Metaphysical Arguments against Ordinary Objects
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METAPHYSICAL ARGUMENTS AGAINST ORDINARY OBJECTS

By Amie L. Thomasson

Several prominent attacks on the objects of ‘folk ontology’ argue that these would be omitted from a scientific ontology, or would be ‘rivals’ of scientific objects for their claims to be efficacious, occupy space, be composed of parts, or possess a range of other properties. I examine causal redundancy and overdetermination arguments, ‘nothing over and above’ appeals, and arguments based on problems with collocation and with property additivity. I argue that these share a common problem: applying conjunctive principles to cases in which the claims conjoined are not analytically independent. This unified diagnosis provides a way of defending ordinary objects against these common objections, while also yielding warnings about certain uses of general conjunctive principles.

Several prominent arguments against accepting the objects of ‘folk ontology’, such macroscopic objects as tables and chairs, sticks and stones, rely on the idea that they would in some sense be redundant, would not be among the objects posited by a scientific ontology, or would be rivals of those objects for their claims to be efficacious, occupy space, be composed of parts, or possess a range of other properties. The purpose of this paper is to examine these arguments, and to provide a unified diagnosis of where they go wrong. I shall initially focus on causal redundancy arguments in some detail, since the problems with these arguments will turn out to be typical, and to help unravel the problems behind ‘nothing over and above’ appeals, worries about collocation, and arguments based on problems with property additivity. The results, if correct, will not only provide a defence of ordinary objects against such arguments, but will also yield some important warnings about accepting unrestricted conjunctive principles in metaphysics.

I. THE OVERDETERMINATION ARGUMENT

The basic strategy of the causal redundancy argument is to show that all the causal work allegedly done by macroscopic inanimate objects may be accounted for by the causal powers collectively contributed by their
microscopic parts, properly arranged, so that ordinary inanimate objects (if there were any) would be epiphenomenal. But this conflicts with the dictum that ‘to be real is to have causal powers’, a metaphysical principle\footnote{Originally expressed in Plato’s \textit{Sophist} (247E) and more recently by Samuel Alexander, \textit{Space, Time and Deity}, Vol. II (London: Macmillan, 1927), p. 8. Jaegwon Kim has recently popularized the principle under the name ‘Alexander’s dictum’: see his \textit{Supervenience and Mind} (Cambridge UP, 1993), p. 348.} which, as Trenton Merricks argues, is at least quite compelling for macroscopic physical objects (whatever one thinks of its applications to \textit{abstracta}).\footnote{T. Merricks, \textit{Objects and Persons} (Oxford UP, 2001), p. 81.} As Peter van Inwagen writes,

\begin{quote}
... all the activities apparently carried out by shelves and stars and other artefacts and natural bodies can be understood as disguised co-operative activities [of simples properly arranged]. And, therefore, we are not forced to grant existence to \textit{any} artefacts or natural bodies.\footnote{P. van Inwagen, \textit{Material Beings} (Cornell UP, 1990), p. 122.}
\end{quote}

Typically, the alleged causal redundancy of ordinary inanimate objects is used only as a way of suggesting that we need not posit their existence. Merricks, however, develops the argument in a stronger form, arguing that the causal redundancy which ordinary inanimate objects would exhibit (if there were any) does not merely relieve us from the need to posit such objects: it demonstrates that there \textit{are no} such objects, since it shows the very idea of them to be inconsistent. Using the example of a supposed case of a baseball shattering a window, Merricks develops what he calls the ‘overdetermination argument’ to show that the baseball, if it exists, does not cause the window to shatter. But, he adds (pp. 80–1), if there \textit{were} baseballs, they would have causal powers:

\begin{quote}
... if there were baseballs, they would break windows, they would injure batters, they would cause visual sensations (and so be seen), and they would cause tactile sensations (and so be felt)... But given the overdetermination argument ... if there were such objects, they would not have causal powers. So there are no such objects.
\end{quote}

Since positing the existence of baseballs would force one to conclude that they both have and do not have causal powers, we can conclude that there are no baseballs.

The crucial argument that baseballs, if they exist, would lack causal powers is the overdetermination argument.\footnote{Merricks, \textit{Objects and Persons}, p. 56.} I shall argue, however, that depending on how one interprets it, the argument is either unsound or invalid.

The argument is supposed to go as follows:

\begin{enumerate}
\item The baseball, if it exists, is causally irrelevant to whether its constituent atoms, acting in concert, cause the shattering of the window
\end{enumerate}
2. The shattering of the window is caused by those atoms, acting in concert
3. The shattering of the window is not overdetermined
4. Therefore if the baseball exists, it does not cause the shattering of the window.

Merricks (p. 58) defines the causal ‘irrelevance’ in (1) thus: o is causally irrelevant to whether the xs cause ε if and only if none of the following four conditions holds:

(i) o is one of the xs
(ii) o is a partial cause of ε alongside the xs
(iii) One or more of the xs causes o to cause ε
(iv) o causes one or more of the xs to cause ε.

The licence to move from (1)–(3) to (4) is based on a principle that lies in the background of this argument, and is essential to its validity. Merricks (p. 58) simply calls it the ‘causal principle’:

Suppose: o is an object. The xs are objects. o is causally irrelevant to whether the xs, acting in concert, cause a certain effect ε.... The xs, acting in concert, do cause ε. And ε is not overdetermined. It follows from all this that o does not cause ε.

