereological Minimalism. Minimalism aims for perfect coverage of the whole of the material world somehow carved-up, avoiding omission and repetition.⁴ A Minimalist inventory may include an entity just in case that entity does not overlap any other entity already included – hence Minimalism is true only if mereological extensionality is.⁵ The resulting picture resembles the current state of political geography: no “no-man’s land” and no overlapping countries. In the case of Tibbles, the critic of mereological extensionality (call her the “Twoist”) claims that a complete ontology includes two entities: the cat *and* the “catstuff”. The Minimalist champion of extensionality (call him the “Oneist”) must hold that just one is admissible.⁶ But which one deserves a place? Defending Minimalism by taking an explicit stance on the existence of cats or catstuffs does violence to the second-order status of Minimalism. Minimalism, qua meta-principle, should not have to rule on such matters.

Varzi accompanies the proposal of Minimalism with a nice diagnosis of the above argument contra extensionality that affords Minimalism’s sought-after indifference. He notes first off that the argument’s *prima facie* plausibility depends on a *de dicto* reading of the premises – a reading on which the argument commits a modal fallacy. But taken *de re*, Varzi argues, the argument begs the question of whether Tibbles and Tib+Tail are distinct. For ascription of different properties in this case is tantamount to supposing in advance that there are distinct things to which we ascribe the properties. Varzi writes:

If Tibbles is not Tib+Tail, then fine, we are talking about two different entities, and perhaps we can say that both (1) and (2) [taken *de re*] are true. *But this opposition would be prior to our thought experiment – it cannot be inferred from it and calls for inde-*

² We might, however, take care to distinguish between “mereological composition” and “material constitution”. Mereological composition is the relation parts bear to the whole they compose whereas material constitution is the relationship between the whole and the “material” of the whole. Tibbles has certain parts, Tib and Tail among them. But according to some, she is also *constituted* by a certain quantity of stuff. Perhaps this would be easier to make sense of if we were talking about objects made of atomless gunk – for otherwise I’m not sure how to think of a quantity of stuff except in the mereological sense of a collection of parts of a certain kind. What should be clear, however, is that Tibbles’ *material* coincidence with a constituting quantity of catstuff does not violate mereological extensionality unless the *stuff* has the same parts as the *cat*. This distinction might be maintained all the way down to Tibbles’ most simple parts (if such there be), where each simple would be likewise *constituted* by some quantity of stuff. Some might be content to leave it at that, mereological extensionality untroubled. More likely, though, philosophers will have a problem with the thought of a partless object being constituted by (and thus coincident with) a distinct quantity of “stuff”. So let us here continue to speak about “quantities of stuff” in the mereological sense.

³ (ME): $(\forall x)(\forall y)((\exists z)(PPxz \vee PPzy) \rightarrow [(\forall z)(PPzx \leftrightarrow PPzy) \rightarrow x=y])$

⁴ Varzi (2000), p. 287. Note that ‘omission’ and ‘repetition’ are meant exclusively in their mereological senses.

⁵ *Ibid.*, p. 285.

⁶ The names for these respective positions should be, more accurately (but more clumsily), the “No-More-Than-One”-ist and “at-least-Two”-ist.

pendent grounds. We can't distinguish two entities by looking at their properties unless we already know what they are, at least unless we already know whether they are distinct.⁷

So we don't have to decide which premise is false (indeed, it might be that neither is false) – nevertheless, the argument fails to establish its conclusion and Minimalism is in the clear.

Though I think this response will not work as a general defense of Minimalism, it raises an important point about the propriety of appeals to Leibniz's Law. Consider its "Indiscernibility of Identicals" formulation:

$$(II) \quad (\forall x)(\forall y)[x=y \rightarrow (\forall \Phi)(\Phi x \leftrightarrow \Phi y)]$$

From left to right, (II) is not very useful: everything has just the properties that it has. Contrapositively, the principle appears to have more of a chance for gainful employment. If some x and y do not share all the same properties (if they are distinguishable), they must be distinct. But if identity is somehow dialectically prior to property ascription – if we must assume the distinction of individuals to which we predicate different properties in advance of that predication –, then even the second pattern of reasoning seems devoid of utility. This, of course, is just the sort of reasoning on which the Twoist depends. Thus Varzi writes:

[O]n a *de re* reading this sort of non-identity argument is valid, but it is either unsound or question begging: one can have reasons to accept the two premises *only if one already has reasons to distinguish between Tibbles and Tib+Tail in the first place.*⁸

But the Twoist protests: What sorts of reasons might these be, if not reasons deriving from property ascriptions? Even when an a and b are spatially distinct, we have no "basic" knowledge of their non-identity not tied to some qualitative state of affairs in which they participate. How can these states of affairs come down to anything besides the qualitative properties and relations of the entity (or entities) involved? Only when an entity is one may we say without reference to its qualities that it is identical with itself (for we may say that about *anything*). No denying that in predicating different properties to individuals we become *committed* to their distinctness; the question is whether we have improperly *assumed* it. We make conclusions about the non-identity of things on the basis of property observations all the time – how else should we tell anything apart?⁹

We must note that Varzi is not trying to make a psychological point about how we actually reason about identity. His point regarding the dialectics of appeals to Leibniz's Law should be well taken. We are to ascribe properties to *objects*, not to their names. And with objects, we cannot be indifferent as to whether there is one object or two. When the question arises: whence the opposition of properties? The Twoist had better not reply, "Well, I just looked at these two objects and saw that they have different properties." She had better not covertly take the distinctness of the objects as reason for attributing to them different properties. Nor may she allow a property of the name alone fix some property of its referent. But there *might* be circumstances in which one may appeal to Leibniz's Law with dialectical impunity. As Dummett writes, it

⁷ Varzi (2000), p. 292., my emphasis.

⁸ *Ibid.*, p. 292.

⁹ Furthermore, the Twoist may object, psychological studies suggest that this sort of reasoning is active very early in development. One such classic study is described in Spelke and Kestenbaum (1986); its implications are discussed in Carey and Xu (1996) and Carey (2001).

can, indeed, provide a ground for concluding to the falsity of an identity-statement, for it may be possible to find a predicate which can be recognized as true of the bearer of one name and false of the bearer of another in *advance of a decision whether the names have the same bearer*.¹⁰

The route to *de re* predication can proceed via naming and the presuppositions associated with the names. One difficulty in locating some kind of dialectical priority of questions of identity over questions of reference is that questions of reference often masquerade as questions of identity.¹¹ Given two names, we might wonder whether those names refer to the same or different individuals. But referential uncertainty need not be complete: one might have reason to suppose that *whatever* some name refers to, that thing has a certain quality. Definite descriptions, for example, may at the same time refer and ascribe a property to their referents. Reason for making a contrary ascription for another name may lessen our previous referential uncertainty, implying that the names cannot be co-referential. Such is the case, contends the Twoist, with Tibbles-the-cat and the Catstuff out of which Tibbles is made. Insofar as the names refer, they refer to different individuals by virtue of the properties mentioned in their names. Stuffs cannot lose parts the way cats can. But whence, Varzi might ask, derives the Twoist's certainty that such names *do* refer?

Questions of metaphysics also often masquerade as questions of identity. Perhaps it is a substantive question whether distinct objects may coincide. And such presumed substantive ontological questions as whether there are cats or quantities of catstuff (and if so what they are like) bear directly on the question of extensionality. Answers to the former inform answers to the latter. Thus we must bear in mind our own previous or tacit metaphysical commitments. This is why I asked (I) and (II) at the start: to try to get you to have some beliefs about the sorts of modal properties cats and quantities have (if you didn't have them already)¹². The force of the Twoist's argument is that it is natural, and we would likely agree in most cases, that cats may survive loss of their tails. And it is natural (though, perhaps somewhat less ordinary to say) that quantities of catstuff (or mereological sums of this and that) may *not* lose any of their parts. Now we all agree, suppose, that there are some atoms of a certain quality and distribution on the mat. What, if anything, do those atoms compose? According to our imagined Twoist's metaphysic of composition, such an arrangement composes a cat and composes a quantity of catstuff. Moreover, according to this metaphysic, these cat-wise and catstuff-wise arrangements of matter have different modal properties and are thus distinct. If we disagree, we had better say something about where the Twoist goes wrong.

Without such a metaphysic, the philosopher with "Twoist leanings", might try to elucidate the ontological commitments concomitant to Minimalism by invoking the Twoist argument: *is there a cat here or just a quantity of catstuff? Your meta-principle tells us that there is at most one: so which is it?* It should give us pause if Minimalism provides or is compelled to provide a first-order answer like this, for it is a second-order doctrine, one *about* permissible first-order claims. A defense of Minimalism should not amount

¹⁰ Dummett (1973), p. 544; my emphasis.

