COMPOSITION AS A SECONDARY QUALITY

BY

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Abstract: The 'special composition question' is this: given objects $O_1, \ldots,$ O_n, under what conditions is there an object O, such that $O_1, \ldots, O_n$ compose O? This paper explores a heterodox answer to this question, one that casts composition as a secondary quality. According to the approach I want to consider, there is an O that $O_1, \ldots, O_n$ compose (roughly) just in case a normal intuiter would, under normal conditions, intuit that there is.

1. *Mereological pessimism*

Last week I ordered a desk from Ikea. It came in a box with lots of parts that I had to put together according to instructions. Once I put them together, the parts from the box had come to compose a desk. Intuitively, before I put them together, the parts did not compose a desk. In fact, they did not compose anything. They were just so many parts lying together in a box.

Intuitively, then, sometimes some things together compose other things, but sometimes they do not. More precisely, for some (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O, but for some there is not.[1] What are the conditions under which there *is* an O composed by $O_1, \ldots, O_n$? This is the *special composition question* (van Inwagen, 1990).

It has sometimes been held that *any* plurality of objects $O_1, \ldots, O_n$ composes an O, and sometimes that *no* such plurality does. Both these views – *mereological universalism* and *mereological nihilism*, respectively – do violence to intuition. The former entails that the parts in the box composed an object even before I have put them together, the latter that the parts do not compose an object even now that I have.

Despite this violence, universalism and nihilism have been quite popular among philosophers.[2] This is partly because of their clarity, elegance, and

simplicity. But arguably, it is mainly because it has proven difficult to formulate satisfactory non-violent answers to the Special Composition Question (SCQ henceforth). It is reasonable to say that if a coherent answer to SCQ could be formulated that preserved our intuitions without having independently unacceptable consequences, then other things being equal, that answer should be preferred. It is just that the natural answers turn out, upon inspection, to fail to preserve intuitions after all, while at the same time sacrificing simplicity and elegance and committing to metaphysical oddities.

By way of illustration, consider what is perhaps the first such answer to come to mind – that composition has to do with the right kind of *contact*.[3] To turn the parts in the box into an object, what I had to do was *put them together*, which involved, in the first instance, putting them in contact. Despite its naturalness, this suggestion is unworkable. On the one hand, it fails to preserve our intuitions, allowing objects that intuitively seem not to exist and disallowing objects that intuitively seem to exist. Thus, recalling Moore's observation that all people are on or near the surface of the earth, we can see that it entails that for many people, there is an object composed of them and the surface of the earth; but intuitively there are no such objects. Conversely, the subatomic parts of an atom are not strictly speaking in contact with each other; yet intuitively there are atoms. At the same time, since contact is a vague matter (sometimes two things are *sort of* in contact), the suggestion entails the metaphysically distasteful doctrine that objects' existence is a vague matter (Sider, 2001).[4] On top of all that, it is unclear what contact exactly is, so the answer lacks epistemic transparency as well.

Although subtler answers to SCQ can certainly be formulated, they become increasingly more inelegant and accrue metaphysical liabilities, while still failing to respect intuition in some cases (see van Inwagen, 1990 for critical discussion of the main options).[5] Arguably, it is primarily this state of affairs that has pushed philosophers to settle on universalism and nihilism.

Other philosophers, driven by a greater desire to save the intuitive appearances, have advocated *brutal composition*: the view that it is a brute fact when composition occurs and when it does not (Markosian, 1998). On this view, there is no informative answer to SCQ. It is a brute fact that the desk parts do not compose a desk before I put them together and do after. There is no *reason* why this should be so.

Universalists, nihilists, and brutalists are thus unified in the belief that there is no plausible informative account of composition that can return the intuitive result that the desk parts did not compose anything before I put them together but did after. Let us call this view *mereological pessimism.* Universalists, nihilists, and brutalists are all pessimists.

The purpose of this paper is to argue against pessimism, that is, to argue that there *is* a plausible informative account of composition that

returns the right (read: intuitive) results in a vast array of prototypical cases, such as the case of my desk.[6] I will first sketch an account of composition that does so straightforwardly, but which is problematic along two other dimensions (§3). I will then move away from that account and formulate similarly inspired but importantly different accounts that are increasingly less problematic (§§4–5). I start, however, with methodological preliminaries intended to justify a strong preference for an optimistic account of composition (§2).

2.   *Methodological preliminaries*

The purpose of this section is to raise considerations in favor of strongly preferring an optimistic answer to SCQ, that is, an informative answer that is in line with folk intuitions. I will do so by arguing for two methodological principles. The first is that, other things being equal, an account of composition that respects our intuitions is greatly preferable to one that does not. The second is that, other things being equal, an account that respects intuition by applying a general principle is greatly preferable to one that respects intuition by fiat. The first principle would motivate strongly preferring optimism to universalism and nihilism; the second would motivate strongly preferring optimism to brutalism. All this matters only if there *is* a coherent optimistic answer to SCQ; that there is will be argued in the next section.

Let us be clear: the purpose of the two principles is to motivate not just preferring an optimistic answer to SCQ, but *strongly* preferring such an answer. I think it is unquestionable that, other things being equal, an account of composition that respects intuition is preferable to one that does not. But the claim I want to make in this section is (the vaguer one) that the former is *greatly* preferable to the latter. The point of such a claim is to stress that when a non-optimistic account turns out to be preferable to an optimistic one along some other dimension(s), it may be a non-trivial question which of the two accounts is preferable *overall*. Thus the fact that an optimistic account carries certain liabilities may still not be sufficient reason to dismiss it if its very optimism is a *major* consideration in its favor. When we come to weigh the advantages and disadvantages of different accounts of composition, the ability to vindicate intuition in an informative way should override quite a few other liabilities – that is the claim I want to make.

To be sure, this sort of claim is not very precise. To say that one type of account of composition is not just preferable to another, but is strongly or greatly so, is to say something relatively impressionistic. But the problem is mainly with the subject matter of the claim, not with the claim itself. There simply are no precise facts about the conditions under which one

theory is to be preferred to another, and about how different advantages and disadvantages stack up against each other. Still, it is not meaningless to insist that some considerations weigh more heavily than others, or to make a case for the relative weight of some type of consideration.

As just noted, most philosophers would agree that, other things being equal, it is preferable for a theory to be in accord with intuition. Perhaps this is just a matter of the theoretical virtue sometimes referred to as *conservatism*: if theory T1 requires a smaller revision to our web of pre-theoretic beliefs than theory T2, then other things being equal T1 is to be preferred over T2. The question is what to do when T1 is more conservative than T2, but T2 fares better than T1 with respect to some other theoretical virtue(s). How are we to weigh conservatism against other virtues? There are no precise calculi for virtues, so I cannot offer a precise answer to this question. But the purpose of the discussion to follow is to raise some informal considerations that would motivate a relatively big emphasis on respecting intuition in the theory of composition.[7]

One methodological view in this area is that our intuitions about objecthood (hence about which composite objects there are) exhaust the domain of phenomena in need of accounting for by a theory of composition.[8] On this view, our objecthood intuitions are the proper *explananda* of the theory of composition. If so, an account of composition that accords with intuition is one that is *explanatorily adequate*, whereas one that does not is not. The former succeeds in explaining what needs explaining, whereas the latter fails that task. This would make an intuition-respecting account straightforwardly superior to nihilism and universalism.