The causal principle may sound unobjectionable at first glance, and Merricks (pp. 57–8) illustrates it with an example which makes it seem uncontroversial:

Suppose ... the members of an unruly mob cause the vandalism of a park. Suppose also that the vandalism of the park is not overdetermined. And, finally, suppose that I am ‘causally irrelevant’ to whether those members cause the vandalism.... I am not myself one of the members. Secondly, I am not a ‘partial cause’ of the vandalism alongside the members.... Thirdly, I am not an intermediate in a causal chain between the members and the vandalism; that is, the members do not cause the vandalism by causing me to do something by which I, more proximately, cause the vandalism. And, finally, I do not cause any of the members to cause the vandalism ... [then] I do not cause the park to be vandalized.

And indeed the principle is unobjectionable, as long as we implicitly limit the discussion to entirely separate and independent objects. This is the case with Merricks’ example of himself and the mob (since he is not part of the mob), and is normally assured of being the case in scientific causal explanations, where the discourse is limited implicitly to the question of which particle, or which microbe, etc., caused the relevant effect.

But the question at issue, whether or not baseballs (if there are any) are rendered epiphenomenal in virtue of the causal work of their parts, is not of this form. The vandalism case could be made parallel only if one considered
not whether a separate bystander caused the vandalism of the park, but whether the mob caused the vandalism of the park. The causal principle would also yield the conclusion that (although the members of the mob cause the vandalism) the mob does not cause the park to be vandalized. But this hardly has the immediate plausibility required as a reason for accepting the causal principle. In fact, it is just as plausible (or implausible) as the conclusion that the baseball does not cause the window to shatter, and so cannot be used to garner independent support for the causal principle which can then be used to argue that the baseball does not cause anything.

I shall return below to the question of whether we should accept the causal principle as applying quite generally, even to entities that are not separate and independent. For now, I shall provisionally accept it for the sake of argument, noting that if this principle is accepted, the argument is valid. But is it sound?

At first glance, the overdetermination argument seems to show that the baseball does not cause the window to shatter. Premise (2) seems fine, since it seems that the collective action of the atoms is legitimately described as causing the shattering. Premise (1) looks true, at least given Merricks’ definition of ‘causal irrelevance’, since the baseball is clearly not one of its atoms, nor is it a mediating item in the causal chain – neither being caused by its atoms to cause the shattering of the window, nor causing its atoms to cause the shattering (by downward causation) – and it seems wrong to say that ‘alongside’ its constituent atoms (as Merricks puts it, p. 59), the baseball is a partial cause of the window’s shattering. (I shall have more to say below, however, about why this seems wrong.)

Premise (3) initially looks plausible, since we do not want to say that every time a baseball hits a window, the shattering is overdetermined; the way the story is told makes this seem as clear a case of a single cause for an event as there could be. Merricks (p. 58) defines ‘overdetermination’ thus: ‘an effect is overdetermined if the following are true: that effect is caused by an object; that object is causally irrelevant to whether some other – i.e., numerically distinct – object or objects cause that effect; and the other object or objects do indeed cause that effect’. Claims of overdetermination thus seem to involve making a conjunctive causal claim, so that as Merricks puts it (p. 72), ‘one would have a reason for believing that the shattering of the window is overdetermined only if one had a reason for believing that both the baseball and the atoms arranged baseballwise caused it’. But we hesitate to say that

5 But see E.J. Lowe, ‘In Defense of Moderate-Sized Specimens of Dry Goods’, Philosophy and Phenomenological Research, 67 (2003), pp. 704–10, for an interesting way of calling into question the assumption that the atoms can be said to cause (collectively) whatever one wanted to say the baseball causes.
just as a bullet through the heart and another through the head both caused the death (thus overdetermining it), the baseball and the atoms arranged baseballwise both caused the shattering (thus overdetermining it).

Clearly something is amiss with saying that the baseball and the atoms arranged baseballwise both caused the window’s shattering, and it seems to be our disinclination to accept this that makes us inclined to accept premise (3). But the problem with the claim does not seem to be that it is false (making its negation, (3), true). Instead, what seems to be wrong with saying that the baseball and the atoms arranged baseballwise both caused the shattering is that it involves conjoining claims about a whole and its parts in a single list (saying that both the parts and the whole did the causing). Other statements of the same form seem similarly problematic, even if they mention nothing of causation. Ryle identifies claims of this form, such as ‘He bought a left-hand glove and a right-hand glove and a pair of gloves’, and ‘I saw batteries, battalions, squadrons and a division’, as prime examples of absurd statements involving category mistakes. Of course Ryle’s claim that a category mistake is involved is not itself an explanation of the absurdity, since he defines categories in terms of absurdity, treating two expressions as of different categories if there are sentences in which substituting one for the other results in absurdity. So what exactly is wrong with statements of this kind, and why are they inappropriate?

The reason why they feel inappropriate seems to be that conjoining items in a list with ‘and’ (especially where this is reinforced with ‘both’ or ‘all’) normally presupposes that the items conjoined are separate and independent, but the presupposition is violated in cases like these. This is closely related to the constraints of the Gricean conversational maxim of brevity, since provided the listeners know of the relation between the two claims (e.g., ‘He bought a left-hand glove and a right-hand glove’ and ‘He bought a pair of gloves’), it would be pointless to assert the second after the first has been asserted. Nevertheless, the constraint does not seem to be just audience-relative; even speaking to an audience of children of civilians (who could not be expected to know the relation between squadrons and divisions and so could not infer claims about one from claims about the other), it would be inappropriate and misleading to say ‘I saw both squadrons and a division’; indeed, putting things in this way (rather than as, say ‘I saw the squadrons that make up the division’) would lead them to suppose that squadrons and divisions were separate and independent entities of a similar sort.