¹¹ Here I echo Lewis's (1986) claim that identity is perfectly understood and unproblematic, though, apparently, there's room for argument about cases.

¹² Not only that, but to get you to take seriously (or at least consider) the suggestion that there might *be* such things as quantities of catstuff (or statue-shaped lumps of bronze or clay, if you find catstuff suspicious) – and where else would such things be than right where cats or statues are?

to picking and choosing members of an ontology or deciding such matters as persistence conditions for those objects.

The advantage of Varzi's critique is that it would allow the Minimalist to hang onto mereological extensionality while remaining ambivalent about which of the argument's premises to reject. His point is not to establish the dialectical priority of identity over property ascription, but to question the dialectical propriety of this last line of Twoist questioning. For just to assert that Tibbles has different properties than Tib+Tail, as if it were an obvious fact, is little different from asserting point-blank that they are distinct. This is precisely the sense in which Varzi demands that belief in the premises calls for "independent grounds".¹³ However, a Twoist attempting to establish that there are two distinct but coinciding things here may well advert to a background metaphysics according to which cats do have certain properties which sums lack. And here, it seems, the Twoist is well within her rights in supposing there are coincident objects. If Minimalism is to be a principle recommended not only to those already inclined to it, its defender should have to say more.

Prospects for a Minimalist Defense of Minimalism

The Twoist makes a credible claim (one with which even the Oneist might be inclined to agree in his less philosophical moments): that cats have certain modal properties which quantities of stuff lack. From these theoretical property ascriptions and underlying metaphysics, the Twoist concludes that Tibbles the cat and Tib+Tail (the quantity of catstuff) are distinct.

The challenge to the Minimalist is this: repel the grounded Twoist argument without maligning Minimalism's meta-principle status. As Varzi notes, we can save Minimalism by allowing identity to be contingent or by modifying our construal of extensionality. Or perhaps the Minimalist might get cozy with some other piece of metaphysics – by adopting, for example, a Lewisian stance on modal predication.¹⁴ Discussion of these avenues will take us too far afield. The tack I want to encourage maintains the negative spirit of Varzi's critique of the superficial Twoist by asking whether the metaphysics of the grounded Twoist may be maintained.¹⁵

The Twoist claims that Tibbles and Tib+Tail possess different modal properties. But, we should ask, *in virtue of what* does Tibbles have the property *able to survive loss of tail* while Tib+Tail lacks it? Microphysically, Tibbles and Tib+Tail are indistinguishable – they have exactly similar microstructures. If they differ, that difference cannot supervene on their microstructure. That raises a crucial question: do modal properties (like many other intrinsic properties) supervene on microstructure? Consider an example. The fragility of a certain vase seems to depend on its microstructure (and certain physical laws). Duplicate vases will be alike in their fragility. Objection: *Not always* – *extrinsic* situation matters! A vase tightly packed in plastic is not fragile, though its duplicate on the shelf is.¹⁶

¹³ Varzi (2000), p. 292.

¹⁴ See Lewis (1986), ch. 4.5, for a discussion of coincident objects and *de re* modality.

¹⁵ The defense I have in mind, sometimes referred to as the 'Indiscernibility Problem', receives an excellent and more extensive discussion in Olson (2001). I follow him on many of the details.

¹⁶ This objection was suggested by an anonymous referee. I think, however, that the well-packed vase *is* fragile (we often explicitly label it so on the packaging). It is just less likely to break than the one on the shelf – that's why we *pack* fragile things. Packing them thus doesn't cause them to cease to be fragile. Still, extrinsic situation may matter. The following example illustrates this objection better.

Consider a clearer example: the difference in value between a *bona fide* dollar bill and a “perfect” counterfeit is not intrinsic, but a matter of origin.¹⁷ In the case of coincident objects – the vase and its constituting porcelain, the dollar bill and the paper and ink –, there is no way for extrinsic difference to get a grip. The vase and its constituting porcelain are, in a way, *better* than perfect duplicates, for not only are their atoms indistinguishable, they are *identical* – they are made of *exactly the same atoms with exactly the same relations*. So long as dispositions and modal properties are thought to supervene on intrinsic *and* extrinsic properties of things over their histories (a very weak supervenience claim indeed, much weaker than the claim that dispositions supervene on intrinsic properties alone), the Twoist will find herself unable to get her argument off the ground.