The view that commonsense intuitions are the explananda of the theory of composition is probably too strong to be plausible. But there is a similar view that strikes me as eminently plausible. It is that our intuitions, while not the *explananda* of metaphysical theories, do constitute the *data* of metaphysical theories.[9] To be sure, there are other *desiderata* from a theory of composition, such as simplicity and elegance. But the only *data* are folk intuitions. What other data could there be?

It is perhaps worth pausing to clarify the *kind* of intuition I think should be given pride of place. The kinds of intuition I think are of special importance are those in which we ostend a part or aspect of the world and claim that it qualifies as something or belongs to a certain category. For example, my intuition that this here is a chair is a datum for a theory of what makes something a chair ('an analysis of chairness'). More generally, given that intuitions have contents that can be expressed with 'that'-clauses, it is intuitions with singular contents that I think function as data for metaphysical theory, that is, intuitions whose content is of the form '*a* is an F,' where '*a*' is a singular term, such as a proper name or a demonstrative.[10] Intuitions with universal or even existential content are not of this kind. Thus, even if the folk intuit that all chairs are useful, this

intuition is not a datum for the analysis of chairness. Also, it is important to exclude trained, overly theoretically laden intuitions – intuitions that lie downstream of philosophical theorizing – from the domain of data. Only pre-philosophical intuitions with a singular content, then, are data of metaphysical theory; but they are the *only* data. In what follows, I should be understood to speak of pre-philosophical singular intuitions even when I do not qualify my talk of intuitions explicitly.

If it is true, as I think it is, that our pre-philosophical singular intuitions about objecthood exhaust the data of the theory of composition, then being in accord with such intuitions is in some good sense not just a *theoretical* virtue of an account of composition (as conservatism is) – it is something more like an *empirical* virtue. Perhaps it is odd to think of concordance with intuitions as an 'empirical' virtue; it may be better to call it a 'quasi-empirical' virtue. But the basic idea is that a metaphysical theory faces the tribunal of intuition in the same way a scientific theory faces the tribunal of experience. The upshot is that an account of composition that respects intuition is not only *theoretically* but also (quasi-)*empirically* superior to one that does not. It is justified not only by abstract theoretical considerations, but also more directly by the only relevant evidence.

In science, we rarely adopt an empirically inferior theory at the expense of its superior on account of its faring better with respect to some theoretical virtues. Only when the empirical inferiority is at the margin would we be tempted to do so. When one scientific theory accounts sweepingly for the central evidence while its competitors do not, it is invariably the empirically adequate theory that prevails. That is, if two scientific theories T1 and T2 are such that (i) T1 is empirically superior (and not only at the margins) to T2 but (ii) T2 is theoretically superior to T1, we rarely if ever prefer T2. Perhaps we cannot expect the same to hold in metaphysics. The tribunal of intuition may have lesser legitimacy than the tribunal of experience, and so considerations of simplicity, elegance, etc. are weightier in metaphysics. But surely the (quasi-)empirical superiority of a metaphysical theory should create an overwhelming, if ultimately controvertible, presumption in its favor.

On this way of thinking, since universalism and nihilism are in discord with intuitions in a wide variety of central cases, they are massively *disconfirmed*. An optimistic answer to SCQ, if such there be, would in contrast be massively confirmed. Therefore, there is an overwhelming presumption in favor of an optimistic account. This presumption could certainly be defeated by argument. For example, if it can be shown that an optimistic answer is incoherent, that would obviously be a fair defeater. As long as the optimistic answer is coherent, however, it ought to be hard to controvert the presumption in its favor. Perhaps extreme inelegance, unclarity, complexity, arbitrariness, etc. might conspire to

controvert the presumption in favor of optimism. But extreme they would have to be.[11]

There is also an epistemological reason to prefer an account of composition that accords with our intuitions.[12] The pre-philosophical notion is that the man on the street can and often does know which chunks of the world are objects and which are not. This notion is vindicated by an account that accords with intuition and undermined by one that does not. A discordant account thus generates a (presumably undesirable) skepticism about the man-on-the-street's knowledge of the realm of objects.

Since universalism and nihilism are in discord with intuition, they face a skeptical challenge regarding our knowledge of the realm of objects. If universalism or nihilism is true, then the man on the street rarely has the kind of knowledge we are inclined to think he has. On these views, the man-on-the-street's objecthood beliefs (his beliefs about what is an object and what is not), and perhaps even his beliefs that presuppose such beliefs, are by and large false. By contrast, an optimistic answer to SCQ would avert such a challenge and vindicate our pre-philosophical convictions.

This sort of consideration carries special weight against the background of a certain traditional conception of what philosophy is all about. On the conception I have in mind, a central – perhaps *the* central – function of philosophy is to vindicate (most of) our pre-philosophical worldview, by providing some sort of rational reconstruction of our everyday world-model. What this exactly entails and to what extent we should subscribe to this meta-philosophical position are issues we cannot seriously address here. I mention this only to highlight the significance of this epistemological consideration in favor of mereological optimism.

A less grandiose meta-philosophical position in the same spirit and with closer connection to the issue at hand is Eli Hirsch's (2002) doctrine of Shallow Ontology. Hirsch's outlook is quite nuanced and depends on subtle reasons why there are *a priori* restrictions on how revisionary a metaphysical claim can be. To oversimplify somewhat, the idea is that there is no *deep* disagreement between universalists, nihilists, and optimists. We can devise a language in which the unrestricted quantifier behaves the way the universalist wants, another in which it behaves the way the nihilist wants, and a third one in which it behaves the way the optimist wants. The universalist, nihilist, and optimist do not so much disagree with each other but talk past each other. The only real question their apparent dispute raises is a relatively shallow one: which of these languages' unrestricted quantifier is most relevantly similar to the English expression 'there is'? Once we pose the question this way, the obvious answer is that only the optimist's quantifier is an admissible translation of 'there is.'[13] On this view, it is more or less *a priori* that the right answer to SCQ is the optimistic one. Again, I do not wish to argue here in favor of Shallow

Ontology. But any pessimist must face not only the challenge of motivating her particular answer to SCQ, but also that of showing that there is a deep issue at stake that goes beyond the shallow disagreement pointed out by Hirsch.

I have offered two main considerations to support a strong emphasis on respecting intuitions in the theory of composition. The first is that intuitions seem to be the only data in this area. The second is that failing to respect intuitions generates an undesirable skeptical challenge (and thus undermines the rational vindication of our pre-philosophical worldview).

This second consideration supports also the second aforementioned methodological principle, namely, that respecting intuition by applying a general principle is greatly preferable to doing so in an arbitrary and heavy-handed manner. This second principle is more self-evident than the first and is less in need of justification, but it is worth stressing that it is supported by the epistemological consideration.