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So in short, it seems that it feels wrong to say that the baseball and its constituent atoms are both causes of the shattering, not because this is false, but rather because either asserting or denying the claim normally presupposes that the baseball and the atoms arranged baseballwise are separate and independent. This diagnosis similarly shows why the earlier claim, that the baseball ‘alongside’ its atoms is a partial cause of the shattering, seemed wrong. For this likewise seems to presuppose that the atoms (arranged baseballwise) and the baseball are separate and independent entities. One cannot be alongside oneself, nor can a whole be alongside its parts. (Nevertheless, there may be an additional problem with the claim that each is a partial cause, since this more explicitly requires the baseball to provide, e.g., some causal work over and beyond what the atoms arranged baseballwise contribute.)

To return to the overdetermination case, asking of two rocks or two people whether they both caused a window to break (by each hitting it forcefully at the same moment) is perfectly sensible. But, as Merricks himself says (p. 59), ‘the baseball and the atoms are not – according to anyone – relevantly analogous to two rocks jointly shattering the window... For while two rocks can do more work than one, a baseball and its constituent atoms cannot do any more than those atoms all by themselves.’

If the reason why we are disinclined to say that the shattering is overdetermined by the baseball and its constituent atoms both causing it (and why we are thus inclined to accept premise (3) of the overdetermination argument) is that the presupposition for claiming that both are causes is violated, the question remains whether the overdetermination claim is lacking in truth-value, or merely misleading though capable of being true or false. Some treat cases where presuppositions are violated as neither true nor false: Ryle, for example, treats them as absurd. While they do not discuss presuppositions of conjunctive claims like those above, P.F. Strawson and J.L. Austin analyse sentences where a referential presupposition fails as cases where the question of truth or falsity does not arise, the statement (as Austin says) being ‘void’. Grice argues that at least in many cases of presupposition failure, the statements are capable of being true, strictly speaking, although they are misleading, and Robert Stalnaker remains neutral on the issue. The latter analysis seems more apt for conjunctive claims involving failure of the independence presupposition, but in any case I need not decide the issue here. For either way the overdetermination argument is in trouble.


Suppose we hold that statements violating the independence presupposition are neither true nor false. Then the overdetermination claim that the baseball and the atoms arranged baseballwise both cause the shattering is neither true nor false. But since negations of statements with presupposition failure also suffer from presupposition failure, the claim in premise (3) that the shattering is not overdetermined must also on this assumption be neither true nor false. But then the overdetermination argument is not sound.

Suppose instead that such statements are capable of being true, but are misleading (their assertion may lead hearers to suppose that the speaker presumes that the conjoined items are independent). If so, then the overdetermination claim that the baseball and its constituent atoms both cause the shattering is true (but misleading). But then premise (3), the claim that the shattering is not overdetermined, would have to be false; so again the argument is unsound and does not establish that the baseball does not cause the shattering. In either case, one can explain away our hesitancy to accept the overdetermination claim without accepting its negation in (3).

It might seem that this move saves realists about ordinary objects from one problem only to land them with another, accepting widespread and systematic overdetermination in order to save ordinary objects, in violation of another plausible metaphysical principle, that we should always resist systematic causal overdetermination. Thus far I have been using Merricks’ definition (p. 58) of ‘overdetermination’ as applying whenever an ‘effect’ is caused by an object; that object is causally irrelevant to whether some other – i.e., numerically distinct – object or objects cause that effect; and the other object or objects do indeed cause that effect. But is this so-called ‘overdetermination’ real overdetermination of the sort that is supposed to be objectionable? The worry with overdetermination, more traditionally understood, is that it unwarrantedly ‘doubles up’ the causal story by positing two (each separately sufficient) causes of an event, where there is no special evidence for two, and one would suffice to do the explanatory work alone. But while positing two diseases, or two particles, as both causing a given effect may involve a superfluous ‘doubling up’ of the causal story needed, it is not at all obvious that accepting the causal claims of the baseball and the baseballwise arranged atoms does any such thing.

12 See Merricks, Objects and Persons, p. 67.
13 Theodore Sider similarly points out that the supposed overdetermination of the baseball and its atoms does not parallel unexplained coincidences, and uses this as part of an argument that the former provides no reason for rejecting ordinary objects. See his ‘What’s So Bad about Overdetermination?’, Philosophy and Phenomenological Research, 67 (2003), pp. 719–26.
In Jaegwon Kim’s original formulation of the problem of explanatory exclusion, he stated it as the principle that ‘two or more complete and independent explanations of the same event or phenomenon cannot co-exist’. But this independence seems to be lacking between the causal claims of the baseball and the atoms arranged baseballwise. So it is not at all obvious that in cases in which independence does not hold between objects x and y, x and y either provide double the amount of causation or are causal rivals. As Stephen Yablo puts it in a related context, ‘in this competition wholes and parts are not on opposing teams; hence any principle that puts them there needs rethinking’.15

Developing this reply, however, requires offering a more specific account of when the independence condition fails, and why failures of independence should be thought to undermine genuine causal redundancy or rivalry. I shall describe at least one kind of case where I think it is clear that the relevant sort of independence fails, and clear why such failures of independence undermine causal doubling or rivalry claims. But while it will be sufficient to do the trick in this case, I do not mean to suggest that this is the only sort of non-independence that can block causal redundancy claims – others would simply have to be considered separately.