This is the Indiscernibility Problem: the Twoist cannot appeal to microphysical properties of Tibbles and Tib+Tail (or the bronze and the statue) to explain the difference in their persistence conditions; nor can she appeal to a difference in their situation, for one is located just where the other is.¹⁸ What other explanation is possible? Appeal to “kinds” just shifts the problem: what determines an object’s kind if not the properties and relations among its parts? If the Twoist’s claims are to be maintained, then, they will have to be left unexplained. The Indiscernibility Problem thus suggests a minimal stance on the nature of modal predication: *no mysterious, sui generis, modal properties*. Or better (and more boldly): *the modal properties of any physical whole supervene on the microphysical properties and relations of the whole’s parts*. Thus the conjunction of the Twoist’s claims are rejected without having to make any explicit claims about the properties of cats or catstuffs.

Such a stance places the ontological onus for modal claims on actuality. And for good reason: it is only with actuality that we actual beings have any direct contact. Varzi expresses a similar sentiment when he remarks: “Why should we be able to settle identity issues in this world by looking at other worlds? Why should identity across possible worlds be easier to handle than identity in this world?”¹⁹

Conclusion

Varzi’s defense of Minimalism raises an important dialectical point about appeals to Leibniz’s Law – but one which I have argued does not take him as far as he needs to go as a serious defender of Minimalism. It requires more sustained and explicit defense. I’ve tried to sketch an avenue of defense that is continuous with the Minimalist project. Good news for Minimalism: it can be defended by taking a stance on the character of modal predication, one that does not require making explicit modal or ontological claims.

I take this case to illustrate what should be a familiar dialectical point. If a defense of Minimalism requires a criticism of the Twoist’s metaphysics (even on a very general basis), then Minimalism is bound to draw on philosophical resources and positions at

¹⁷ This example, of the sort levied by Baker (1997), is discussed in Olson (2001).

¹⁸ The Indiscernibility Problem, as I have presented it here, is by no means an Oneist clincher. For one, it does *not* underlie mereological extensionality. As Olson is careful to point out: “for all the indiscernibility problem shows, the same atoms could compose any different objects at once. Those objects would simply have to belong to the same kind and have the same identity-conditions and other qualitative properties.” (Olson (2001), p. 340) For two, much more would need to be said about the histories of objects and other allied objections.

¹⁹ Varzi (2000), p. 293.

right angles to it. If it is held that making such admittedly minimal metaphysical claims besmirches Minimalism's second-order status, then Minimalism must remain an article of metaphysical faith. We may also follow the Twoist in accepting the division into kinds of things like statues and lumps or cats and quantities as a matter of alternative faith, and the Oneist has no other course but to remain silent. But that is asking too much. One is unlikely to be a Minimalist and nothing else, holding no other metaphysical positions. So long as the Minimalist is not compelled to make a first-order claim under the auspices of Minimalism, he may draw upon other philosophical resources to defend it. The defense I have sketched required rejecting the Twoist's uninformative appeal to faith about the nature of kinds and their modal properties, a stance consonant with, though not directly informed by Minimalism.

Second-order theories are not self-standing. They require first-order claims or other theories to lean on. And ultimately, it will be the first-order claims they license on which they are judged. This is why Varzi spends some effort attempting to give a first-order Minimalist ontology. And this is the motivation for accepting something like the supervenience claims mentioned above. Whether we accept them, of course, depends on their details and our other philosophical commitments. Part of the difficulty of evaluating principles like Minimalism is that they may be implemented in better and worse ways, drawing on better or worse corollary principles and theories for their defense. They do not stand and fall with the corollary principles except insofar as those principles are compelled by the meta-principle they support. A Minimalist may well deny the supervenience claim I have encouraged and diagnose the Twoist argument and metaphysics by other means. Several other responses have been given to the Twoist argument (and its relatives). In defending a principle like Minimalism, we must look toward theory construction broadly and ask what other principles are consonant with Minimalism and which underwrite its claims. But explanation and theory construction must eventually come to an end. When we are done the only question left to ask is whether we are satisfied with the results.²⁰

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