Unlike universalism and nihilism, brutalism makes the man-on-the-street's objecthood beliefs by and large true. But the threat of skepticism infects it as well. For these beliefs to qualify as knowledge, it is not enough that they be true. They must also be justified or warranted. It is unclear, however, how brutalism might allow folk objecthood beliefs to be justified/warranted. If there was a non-arbitrary, unbrute relation underlying the composition facts, there might be a story to tell about the reason we are so good at tracking that relation. But if the composition facts are brute, there is no such story to tell. On the contrary, it would be quite the happy coincidence that most our everyday objecthood beliefs are true. And to say that it is a happy coincidence is to say that our beliefs are not warranted by reliabilist standards, and probably not justified by any reasonable lights. So whereas universalism and nihilism cast our objecthood beliefs as false, brutalism casts them as unjustified. All three views deny us systematic and secure knowledge of the realm of objects.

Perhaps the brutalist could posit a faculty of intuition, which as it happens successfully tracks the brute composition facts? This indeed appears to be the brutalist's only epistemological option. It is a question, however, whether this is anything more than decreeing that knowledge of objecthood is possible, without really accounting for that possibility. It is to match a brute, inexplicable epistemology to the brute, inexplicable ontology: not so much removing a mystery as doubling it.

An intuition-respecting yet informative account of composition – an optimistic account, as I have called it – would avoid all these pitfalls. It would accord with intuition in a wide array of central cases, thus being massively confirmed, and it would impute knowledge of the realm of objects to the man on the street, thus facing no skeptical challenge and enabling a rational vindication of our pre-philosophical worldview. If

there is such an account, then we should take it very seriously – even if it comes with certain liabilities.

One such liability of an optimistic account is that, as noted above, it would embroil us in a commitment to in-the-world vagueness, which is itself highly counter-intuitive. However, the intuition at stake is not of the kind that serves as a datum of metaphysical theory, because it does not have singular content. Furthermore, although in-the-world vagueness is counter-intuitive, it is coherent and well-behaved (see Smith, 2005). Finally, for my part, and other things being equal, if I have to choose between an account which involves commitment to in-the-world vagueness but is otherwise massively confirmed and one purged of that commitment but massively disconfirmed, my inclination is to think that the former is overall preferable.

3.   *Composition and normal intuiters*

If recovering the intuitive verdicts on composition is of such paramount importance, we should consider tailoring our answer to SCQ to that task. The most straightforward way to do so is to say that composition occurs just in case a normal intuiter would, under normal conditions, intuit that it does.

Let us say that an *intuiter* is a subject who can produce intuitive judgments. There are several ways of construing 'intuitive judgments.' One is as judgments of the form 'intuitively, *p*.' Another is as judgments of the form '*p*' that are produced through processes that are in some sense intuitive – perhaps in the sense that they are automatic, unmediated, and/or non-inferential, and yet intellectual as opposed to perceptual.[14,15] The second construal seems to capture better what we mean by 'folk intuition,' and so I will work with it. Under this construal, to say that a person intuits that the parts in the box compose an object only after I put them together is to say that the person produces automatically, non-inferentially, but intellectually a judgment to the effect that the parts in the box compose an object only after I put them together.

There are two natural conceptions of what makes an intuiter *normal*. One is statistical and one is teleological. A statistically normal intuiter is (roughly) one whose intuitive judgments accord with the intuitive judgments of the majority of intuiters. A teleologically normal intuiter is (even more roughly) one who possesses all the faculties involved in the production of intuitive judgments, and these are well-functioning. To my mind, the teleological conception of normality is more pertinent to our present purposes, and I will stick with it in what follows. On this conception, to say that a normal intuiter intuits that *p* is to say that a person whose intuitive-judgment-producing faculties are well-functioning produces automatically/non-inferentially but intellectually the judgment that *p*.[16]

A similar distinction applies to *normal conditions*. Conditions are *statistically* normal when they are the conditions intuiters usually find themselves in. They are *teleologically* normal when they are the conditions under which the exercise of the faculties involved in the production of intuitive judgments is unperturbed. Again I will work with the teleological conception. It is probably also worth stipulating that our intuiter's conditions involve *forced choice*: for any *p*, she must choose between 'intuitively, *p*' and 'not intuitively, *p*.'[17] This would fend off the worry, if such there be, that most things do not in normal circumstances elicit *any* intuitions in us.

The objecthood intuitions of normal subjects under normal conditions are probably the same the great majority of time, though not strictly universal. Because this is so, we cannot require that a plurality of objects compose another object just in case *all* normal subjects intuit that they do, or that they do just in case *some* normal intuiters intuit that they do. Rather, we must require that they compose another object just in case *most* normal intuiters intuit that they do.

With these specifications at our disposal, we may formulate the account I have in mind as follows:

(NIA)   Metaphysically necessarily, for any (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O iff $O_1, \ldots, O_n$ are disposed to elicit in most normal intuiters under normal forced-choice conditions the intuition that there is an O.

Or more explicitly:

(NIAe) Metaphysically necessarily, for any (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O iff $O_1, \ldots, O_n$ are disposed to elicit the automatic and non-inferential but intellectual judgment that there is an O in most subjects who are capable of producing automatic and non-inferential but intellectual judgments, and whose faculties dedicated to the production of such judgments are well-functioning, under forced-choice conditions that do not perturb the exercise of the relevant faculties.

Call this the *normal intuiter account* (NIA) of composition. According to NIA, there is an O that $O_1, \ldots, O_n$ compose just in case a subject whose intuitive-judgment-producing faculties are well-functioning would, under unperturbing conditions involving forced choice, typically judge intuitively (i.e. automatically or non-inferentially but intellectually) that there is an O.[18]

This style of account is familiar from discussions of properties traditionally thought of as *secondary qualities*, as (e.g.) colors have often been

taken to be.[19] Thus, it is common to hold that something is red just in case it looks red to normal observers under normal conditions.[20] NIA is structured in a similar way, except that the subjective responses it focuses on are not perceptual but 'intuitive.'

A modern gloss on secondary-quality properties casts them in terms of *response-dependent properties*. A response-dependent property is one whose instantiation conditions advert to certain responses in certain respondents. The classic analysis of response-dependent properties is based on *a priori* biconditionals of the form '*x* is C iff *x* is such as to produce an *x*-directed response R in a group of subjects S under conditions K' (Johnston, 1989, p. 145). Under this construal, composition is response-dependent just in case it is *a priori* that $O_1, \ldots, O_n$ compose an object iff the plurality of $O_1, \ldots, O_n$ is such as to produce an $O_1, \ldots, O_n$-directed response R in a group of subjects S under conditions K. And indeed this is the case on NIA: the relevant response R is the response of intuiting that $O_1, \ldots, O_n$ compose an object; the group of subjects S is a set of most normal subjects; conditions K are given by the set of normal forced-choice conditions. Moreover, we are justified in thinking of the connection between composition and the right response as *a priori* given that it is hardly plausible that we should discover only via empirical inquiry that composition is the disposition NIA says it is. So the following is a fair gloss on NIA:

> (NIArd)   Epistemically necessarily, for any (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O iff the plurality of $O_1, \ldots, O_n$ is such as to produce the $O_1, \ldots, O_n$-directed response of intuiting that there is an O in most members of the group of normal subjects under normal conditions.