One clear case in which the independence condition fails for entities x and y is when x’s claim to causal relevance analytically entails y’s. I use the expression ‘analytically entail’ to mean ‘entail in virtue of the meanings of the expressions involved and rules of inference’, so that a sentence (or set of sentences) p analytically entails a sentence q if and only if, given only logical principles and the meanings of the terms involved, the truth of p guarantees the truth of q. Thus where p analytically entails q, given knowledge of the truth of p, as well as reasoning abilities and grasp of the meanings of the terms, a competent speaker may legitimately infer the truth of q on that basis alone. Thus, e.g., ‘Jones bought a house’ analytically entails ‘Jones bought a building’, since the truth of the latter is guaranteed given the truth of the former, as any competent speaker (and reasoner) who understands the meanings of ‘house’ and ‘building’ can see.

It is obvious why, if causal claim p analytically entails causal claim q, the two are neither additive nor rivals. What is involved in analytic entailments is that if claim p analytically entails claim q, then competent speakers can infer the truth of q merely by knowing the truth of p and knowing the relevant meanings of terms (and being competent reasoners). But if this is the case, then clearly q requires no more of the world for its truth than p

14 Kim, Supernovience and Mind, p. 250; my italics.
already required — sufficient truth-makers in the world for \( p \) are also sufficient truth-makers in the world for \( q \); they just make a new claim \( q \) true. If the truth of \( q \) does not require anything more of the world than the truth of \( p \) requires, then clearly it does not require any extra causal action beyond what was adverted to in \( p \), and there is no doubling up or competition between the two claims.

The claims ‘The atoms arranged baseballwise are causally relevant to the shattering’ and ‘The baseball is causally relevant to the shattering’ seem to be of just this form. Phrases such as ‘arranged baseballwise’ were introduced by eliminativists like Merricks and van Inwagen to provide a way of paraphrasing talk apparently about ordinary objects in a way that is committed only to simples, in order to provide a sense in which the ordinary person’s claims about, e.g., chairs and baseballs may still be true (van Inwagen), or ‘nearly as good as true’ (Merricks), even if there are no chairs or baseballs. So the truth-conditions for ‘There are simples arranged chairwise here’ are supposed to mimic those for ‘There is a chair here’ as closely as possible without incurring commitment to chairs. Peter van Inwagen spells these out, giving conditions for when, e.g., simples are arranged chairwise that will enable him to mimic the conditions under which we would say there is a chair, enabling us to preserve the sense in which claims about chairs are (in the ordinary person’s mouth) true.\(^{16}\) Merricks simply leaves a placeholder, defining (p. 4) the clause ‘atoms arranged statuewise’ as meaning that those atoms ‘have the properties and also stand in the relations to the microscopica upon which, if statues existed, those atoms’ composing a statue would non-trivially supervene’.\(^{17}\) That is, if you think that human intentions to make a statue (pursued through rearranging some physical material) are necessary for there to be a statue, consider that someone intending to make a statue (and rearranging atoms accordingly) is also required for atoms to be arranged statuewise. Similarly, if you think that the rules and practices that make up the game of baseball, and the intentions of those who rearrange atoms into appropriately configured spheres, are necessary for there to be baseballs, consider that for atoms to be arranged baseballwise requires atoms tightly bonded in a spherical shape of such and such diameter, so that they are jointly capable of fulfilling the functions of baseballs, bonded by people with intentions to make baseballs that meet major league regulations, are usable and are to be used in such games, etc.

\(^{16}\) Material Beings, pp. 102, 105, 109.

\(^{17}\) I argue elsewhere that the existence of statues trivially supervenes on the existence of atoms arranged statuewise, on any acceptable way of spelling out the conditions on which ordinary claims about statues are ‘nearly as good as true’: see my ‘Ontological Minimalism’, American Philosophical Quarterly, 38 (2001), pp. 319–31, and Ordinary Objects (Oxford UP, forthcoming), ch. 9.
Given this sort of understanding of ‘arranged baseballwise’, any competent speaker and reasoner who knows how to use terms like ‘baseball’ and ‘caused’, who has been given the rules for applying the term ‘atoms arranged baseballwise’, and knows that it is true that atoms arranged baseballwise are causally relevant to the shattering, needs to investigate the world no further in order to infer that a baseball was causally relevant (and to wonder why this was put in such a roundabout way). Given these analytic interrelations, there is no rivalry between the claim of the atoms arranged baseballwise to be causally relevant to the shattering and the claim of the baseball; and so acknowledging the atoms’ causal role gives us no reason to deny the baseball’s role – indeed, noting the analytic relations among these claims gives us reason to assert the baseball’s efficacy, if we assert the collective efficacy of its constituting atoms. Nor does accepting the claim of each mean accepting real ‘overdetermination’ in the sense of positing causes that do ‘double’ the work necessary. (Claims to be ‘the cause’ may not be so straightforward as mere claims of causal relevance, since the former are often supposed to isolate what made the crucial difference between the effect’s occurring and not. As some of Yablo’s examples in ‘Mental Causation’ show, while ‘x is red’ may analytically entail ‘x is coloured’, and the causal relevance of a triangle’s redness, e.g., to a pigeon’s pecking, does not preclude the causal relevance of its being coloured, the coloration may still not have as good a claim to being the cause, if the bird would not have pecked at a yellow square.)

I am now in a position to re-examine Merricks’ argument. As I have argued above, if we accept his definition of overdetermination, it seems that the claim that the shattering is overdetermined is either true, or neither true nor false, so that in either case premise (3) is not true, and the argument (though valid) is not sound. But while the baseball ‘and’ its properly arranged atoms fit Merricks’ definition of ‘overdetermination’, they do not seem to provide a case of real overdetermination of a kind that was supposed to be worrying. If we limit discussion to real overdetermination, it seems, premise (3) is true, but the argument is not valid, since the inference enshrined in the causal principle in its general form (as applied unrestrictedly to any o and any xs) is then illegitimate. The causal principle can be analysed into a long conditional:

If (A) o is causally irrelevant to whether the xs cause e
(B) the xs do cause e
(C) e is not overdetermined

then o does not cause e.

Thus (if we are talking about ‘real’ overdetermination) it entails that where the xs and o both make causal claims, if o is not causally relevant to the work
of the xs (if o and the xs are not operating sequentially, in a single causal chain, or co-operatively, each as a merely partial cause), then either they are rivals (so that the claim of one would rule out that of the other), or accepting both means ‘doubling up’ the causal story in a case of worrying over-determination. This is reasonable if the claims of o and the xs are independent; and it was from consideration of such restricted applications (i.e., Merricks and the mob) that the causal principle came to seem plausible.

But this plausibility does not carry over when ‘o’ and ‘the xs’ are terms for entities whose causal claims are necessarily (analytically) interrelated. For even if one accepts, e.g., that the baseball is not causally relevant to whether itsrelevantly arranged atoms do the shattering, the claim that the baseball does the shattering is analytically related to the claim that the atoms (arranged baseballwise) do the shattering, and so the baseball is causally related to the shattering.

So accepting that the atoms arranged baseballwise caused the shattering does not show that the baseball did not cause the shattering (or that the shattering was double-caused), any more than saying that only battalions, batteries and squadrons have marched past demonstrates either that no division marched past, or that there was a double supply of marching past. And so, if we would speak of real overdetermination, we should reject the causal principle taken in its completely general form, and thus reject the inference used in the overdetermination argument.

But then we have no reason to think either that the very idea of baseballs is inconsistent, or that, since they would be epiphenomenal, the dictum ‘To be real is to have causal powers’ gives us reason to avoid postulating them. Nor do we have reason to think that accepting the causal work of baseballs requires us to accept objectionable systematic overdetermination.

II. OTHER WORRIES ABOUT CAUSAL REDUNDANCY

There are, however, other apparent causal redundancies (regarding ordinary objects) where there are no such obvious and straightforward analytic entailments. That is, suppose one does not speak of atoms arranged baseballwise (where this might be thought to include all the relevant intentions, social practices, etc., that friends of baseballs might consider necessary to the existence of baseballs), but only of, say, a certain physical lump of stuff. Such a situation does not seem to entail analytically that there is a baseball, let alone that the baseball causes anything, since by the folk ontologist’s own account the existence of baseballs also requires that there are

people with certain intentions and practices. So one might worry that even if we can remove apparent redundancies between baseballs and atoms arranged baseballwise by appeal to the analytic entailments between claims involving these terms, other redundancies will still arise between, e.g., a physical lump of stuff and a baseball.

It is true that the mere presence of a physical lump of stuff (or atoms in certain merely physical formations) does not analytically entail the existence of a baseball, that claims about the two are not synonymous, and that baseballs cannot be reduced to mere lumps of stuff (without violating some of the basic beliefs and practices about baseballs that are constitutive of the proper use of the term). Nevertheless there are other analytic entailments involved in two directions between claims about baseballs (or other constituted artefacts) and claims about the physical stuff which (according to the friend of ordinary objects) forms their constitutive basis. First, there are entailments in a top-down direction: one of the application conditions for the term ‘baseball’ is that there must be a roughly spherical medium-sized unified physical lump of stuff. Thus the presence of a baseball analytically entails the presence of a physical lump of stuff (although it leaves quite open what the precise microphysical nature of that stuff is – e.g., whether it is atoms bonded in certain ways, a plenum of matter, etc. – provided it can fulfil the characteristic functions of baseballs). And any physical claims about the baseball analytically entail claims about the lump; more particularly, claims about the baseball’s causal relevance analytically entail claims about the lump’s. That is, a competent speaker of English who knows the meanings of the terms need know no more than that a baseball shattered a window to know that a certain medium-sized roughly spherical lump of stuff shattered it. Given such entailments, there again can be no competition between claims of the baseball and claims of the physical lump to causation. While the existence of the baseball does not speak directly to the microphysical nature of the lump, if the lump is not a causal rival, and the lump is, say, a certain collection of atoms in specific physical interrelations, then the collection of physically arranged atoms is no causal rival of the baseball.

Secondly, we can recover bottom-up analytic entailments of claims about baseballs by considering analytic entailments not just between individual claims, but also involving sets of claims. So a set of claims (A) may analytically entail a claim (b), e.g., the claim that a baseball broke a window. Thus, even though claim (a₁) ‘There is a physical lump of stuff three inches in diameter, with the following physical properties ... which shattered a window’ does not on its own analytically entail that there is a baseball (much less that a baseball had any causal role), combined with other claims (a₂) ‘This lump was arranged in a factory designed to make baseballs’; (a₃) ‘As a
result of its controlled design in manufacture, this lump is capable of performing the characteristic functions of baseballs’, etc., the set \( \{A\} \) of claims \((a_1), (a_2), (a_3)\) and so on does analytically entail that (b) a baseball shattered the window. Again a competent speaker and reasoner, knowing the meanings of the terms and the truth of the members of \( \{A\} \), need investigate the world no further in order to infer that a baseball broke the window.