Where I am using 'epistemically necessarily' to stand for '*a priori*,' in line with recent work on two-dimensional semantics (see especially Chalmers, ms.). A proposition *p* is epistemically necessary just in case *p* is true in every centered world.

NIA has the virtues we want it to have in light of the previous section's discussion. First, it returns the right results in the case of my desk. Before I put them together, the parts lying in the box did not compose an object, because a normal intuiter would (under normal conditions) intuit that so many parts in a box are not an object. Once I put them together and build the desk, the parts do compose an object, because a normal intuiter would (under normal conditions) intuit that they do.

Further, NIA faces no skeptical challenge. We are not infallible about composite objects. Abnormal subjects or abnormal conditions may certainly give rise to false objecthood intuitions. But as long as most persons

on the street are (teleologically) normal, such mistaken intuitions are bound to be local. So unlike universalism and nihilism, NIA does not produce massive error in our objecthood beliefs.[21] At the same time, unlike brutalism, NIA does not owe us an explanation of why most of our beliefs in this area are true. As we noted, brutalism casts this fact as a happy coincidence. But on NIA it is anything but a coincidence: since composition is construed as constitutively connected to our intuitive judgments about composites, those judgments are bound to be by and large true.

Thus NIA is intuitively and epistemologically superior to its competition, and is so because it provides an optimistic answer to SCQ. Moreover, there is something principled about the way it delivers what makes it superior. Plausibly, to say, as I did at the opening, that intuitively there is no object that the parts in the box compose (pre-assemblage) *just is* to say that a normal intuiter would (under normal conditions) intuit that the unassembled parts do not compose an object.[22] If so, NIA is *guaranteed* to return the right result in most (perhaps all) cases. But even if normal-intuiter claims do not quite capture the *meaning* of intuitiveness claims, there is such an intimate connection between the two that it is hard, perhaps impossible, to imagine a case in which intuitively there is a composite object but the normal intuiter would not intuit so.

NIA faces some formidable objections, however. In the remainder of this section, I consider three objections to which I think there is a plausible response. There are some objections that go deeper and may well force significant modifications of NIA; I postpone discussion of those to the next section.

It might be objected that NIA is circular, since the expression 'there is an O' occurs on both sides of the biconditional. But the objection is misguided, because on the right-hand side of the biconditional the expression occurs within the scope of an intensional operator ('intuits that'). In an important sense, the expression 'there is an O' does *not* occur on the right-hand side of the biconditional. What occurs is the phrase '*intuits that* there is an O.' Because the locution 'intuits that' creates an intensional context, 'intuits that there is an O' must be read as a syntactically simple expression. Grammatically speaking, 'there is an O' is no more part of 'intuits that there is an O' than 'apple' is part of 'pineapple.'[23, 24]

To be sure, the proponent of NIA would have to provide an account of intuiting-that-p that does not characterize (or type-identify) intuiting-that-p in terms of p. Thus, if intuiting that p is just being in an internal state that is appropriately related to p, then NIA would be circular. But there are probably other ways the proponent of NIA could characterize (and type-identify) intuiting that p. She might offer a characterization of it in terms of functional role: to intuit that p is to be in an internal state

with functional role R. This functional role could then be cashed out, for example, in terms of the following ordered pair of sets: (i) the set of all mental states that tend to cause intuiting that p and (ii) the set of all mental states that tend to be caused by intuiting that p. Alternatively, the proponent of NIA might offer a *phenomenological* characterization of intuiting that p: if there is a distinctive and proprietary way W it is like to intuit that p, then perhaps intuiting that p is just being in an internal state that it is W to be in.[25]

Another objection is that NIA is essentially just a complicated version of nihilism, since it claims that, as far as the mind-independent world is concerned, there are only simples.

For some purposes, it is not terribly important what we *call* the view. There is certainly a genuine affinity between NIA and nihilism, in the general vicinity of what the objector points out. But I think it is in fact misleading to overlook the important *differences* between NIA and nihilism. Most straightforwardly, according to NIA it is simply not the case that only simples fall in the domain of the restricted quantifier. The proponent of NIA is thus willing to quantify over some non-simples, whereas the nihilist is not. More generally, SCQ does not ask for the conditions under which some objects *mind- or response-independently* compose another. It asks for the conditions under which some objects compose another, however they do so.[26]

One naïve objection to NIA might be that NIA entails that in a world without intuiters, there are no composite objects. This is a misreading of NIA. NIA states that normal intuiters *would* judge so-and-thus. It does not state that there *are* normal intuiters. Even in a world without normal intuiters, a certain counterfactual is still true, namely, that if there *were* normal intuiters, they *would* intuit so-and-thus.

A more sophisticated version of this objection is that NIA entails that in a possible world indistinguishable from ours with respect to non-composite objects (simples) and their spatial and causal interrelations, but where normal intuiters have very different objecthood intuitions, there are different composite objects. That is, it entails that there is a possible world qualitatively indistinguishable from ours that contains different objects – where 'qualitatively indistinguishable' here means 'has the same distribution of simples and point properties.'[27] Imagine a pebble-obsessed world, where cognitive agents intuit (e.g.) that there are no tables but that there are table-and-pebble fusions. According to the objector, NIA is committed to saying that in such a world, there are no tables and chairs, but there are table-and-pebble fusions and chair-and-pebble fusions.[28]

There are three responses to this objection.

The first is to bite the bullet and accept that the facts of composite objecthood fail to supervene on the facts of simples and their spatial and

causal interrelations in this way. A metaphysical anti-realist may be happy to adopt this response.

In fact, against a certain background this might be turned into an advantage. According to Parsons (ms.), the facts of composition are contingent, not necessary. If so, there *must* be a pair of qualitatively indistinguishable possible worlds that contain different objects. This result is utterly mystifying *unless* the reason there are different objects in the qualitatively indistinguishable worlds is that they are inhabited by different agents with different composite-carving sensibilities and/or practices. So the contingency of composition could be marshaled in positive support of NIA precisely because NIA is consistent with the existence of qualitatively indistinguishable worlds that host different objects.

A second response to the objection under consideration is to claim that intuiters whose objecthood intuitions diverge significantly from ours, such as the pebble-obsessed intuiters, are *ipso facto* abnormal. Although this move is unavailable on a statistical conception of normality, it may well be justifiable on a teleological conception. The idea would be that what makes us normal intuiters is not that we are the majority, but that we are *supposed* to have the kinds of intuition we have, in some suitably cashed out sense of 'supposed.' Thus, one might hold – plausibly, I might add – that our ancestors' tendency to carve the world the way they have has been partly responsible for their reproductive success, and it is the fact that we carve the world similarly that makes us 'normal' in the pertinent sense. Further, if our ancestors carved the world in a pebble-obsessed way, they would not be as reproductively successful, and therefore our pebbled-obsessed counterparts are not normal intuiters.