It is a reasonable principle that not only is there no rivalry between (nor doubling up of) individual claims when one analytically entails the other; so, similarly, there is no rivalry between claim (b) and any members \((a_1)\ldots(a_n)\) of a set of claims \( \{A\} \), where \( \{A\} \) is a minimal set of claims which analytically entails (b). By a ‘minimal’ set of claims, I mean that each member \((a_n)\) of \( \{A\} \) is such that were it to be removed from \( \{A\} \), it would not be the case that \( \{A\} \) analytically entails (b). \( \{A\} \) must be a minimal set of claims, since otherwise one could add in any irrelevant (but consistent) claims to a set \( \{A\} \) which is already analytically sufficient for (b), and \( \{A\} \) would still analytically entail (b), but there would be no assurance that the superfluous claims would have no rivalry with (b). E.g., the set of claims \( \{A\} \) that Jones bought a left-hand glove, Jones bought a right-hand glove, those gloves match, and Jones bought a scarf, still analytically entails that Jones bought a pair of gloves, though the last superfluous member of \( \{A\} \) may none the less be a rival or additive to the claim that Jones bought a pair of gloves. There can be no rivalry between (b) and any member \((a_n)\) of a minimal set of claims \( \{A\} \) which analytically entails (b), since rivalry suggests that at most one can be true; but clearly both can be true, since the truth of \((a_n)\), in conjunction with certain other claims, entails that (b) is true.

This is clear also from simpler cases. The claims \((a_1)\) Jones bought a left-hand glove, \((a_2)\) Jones bought a right-hand glove, and \((a_3)\) those gloves match, taken together as a set of claims \( \{A\} \), analytically entail that (b) Jones bought a pair of gloves. Of the claims that are members of \( \{A\} \), only \((a_1)\) and \((a_2)\) are even candidates for ‘competition’ with (b) in their claims to say what Jones purchased. But clearly there is no additional buying attested to in \((a_1)\) ‘Jones bought a left-hand glove’ beyond that attested to in (b) ‘Jones bought a pair of gloves’, nor competition between them. Similarly, that there is a man living in a certain house does not itself analytically entail that a bachelor lives there. But the set \( \{A\} \) of claims \((a_1)\) ‘There is a man living in that house’ and \((a_2)\) ‘That man is unmarried’ does analytically entail (b) that there is a bachelor living in that house. Again the claim that the man lives in the house \((a_1)\) neither rivals nor adds to the claim (b) that the bachelor lives in that house – we need not conclude that either of the claims is false, or that the man and the bachelor are roommates. So similarly, since the claim that a certain physical lump of stuff (with various physical
properties and capabilities) caused the window to break may serve as one of a minimal set of claims which jointly analytically entails that a baseball caused the window to break, the two claims are neither rivals nor (if jointly accepted) contributors to a kind of double-causation overdetermination.

So while claims about mere physical lumps of stuff in certain arrangements certainly are not synonymous with claims about baseballs, and claims about the one are not paraphrasable solely in terms of claims about the other (nor are reducible to such claims), there are none the less analytic interrelations between the sets of claims which preclude any rivalry between (or additivity resulting from) their ascriptions of causation. In general, when two claims (a) and (b) are such that either (i) (a) analytically entails (b), or (ii) (b) analytically entails (a), or (iii) (a) is a member of a minimal set of claims (A) such that (A) analytically entails (b), or (iv) (b) is a member of a minimal set of claims (B) such that (B) analytically entails (a), then I shall say there are ‘analytic interrelations’ between claims (a) and (b). These may not be the only sorts of philosophically interesting analytic interrelations between claims, but they will suffice for present purposes.

If the presence of analytic interrelations between claims prevents the claims from being additive or rivals, then we need not worry about the baseball’s causal action being redundant with respect to either simples arranged baseballwise or a mere physical lump of stuff. If successful, this shows that worries about causal redundancy, in whichever way they are couched, should not lead us to deny the existence of ordinary objects.\(^\text{19}\)

### III. ‘NOTHING OVER AND ABOVE’

Other worries about accepting ordinary objects are expressed in rhetorical appeals to the effect that, surely, once one recognizes the existence of the atoms arranged baseballwise, it is clear that there is nothing but the atoms there, or that there is no baseball over and above the atoms. Thus if, for example, we weave a long thin snake into a hammock, van Inwagen argues (Material Beings, p. 127), the snake (if intelligent) would aptly observe ‘There’s nothing here but me’. So, similarly, in all cases of ‘creating’ artefacts, van Inwagen insists, ‘we have not augmented the furniture of the world but only rearranged it’. Terence Horgan and Matjaž Potrič similarly express the view

\(^{19}\) While overdetermination arguments against ordinary objects resemble causal exclusion arguments in philosophy of mind, it is not clear that the above defence could be directly applied to the case of mental states. For many would deny that there are analytic entailments between claims about physiological states and claims about mental states paralleling those I have identified for claims about atoms arranged baseballwise and baseballs. See, e.g., D.J. Chalmers, The Conscious Mind (Oxford UP, 1996), p. 71.
that ‘It is not plausible that institutional entities like corporations and universities are denizens of the world itself, over and above entities like persons, buildings, land masses, items of office equipment, and the like’. The same idea is expressed by Merricks (p. 15) in denying that there is anything additional to the atoms: ‘Sometimes “there are statues” means that there is, in addition to various atoms in statuesque arrangement, some much bigger object – with a mass, centre of gravity, and so on – that has each of those atoms as a part. And when this is the meaning of “there are statues”, says the eliminativist, “there are statues” is false.’

While remarks of these sorts are not generally put forward as offering an argument for eliminativism, they are a central part of the rhetorical arsenal of the eliminativist, designed to make the realist about ordinary objects appear to be the one defending an incredible or, more weakly, implausible view. And such appeals can be powerful: there does seem to be something wrong with the idea that over and above, or in addition to, the particles properly arranged baseballwise, there is also a baseball distinct from those.

But, as one might begin to suspect, given the results above, the reason why there is something wrong with these kinds of claims (so that readers are not inclined to ally themselves with them) is not that they are false (thus supposedly entailing the truth of eliminativism), but rather that they are based on false presuppositions. They are not things that a thoughtful realist about ordinary objects is likely to say, or needs, for any reason, to assert – in fact, one can (and should) reject such statements, not by joining the ranks of eliminativists in declaring their falsehood, but by pointing out the fact that they are based on the false presupposition that claims about the presence of the baseball (or statue) and its properly arranged atoms are independent.

The supposedly incredible claims are, for example, that in a situation with atoms arranged statuewise, there are atoms and there is (also) a statue, a snake and (also) a hammock, a lot of sand particles and (also) a fort. These are indeed inappropriate things to say – but not because really there is no statue there, but rather because asserting in a single conjunctive list that there are atoms arranged statuewise and (that there is) a statue normally presupposes that these claims are analytically independent, when they certainly are not. Such claims are inappropriate for just the same reason as it is inappropriate to say ‘He bought a left-hand glove, and a right-hand glove, and (also) a pair of gloves’ or ‘She watched the battalions, squadrons, and (also) a division march past’. Whether one takes such claims to be lacking in truth-value in

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21 Though these are not exact quotations, the examples are Ryle’s: The Concept of Mind, p. 22 and p. 16 respectively.

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virtue of this presupposition failure, or as merely misleading (though strictly true), one can easily explain their inappropriateness and thus our hesitancy to ally ourselves with them, while noting that the inappropriateness of these claims casts no doubt on the view that there are statues, pairs of gloves and divisions.

Claims that statues are nothing ‘over and above’ or ‘in addition to’ the atoms (relevantly arranged) are compelling for a similar reason: we begin with a list of component parts (the atoms), and then assert that there is nothing more there. The appropriate sorts of item to conjoin to the list of parts would be other component parts – and indeed, as the realist (like anyone) admits, no additional parts or ingredients (statue-souls, essences, what have you) are ‘thrown in’ or needed to make a statue, beyond the component atoms. It would clearly be inappropriate (as I have remarked above) to add the name for the whole to the list, as if this were a claim independent of the prior claims about the parts and their arrangements. So we readily assent to the claim that there is ‘nothing over and above’ the relevant atoms there. But the fact that we agree that the list is complete, even though it does not include the whole statue (and we would be hesitant to add ‘statue’ to the list), is not in the least inconsistent with asserting, in a different ‘logical tone of voice’, that there is a statue there.

‘Nothing over and above’ appeals lose their rhetorical hold when it is recognized that the apparently unpalatable phrases put into the mouth of the defender of ordinary objects are unpalatable not because they are false (nor are their negations true), but because the attempt to assert them presupposes, wrongly, independence between claims about the object and those about its constituting matter.

Such appeals thus follow much the same pattern as I identified behind part of the causal redundancy argument. The eliminativist takes a form of statement whose sensible use requires us to presuppose that the items referred to are separate and independent entities (e.g., ‘The xs and o both caused e’, ‘There are xs and in addition there is a y’), then substitutes terms for an ordinary object and its constituting matter, and attributes the assertion of the claim to the realist about ordinary objects, leaving the realist apparently saying such inappropriately things as ‘The atoms arranged baseballwise and the baseball both caused the window to shatter’, or ‘There are atoms arranged baseballwise and in addition there is a baseball’. Then the eliminativist uses the patent inappropriateness of the assertion as a reason for denying the respective claim and embracing eliminativism. But that cannot be the right move, since negations inherit the presuppositions of the statements negated, and so accepting the negation of a statement with presupposition failure is as

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22 This phrase is borrowed from Ryle, The Concept of Mind, p. 23.
inappropriate as accepting the original. The true source of the problem is not accepting ordinary objects, but rather violating the presupposition for appropriate use of the phrase.

IV. COLLOCATION

Anti-collocation arguments, like causal redundancy arguments, impute a rivalry of some sort as holding between the objects of folk ontology and their physically constituting parts or basis. The widespread nervousness about collocation may be attributed at least in part to the sense that when we are talking about material objects at least (like statues and lumps), they must (as David Wiggins put it) 'compete for room in the world, and ... tend to displace one another', so that, as Mark Heller writes, 'Intuitively, the problem with coincident entities is that of overcrowding. There just is not enough room for them.' Or similarly (for those who prefer to put the collocation problem in terms of sharing parts rather than space) nervousness arises from the sense that material objects are rivals in their claims to be composed of the same parts at the same time. Thus claims of collocation apparently violate another plausible metaphysical principle, the no-coincidence principle, that if \( x \) and \( y \) are objects, and \( x \) is not identical with \( y \), then \( x \) and \( y \) cannot at the same time [spatial version] occupy the same volume, or [mereological version] be composed of exactly the same parts (at some level of decomposition—a clause I shall henceforth omit for brevity).

But while these are natural assumptions when we are discussing separate and independent objects, the earlier discussions of causal redundancy should make one suspicious of claims that there is such a rivalry or competition between, e.g., atoms arranged statuewise and the statue composed of them. The no-coincidence principle itself seems, like the causal principle, to derive its plausibility from considering separate and independent entities, whose claims to occupy one location simultaneously, or to be composed of exactly the same parts, would be genuinely independent rival claims.