The objector may press that we can still imagine a world where, for whatever odd reason, pebble-obsessed world-carving actually promotes reproductive success. However, such a world is not going to be qualitatively indistinguishable from ours. At the very least, the laws of evolution, reproduction, etc. would have to be different. Granted, it may still be true that there are worlds which differ from ours only in (i) having different laws governing reproduction and (ii) having different intuiters, and in which there are different composite objects than in our world. But clearly, the admission that there are such worlds does not represent the sort of embarrassment that the original objection was meant to produce.

A third response is to simply modify NIA so that it makes reference to *actual* normal intuiters. This is to *rigidify* NIA:

(rNIA)   Metaphysically necessarily, for any (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O iff $O_1, \ldots, O_n$ are disposed to elicit in most *actual* normal intuiters under normal forced-choice conditions the intuition that there is an O that $O_1, \ldots, O_n$ compose.

Call this the *rigidified normal intuiter account* (rNIA) of composition. In what follows, I frame the discussion in terms of NIA, but most (perhaps all) of what I have to say about it applies to rNIA just as well. I focus on NIA for the sake of simplicity, and because I personally prefer it to rNIA.[29]

4.   *Secondary qualities, realism, and triviality*

NIA faces two further objections, however, and they go to the heart of its plausibility. One is that there is something unacceptably irrealist about construing composition as a secondary quality; I will address this objection first. The other is that there is something trivial and uninformative about it; I will address this objection later.

As noted in the previous section, NIA construes composition along the lines of the traditional secondary qualities, and to that extent casts composition as in some sense mind-dependent. Certainly according to NIA there are no response-independent facts of the matter as to which composite objects there are. At the same time, it is important to realize that this sort of mind-dependence is relatively innocuous. The claim is not that composition occurs 'only in the mind.' Composition is not construed here as a relation among our *ideas*. It is a relation among items in the external world. It is just that the instantiation conditions of this relation involve subjects.

We may think of NIA as a form of *response-dependent realism* about composition. Response-dependent realism construes its target as a real, in some sense objective, feature of (and in) the external world. It is just that it construes its target as a response-dependent property (or relation). In one legitimate sense, response-dependent realism is something of a rubber duck – it is no more a kind of realism than a rubber duck is a kind of duck. If composition is response-dependent, there is something fundamentally irrealist about the facts of composition, and hence about some of the facts about composites. It is worth noting, however, that the view does *not* imply a corrosive anti-realism about objects. After all, on the view we are considering, the facts regarding the existence of simples and their point properties are completely mind- and response-independent. It is just that there is an overlay of response-dependence at the level of non-simples.

It may be objected that while a response-dependent account is acceptable in areas that deal with properties and relations, mereology is concerned with particulars, and here a response-dependent account seems wildly implausible. But the response-dependent account under consideration is an account of composition, not of composites. Composites are particulars, but composition can be thought of as a *relation* (between pluralities of objects and composites) or as a *relational property* (of pluralities of

objects). My inclination is to say that the property of being a composer is a property that some pluralities instantiate and some do not, and the response-dependent account tells us which do and which do not. It is thus an account of a (relational) property. Certainly composites cannot be response-dependent properties or secondary qualities, since they are not properties or qualities at all. But composites can be relata of relations, including with their components, that are response-dependent or secondary. On NIA, this is the case with composition. In the first instance, it is only the composing of an object, not the object composed, which is response-dependent.[30]

It may still strike the reader as implausible that such a basic ontological notion as composition should turn out to exhibit the sort of mind-dependent dimension suggested by the notions of secondary quality and response-dependent property. Philosophers with a general anti-realist bent might be comfortable with it, as might proponents of global response-dependent realism.[31] But for many philosophers today, it is a rather unpalatable notion.

As it happens, in many moods I personally find quite appealing an anti-realist conception of the structure of the world and how it divides up into discrete objects. In other moods, however, I feel more strongly the pull of the realist philosopher's cluster of sensibilities. In those moods, I agree that the anti-realist flavor of NIA is a liability. In the next section, I will develop a variation on NIA that may avoid this liability. But I still hold that while NIA carries this liability, it may still be vastly preferable to the alternatives. This is why I stressed the methodological importance of respecting intuition in §2. The alternatives are (a) that our intuitions do not track at all the actual extent of composition and (b) that composition is brute and inexplicable; and in any case we have no systematic knowledge of what is an object and what is not. Given these alternatives, it becomes very palatable indeed to hold that (c) composition is a secondary quality.[32]

The other major objection facing NIA concerns the specter of triviality. As noted in the previous section, NIA is *guaranteed* to return the right results in most (perhaps all) cases. But this is a double-edged sword. It makes NIA accord with intuition virtually hermetically. At the same time, this hermetic accordance appears to come too cheaply.

One response to this objection is to formulate a more relaxed version of the main idea behind NIA, a version that would *not* guarantee the right results, but *almost* would. Consider the more general idea that $O_1, \ldots, O_n$ compose an O just in case a normal subject would (under normal forced-choice conditions) *regard* $O_1, \ldots, O_n$ as an object. This more general view is that what makes $O_1, \ldots, O_n$ compose an O is that the plurality of $O_1, \ldots, O_n$ instantiates the dispositional property of being such as to elicit in a normal subject a tendency to treat $O_1, \ldots, O_n$ as an object. More precisely:

(GDA)   Metaphysically necessarily, for any (non-overlapping) objects
$O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ com-
pose O iff $O_1, \ldots, O_n$ are disposed to elicit in most normal
subjects under normal conditions the tendency to treat $O_1, \ldots,$
O_n as an object.

Call this the *generic dispositional account* (GDA) of composition.

Naturally, one way a subject could treat $O_1, \ldots, O_n$ as an object is by
intuiting that $O_1, \ldots, O_n$ is an object. But there are other ways to treat
$O_1, \ldots, O_n$ as an object. For example, a subject S might treat $O_1, \ldots, O_n$
as an object by forming a non-intuitive belief that $O_1, \ldots, O_n$ is an
object; or S might treat $O_1, \ldots, O_n$ as an object by behaving toward
$O_1, \ldots, O_n$ in a way that is characteristic of, or appropriate for, behavior
toward objects; or by activating perceptual processes of object-recognition
in the presence of $O_1, \ldots, O_n$; or by doing *all* those things, and more. The
generic dispositional account remains silent on what the most appropriate
construal of 'treating as an object' is and simply insists that composition
correlates with the disposition to elicit normal treating-as-an-object.

GDA does not guarantee returning the right results the way that NIA
does. Thus, it is not inconceivable that a normal subject may activate her
object-recognition processes in the presence of $O_1, \ldots, O_n$ even though
intuitively $O_1, \ldots, O_n$ do not compose an object. But even though GDA
may not track our intuitions *perfectly*, it is likely to track them *closely*.
For although we might be able to conceive of cases in which intuitively
composition occurs without (say) our object-recognizing faculty recogniz-
ing it to occur, such cases are bound to be few and far between. To that
extent, GDA at least fares better on the matter of according with intui-
tion than universalism and nihilism.