But it is not so obvious that this plausibility carries over when we discuss entities as closely interrelated as a statue and its constituting matter, on the constitution view. For the defender of a constitution view holds that there is

a statue, that there is a lump, and that the statue is not identical with the lump but is materially constituted by it. That there is a statue analytically entails that there is some physical lump (constituting it); and that a statue is in a particular location and made of particular parts analytically entails that its constitutive lump is. (And conversely, the fact that there is a lump with all of the following properties, relations, history, context ..., made of these parts and present in this space, analytically entails that there is a statue constituted by that lump, made of those parts and present in this space.) Competent speakers need know no more than that David is a statue, and is here now and made of these parts, in order to infer that a lump is here now and made of these parts. But, as I have argued above, where there are such analytic entailments, it is clear that the truth-makers for the prior set of claims are also sufficient truth-makers for the latter claim, so that we are not making separate and independent claims which could aptly be considered rivals.

This gives us reason to suspect that the no-coincidence principle (like the causal principle) should be restricted in its application, not accepted as a 'completely general' metaphysical principle. The appropriate version of the no-coincidence principle, perfectly in line with the analyses above, thus seems to be that one should reject at least one of any two independent claims to occupy the same volume at a given time, or to be composed of the same parts at a time. But where there are analytic interrelations between the claims to occupy a certain location or to be composed of certain parts, there is no rivalry between these claims, and so, e.g., there is no rivalry for space or parts between a lump and the statue it constitutes. The plausibility of this restricted version of the no-coincidence principle can explain any initial conviction that the principle is true, but the restricted principle clearly does not interfere with accepting the existence of constituted objects as well as their constituting bases. (Of course the so-called 'grounding problem' remains: how could there be objects of different sorts, with different modal properties, that share all of the same microphysical parts, properties and relations? But such worries must be left for discussion elsewhere.27)

V. PROPERTY ADDITIVITY

A similar range of objections to the view that artefacts such as statues are constituted by, but not identical with, the material lumps of stuff which

constitute them focuses not on a supposedly problematic proliferation of objects at a given location, but rather on an apparent proliferation of instances of properties shared by these objects. The problem is most often expressed in terms of mass: suppose, for example, that David has a mass of 500 kg. Lumpl as well then, it seems, will have a mass of 500 kg (since they share all the same parts, at some level of decomposition). But if we accept a principle of additivity of weights, that where \( x \) and \( y \) are not identical, if \( x \) weighs \( n \) and \( y \) weighs \( m \) then \( x \) and \( y \) together weigh \( n + m \), it seems that we should expect that when we put 'both' David and Lumpl on the scale, it will read 1000 kg. This supposed problem, of course, is parallel to the supposed problem of overdetermination, broadened to encompass not just the property of causing an event \( e \), but other properties such as mass, height, etc. The general direction of reply then is the same as that utilized above, that (when \( x \) and \( y \) both have property \( F \)) there is no rivalry for possession of a single property instance, nor any 'doubling up' of properties where \( x \)'s being \( F \) is an analytic entailment of \( y \)'s being \( F \). (This is only presented as a sufficient, not a necessary, condition for properties' not 'doubling up'. There may also be other cases, e.g., of material constitution where the relevant analytic entailments do not hold, in which there is also no such doubling up.) If one accepts that David (a statue) exists, that Lumpl (a lump) exists, and that Lumpl constitutes David, then the fact that Lumpl weighs 500 kg (at a given time), and that Lumpl constitutes David at that time, analytically entails that David weighs 500 kg at that time. The principle of additivity of weights is suitable when it is restricted to separate and independent objects, but not to objects (or collections of objects) whose claims to have that weight are analytically interrelated. (Much the same obviously would go for a range of other properties for which additive principles hold in cases of separate and independent objects, e.g., extension, volume, monetary value, ...)  

V. CONCLUSION

I have shown that a common problem lies behind several apparently distinct arguments (and rhetorical appeals) against ordinary objects. Conjunctive claims normally presuppose that the claims conjoined are analytically independent, which explains the awkwardness of various claims about ordinary objects 'and' their constituting bases, without requiring us to reject the

28 See Rea, 'Supervenience and Co-location'; Zimmerman, 'Theories of Masses and Problems of Constitution'.
30 For a more general reply to this sort of problem, see Baker, loc. cit.
claims as false. Similarly, the explicit arguments are each based on accepting a general conjunctive principle (the causal principle, the no-coincidence principle, or a principle of property additivity) holding that non-identical objects must be either rivals or additive in their claims to causation, spatial occupation or possession of parts or properties. In each case, the principle in question plays a legitimate role in the topic-constrained reasoning typical of scientific and everyday discourse, helping us to evaluate the independent claims to causation, space, weight or explanatory relevance of, say, two baseballs, two molecules or two murderers. But while that explains the plausibility of these principles, problems arise when we attempt to apply them to cases where the claims conjoined are not analytically independent. The right conclusion seems to be not that there are insuperable problems for positing ordinary objects, but rather that the relevant principles are implicitly restricted, and do not properly apply where there are analytic interrelations between the claims conjoined.

Unfortunately, not all the apparent difficulties for folk ontology may be handled in this way. Many other problems have been raised for ordinary objects besides those mentioned here, including worries about vagueness and associated sorites paradoxes, problems arising from attempts to answer the special composition question, and general worries about parsimony – these will have to be handled separately.31 Nevertheless, the strategy developed above advances at least a good distance towards providing a unified diagnosis of the problems behind a range of central objections against accepting ordinary objects, and towards a sensible formulation of folk ontology.32

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31 For discussion of sorites problems, see P. Unger, ‘There Are No Ordinary Things’, Synthese, 41 (1979), pp. 117–54. The composition problem is wielded against ordinary objects in van Inwagen, Material Beings; Horgan and Potrc, ‘Blobjectivism and Indirect Correspondence’. For suggested solutions to all of these, see my Ordinary Objects.

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