However, GDA does not move far enough from NIA. Because GDA
tracks our intuitions closely rather than perfectly, it is not entirely trivial,
but only almost so. Being almost trivial is not a virtue, however. At the
same time, observe that like NIA, GDA construes composition as a
secondary quality. It thus bears the same irrealist liability as NIA.

Another response to the objection under consideration is to deny the
triviality of NIA. Compare the following two statements:

(a)   Desk parts connected desk-wise compose an object if the normal
intuiter intuits that they do.
(b)   Intuitively, desk parts connected desk-wise compose an object if
the normal intuiter intuits that they do.

(b) may well be a tautology, but NIA is committed not only to (b), but
also to (a), which is much stronger and far from tautological. (a) is a sub-
stantive claim, one which nihilists and universalists must reject.[33] In other

words, NIA is not a trivial thesis; what is trivial is that NIA accommodates our intuitions.

This latter triviality will not embarrass the mereological optimist who adopts Hirsch's Shallow Ontology. On the contrary, this type of triviality is testament to the fundamental adequacy of the account, it underscores that it is an account of the right shape.

For someone unsympathetic to Hirsch's meta-philosophical stance, however, the residue of triviality may still generate the worry that NIA is insufficiently informative. There may well be a necessary coextension between composition and the disposition to produce the right intuitions. But is there not a reason *why* some pluralities of objects produce in us the intuition that there is a composite object and some do not? Is there not some feature common and peculiar to all those pluralities that tend to produce in us the intuition that they compose an object, and in virtue of which they have that tendency? And if so, would it not be more accurate to say that composition is *that* underlying feature, rather than the disposition it underlies? At the very least we can say that an informative account of composition would identify it with that property, not the disposition it underlies.

This is a well-placed worry, but it is not one that the pessimist is entitled to air. After all, what motivates pessimist accounts of composition is the notion that there is no good answer to SCQ (at least not one which divides pluralities into two subgroups, the object-composing and the non-object-composing), which is to say that there are *no* systematic underlying grounds for our objecthood intuitions. This is the principal motivation for universalism and nihilism and the only motivation for brutalism. For my part, I would be more than happy to grant that there is a feature common and peculiar to composite objects that underlies the disposition to elicit objecthood intuitions, and to identify composition with that underlying feature. This would be to identify composition not with the relevant disposition itself, but with its *categorical basis* (or, in a rigidified variation, its *actual* categorical basis).[34] I consider this option in the next section.

5.   *Beyond secondary qualities*

The view I want to discuss in this final section is that composition is the categorical basis of the disposition to elicit objecthood intuitions in normal intuiters under normal conditions. The view is this:

(NIA*)   Metaphysically necessarily, for any (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O iff the plurality of $O_1, \ldots, O_n$ is F, where F is the categorical basis of the disposition to elicit in most normal

subjects under normal forced-choice conditions the intuition that there is an O.

Or in a rigidified version:

(rNIA*)   Metaphysically necessarily, for any (non-overlapping) objects $O_1, \ldots, O_n$, there is an object O, such that $O_1, \ldots, O_n$ compose O iff the plurality of $O_1, \ldots, O_n$ is F, where F is the categorical basis in the actual world of the disposition to elicit in most normal subjects under normal forced-choice conditions the intuition that there is an O.

According to NIA*, then, composition is *not* the disposition to elicit intuiting that the $O_1, \ldots, O_n$ compose an object, but rather the underlying property that so disposes the plurality of $O_1, \ldots, O_n$. As before, I will conduct the discussion focusing on NIA*, but most and perhaps all I have to say should apply to rNIA*.

On its most natural interpretation, NIA* is not a secondary-quality account of composition. But what is important about NIA* is that it is an *optimistic* account of composition. It rejects the unifying conviction of universalists, nihilists, and brutalists that there is no positive and informative answer to SCQ that accords with intuition in the great majority of cases. And although NIA* may not be a secondary-quality account, it is pointed at by the secondary-quality approach we have taken to the issue of composition. According to NIA*, composition is probably not quite a secondary quality, but it is the categorical basis of one.

At least on this interpretation, NIA* certainly overcomes the two major objections to NIA. First, since it construes composition as a primary rather than secondary quality, it is not afflicted with the irrealist implications of NIA. There is no mind-dependence whatsoever involved in composition on NIA*. Second, since in NIA* composition is no longer constitutively tied to our intuitions, there is nothing trivial about the way in which it accommodates intuition. (More on this in a moment.)

However, there may be a way for composition to be cast as a secondary quality even on NIA*. Let D be the relevant disposition to elicit composition intuitions, and B its categorical basis. According to NIA, D is composition; according to NIA*, B is. Now consider the following Euthyphro-style question: Does B underlie D because B is composition, or is B composition because it underlies D?[35] Call the view that B underlies D because B is composition NIA_1^*, and the view that B is composition because it underlies D NIA_2^*. If we adopt something like NIA_2^*, then there is a deep sense in which we are still conceiving of composition as grounded in our intuitive responses to pluralities. For the direction explanation still goes from our intuitions to the facts of composition.

The ultimate explanation for the fact that a certain plurality of objects composes a further object is that the plurality in question instantiates the kind of feature that underlies the disposition to elicit objecthood intuitions. This is still a fundamentally secondary-quality way of thinking of composition.

There is a question as to whether the overcoming of the two major objections to NIA is preserved in NIA_2^*. After all, NIA_2^* does in some way tie composition constitutively to our objecthood intuitions, though certainly not as straightforwardly as NIA does. This raises again the specters of undue irrealism and triviality.

Thus if we adopt NIA_1^*, we acquire an additional explanatory burden. For if B underlies D because B is composition, then one is entitled to an explanation of how composition came to underlie the disposition to elicit all the right intuitions about objecthood. The explanation would presumably point out something about our intuitions that makes us such excellent trackers of objecthood. By contrast, if B is composition because it underlies D, as NIA_2^* maintains, then composition is constitutively guaranteed to underlie the disposition to elicit all the right intuitions, so no such explanation is required. The additional explanatory burden is avoided. It might be thought that this renders NIA_2^* slightly preferable to NIA_1^*. But the new explanatory burden associated with NIA_1^* is precisely an expression of the fact that NIA_1^* is not trivial or uninformative in the way NIA is. In NIA_1^*, a substantive story is called for to explain the general (if fallible) correctness of our objecthood intuitions, but once such a story is provided, intuitions will have been accommodated in an informative manner.

Note as well that our investigation of the categorical grounds for the relevant disposition may yet turn up that these grounds are disjunctive or 'wildly heterogeneous.' This might push us to identify composition with the (homogeneous) disposition rather than its (heterogeneous) categorical basis. For one thing, identifying composition with the disjunctive basis would commit us to the rather unseemly notion that Composite Object is not a natural kind. For another, many philosophers have embraced eliminativism about disjunctive properties – whether for reasons of explanatory projectibility (Kim, 1992) or because the theory of universals has no use for them (Armstrong, 1978) – which would entail eliminativism about composition, hence mereological nihilism. Thus in such circumstances it would be much preferable to identify composition with the disposition rather than its basis, somewhat as, say, rheumatism is identified today with a cluster of symptoms rather than their diverse underlying bases.

In any event, it is worth keeping in mind that whether the relevant disposition has a homogeneous categorical basis is not a philosophical question, but an empirical one. Whether there is a clean-cut categorical feature common and peculiar to pluralities we intuit to compose objects,

and if so what that feature is, are matters to be resolved by science, not metaphysics. With a combination of physics and cognitive psychology, the scientist is to investigate what it is about some pluralities that makes a normal subject intuit that they compose an object. Once the scientist provides us with a detailed account of the relevant feature, we could plug her account into NIA or NIA* to produce a full – and fully informative – theory of composition.[36]

On this way of thinking, the metaphysician's job is properly thought of as restricted to the specification of the relevant disposition, that is, of the relevant secondary quality. The rest is up to the scientist. Another way to put the point is this: the metaphysician should only be expected to produce the reference-fixer of 'composition'; the referent is to be provided by the scientist.

In summary, I have distinguished three positions on the interrelations among composition, the intuition-eliciting disposition, and its categorical basis. These are NIA, NIA_1^*, and NIA_2^*. NIA identifies composition with the disposition. NIA_1^* identifies composition with the categorical basis, and holds that composition is identical to the categorical basis independently of the disposition it is basis for. NIA_2^* identifies composition with the categorical basis, but holds that the categorical basis is identical to composition only *because* it underlies the disposition it does. NIA and NIA_2^* strike me as secondary quality accounts of composition. NIA_1^* does not, but first, it is motivated (at least in this paper) by pursuit of a secondary-quality approach, and second, it still assigns the metaphysician only the job of correctly identifying the secondary quality *associated* with composition.

In any event, I do not wish to make a firm commitment to one view among NIA, NIA_1^*, and NIA_2^*. Each has its attractions. Each is also problematic, but I think that their problems pale in relation to the problems of universalism, nihilism, and brutalism. The purpose of this paper has been primarily to inspire confidence in mereological optimism. I have attempted to show that by exploring the secondary-quality approach to composition, we can come to see more clearly the viability of optimism, which may fortify our resolve not to resort to, or settle for, one form of pessimism or another.

6.   Conclusion

In putting the desk parts together in accordance with the instructions, I have composed an object. I did so by bringing the parts together in such a way that a normal person would consider them to be an object. What makes normal persons consider some pluralities of items to be objects is something scientists should get busy telling us. When they do, we will have a full explanation of the fact that in putting the desk parts together

the way I have, I have composed an object. This way of thinking of composition casts it either as a secondary quality or as the categorical grounds of such a quality – depending partly on what the scientists report back to us. Such a secondary-quality approach to composition makes clear why we do not have to settle for an account of composition that is at odds with our pre-philosophical intuitions on what composite objects there are and/or raises skeptical worries about our knowledge of the realm of objects.[37]

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NOTES

[1] Against the background of classical mereology, to say that $O_1, \ldots, O_n$ compose O is to say that (i) each Oi is a part of O, (ii) for any x that overlaps O, there is an Oi that overlaps x, and (iii) for any Oi, Oj $\in \{O_1, \ldots, O_n\}$, Oi and Oj do not overlap each other (where A overlaps B iff there is a C such that C is a part of A and C is a part of B).

[2] In the case of universalism (Van Cleve, 1986; Lewis, 1991), I think it is correct to say that it has actually been more popular than the intuitive view that some objects compose further objects and some do not. Straight nihilism is rarely defended (though see Rosen and Dorr, 2002), but one often finds what we might call 'nihilism with exceptions': there are no objects composed by other objects *except for* living things (van Inwagen, 1990), or conscious things (Merricks, 2001), or somesuch. To be sure, there is a sense in which 'nihilism with exceptions' is just the view that composition occurs sometimes but not always. But since van Inwagen's and Merrick's versions do not actually track our intuitions about composite objects, it is also fair to underline their affinity to nihilism.

[3] For discussion, see van Inwagen, 1990.

[4] However, for a persuasive response to the claim that vague existence is unacceptable, see Smith, 2005.

[5] Consider, for example, the view that the core of composition is not contact but *bonding*: when objects are suitably bonded, they compose a further object (see van Inwagen, 1990 for discussion). It is not entirely clear what bonding is, but it is supposed to be a natural-joints parallel of contact, something that holds between the sub-atomic parts of an atom and does not between persons and the surface of the earth. This view may return the right results in these cases, but given its appeal to nature's joints, will return the wrong results for my desk and other artifacts. In addition, the notion of natural bond is even less clear than that of contact – in fact, is quite obscure – and does not help with the problem of vagueness.

[6] The account will thus counter one of the two main worries about restricted composition: that there is no way to make it workable, because every restriction we try out ends up returning the wrong results on *some* cases. The second main worry – that restricted composition leads to worldly vague existence – will not be addressed here. For my part, I have been persuaded by Smith (2005) that the worry can be neutralized. But in any case I have nothing new to say on this matter.

[7] The considerations probably apply mutatis mutandis to most other theories in metaphysics, but that does not concern me here.

[8] More specifically, it may be held that only our intuitions about particular cases – we may call those 'singular intuitions' – are of relevance.

[9] I am assuming here that explananda and data are not coextensive – that some things that function as inputs into theory construction are not things in need of explanation by the constructed theory (i.e. some data are not explananda) and/or some things that a theory ought to explain are not function as inputs to its construction (some explananda are not data). If this is false, then I would be tempted to argue that intuitions do exhaust the domain of explananda of metaphysical theory.

[10] I am indulging here the supposition, common today among philosophers, that these are singular terms. As it happens, I do not believe that is the case with proper names, but only with demonstratives.

[11] Furthermore, if intuitions are the only data, unless they differ along the theoretical-virtue dimensions, we would have no way of choosing between two theories that are massively discordant with intuition. Universalists and nihilists argue on which theory is more elegant, and attempt to cast their competition as incoherent. But if they fail, and the dialectical situation is something of a tie, there would be no non-arbitrary preferences to be had in their regard.

[12] Thanks to Kristie Miller for first pointing out this consideration to me.

[13] What we want to know is which composite objects there are *in the English sense of 'object.'* There may well be a legitimate notion of something the universalist or nihilist quantifies over, but since their quantifiers behave so differently from the 'there is,' that notion has no recognizable connection to the concept expressed by the English term 'object.' It is a technical notion, and we may as well flag that by introducing a technical term to express it. We could then safely say that while there desk parts in the box do not compose an object, they do compose an α_{17}, where an α_{17} is something the universalist's quantifier applies to.

[14] It is not a straightforward matter how to formulate the distinction between the perceptual part of mental activity and the intellectual part (sensation and cognition, as they used to say). Perhaps it has to do with the presence of sensuous qualities in perceptual processes but not intellectual ones, but this idea would have to be worked out in detail before it can be evaluated. Without offering a precise formulation of the distinction, I will rely here on the assumption that there *is* such a distinction.

[15] There are any number of more specific views on what an intuitive judgment is and what is involved in producing such a judgment. We need not take a stand on which one of those is correct.

[16] It is important not to characterize the well-functioning status of a faculty in terms of the faculty's producing the right intuitions. That characterization would make our account of composition in terms of normal intuitions circular and empty. Fortunately, however, there is a different way to characterize a faculty's well-functioning-ness, namely, in terms of its functioning in accordance with biological function, where the function is construed along the lines of the classical etiological theory of function (see Wright, 1973).

[17] This is not to say that she must choose between 'intuitively, p' and 'intuitively, $\sim p$'! Sometimes neither p nor $\sim p$ is intuitive. Also, arguably sometimes p is neither intuitive nor unintuitive, and if so 'not intuitively, p' is not to be conflated with 'unintuitively, p.'

[18] There is a degree of flexibility in this sort of account inasmuch as we have not fixed what 'most' must amount to. There will be an element of arbitrariness in deciding that 'most' means, say, 87% and not 84%. But the hope is that using either 87% or 84% as our gloss of 'most' would produce the same extension for 'object.'

[19] Secondary qualities are, very roughly, properties whose instantiation depends in some way on subjects. How to formulate more precisely the distinction between secondary and primary qualities more precisely is a controversial affair. The distinction between primary and secondary qualities is a tricky one, but as Johnston (1992) notes, we all have a relatively firm grasp of the extension of the primary/secondary distinction, even if not of its intension.

Even though it is difficult to formulate the distinction satisfactorily, we it is rather easy for most of us to produce lists of primary and secondary qualities, lists which turn out to be largely convergent.

[20] For a modern defense, see Boghossian and Velleman, 1989.

[21] On some conceptions of normality, it is a necessary truth that most people are normal. On others it is a contingent truth, though there may still be some biological (hence nomic) necessity to it. But on more or less all views it is a truth!

[22] Similarly for the positive-verdict case: to say that, intuitively, there is an object that the parts compose after my assembling them, just is to say that a normal intuiter would (in normal conditions) intuit that the assembled parts do compose an object.

[23] Compare: there is no circularity in a secondary-quality account of color according to which something is red just in case it is disposed to look red to a normal observer under normal conditions, because 'looks red' functions here as a syntactically unstructured expression (and that is because of the intensionality of look talk). Circularity would arise only if we further analyzed 'looks red' in terms of 'red,' but as long as we avoid doing so, there is no circularity. Similarly, if we analyzed 'intuits that there is an O that $O_1, \ldots, O_n$ compose' in terms of 'there is an O that $O_1, \ldots, O_n$ compose,' the circularity objection would have a bite. But if we find a way of analyzing 'intuits that there is an O that $O_1, \ldots, O_n$ compose' that does not do so, circularity is avoided.

[24] The point can be put as follows. NIA accounts for what makes $O_1, \ldots, O_n$ compose O in terms of what makes a normal subject intuit that $O_1, \ldots, O_n$ compose O. To be sure, to fully understand the account, we must have an independent account of what makes a normal subject intuit that $O_1, \ldots, O_n$ compose O. But the point is that we do not need an account of what makes $O_1, \ldots, O_n$ compose O in order to have an account of what makes a normal subject intuit that $O_1, \ldots, O_n$ compose O. So there is no circularity.

[25] This suggestion is certainly more controversial, inasmuch as it requires that there be something it is like to intuit that *p*. Although many philosophers may deny this, some arguments have been offered in recent years to suggest that propositional states such as this do have a distinctive and proprietary phenomenology (see, e.g., Pitt, 2004).

[26] One could certainly formulate a Very Special Composition Question, such that the nihilist and NIA answers to it would coincide, but it is unclear what that question would be designed to track.

[27] With the exception, of course, of the relevant facts concerning cognitive agents.

[28] Compare: according to the most natural interpretation of the secondary-quality account of color, in an inverted-spectrum world grass is red and snow is black.

[29] It ought to be recognized that rNIA has the advantage that it does not entail, as NIA does, the counter-intuitive consequence that objects are only accidentally (as opposed to essentially) objects. On the other hand, rNIA seems arbitrarily chauvinistic in privileging actual intuiters. For this latter reason, I prefer NIA. Of the three defenses of NIA against the objection under consideration, I personally prefer the first. But I recognize that the second and third probably speak to more readers' sensibilities.

[30] Having said that, there may well be an extended notion of response-dependence, such that it is not a category mistake to say that some object is response-dependent. This is not the notion of response-dependent familiar to us from the literature, but it could be devised relatively easily: something is a *response-dependent particular* just in case it is a particular whose essential, individuating properties are response-dependent.

[31] This is the view, explicitly defended by Pettit (1991), that all properties are response-dependent.

[32] Van Inwagen himself dismisses the kind of account I have defended here with the following tidbit: 'Let us always remember Abraham Lincoln's undeservedly neglected riddle:

How many legs has a dog if you call a tail a leg? The answer, said Lincoln, and he was right, is *four*, because calling a tail a leg doesn't make it one' (van Inwagen, 1990, pp. 7–8). There are subtler forms of anti-realism about composition than the one thus refuted, of course. To the extent that the Lincolnesque refutation is supposed to extend to those, my claim is that it fails to.

[33] Since you and I are normal intuiters, and we intuit that the desk parts connected desk-wise compose a desk, NIA entails that the desk parts connected desk-wise compose a desk, a claim that nihilism rejects.

[34] This may not actually amount to a modification so much as novel interpretation. After all, NIA is formulated extensionally, and it would still be true if it turns out that the categorical-basis view is the correct one.

[35] This is a question, in the first instance, about ontological primacy. The question is which of two facts about B is more primitive, the fact B is identical to composition or the fact that B underlies D. It may seem puzzling that the question assumes that identity facts can function as explain or be explained. On the other hand, *a posteriori* identities are discoveries, often surprising discoveries, and discoveries certainly need explanation and often offer ones. There is certainly something odd about identities as figuring in explanations, but probably the real explanatory work/demand is done/provided not by facts about identity but facts about co-reference. We may think of the question as follows: Does the referent of 'B' underlie D because 'B' and 'composition' co-refer, or do 'B' and 'composition' co-refer because the referent of 'B' underlies D? The answer to a question of this form will probably depend on the linguistic behavior of 'composition.' If 'composition' is directly referential, then the referent of 'B' underlies D because 'B' co-refers with 'composition'; if 'composition' refers via the (potentially rigidified) definite description 'the property F, such that (in the actual world,) F underlies D,' then 'B' co-refers with 'composition' because B underlies D.

[36] If the scientist reports that the relevant disposition appears to have a homogeneous categorical basis, we should plug her account into NIA*. If she reports that it appears to be heterogeneous, we should plug her account into NIA.

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