

WHY AND HOW NOT TO BE A SORTALIST ABOUT THOUGHT*

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In this paper, I aim to intervene in the debate about *sortalism* (the view that individuating a particular object necessarily involves classifying it according to its kind) but to do so in a way that brings out several points and distinctions that, in my view, are too often passed over. In the title to the paper, I suggest that we should reject, not sortalism *per se*, but sortalism *about thought*, and that my task will be showing not just *why* this view should be rejected, but also *how* it can be rejected. This gives some clue as to the points and distinctions I want to make.

In rejecting sortalism *about thought*, I reject one particular claim made by the sortalist. This is the claim that it is a condition on the possibility of singling out a particular object in thought that one categorise it in some particular way, by bringing it under a sortal concept (a kind concept).¹ Many discussions of sortalism involve a conflation of this claim, which I will call *thought sortalism*, with an analogous metaphysical view about the role of facts about kinds in determining identity facts, which I will call *metaphysical sortalism*.² That these two views are distinct should not be controversial (although the seemingly obvious distinction is often ignored or obscured), so my aim is not just to clearly distinguish the two in the process of denying thought sortalism, but also to make some important and often neglected points about their relationship.

Most sortalists (and anti-sortalists for that matter) view metaphysical sortalism and thought sortalism as two sides of a single coin, to be accepted or rejected together. But, once we clearly distinguish the two views, we see that a common way of arguing for sortalism runs metaphysical and epistemological issues together. If we set aside the specifically metaphysical considerations that often figure heavily in discussions of sortalism, what remains of the sortalist's case are two arguments specifically about the structure of thought. One of my aims is to be clear about what these arguments are, in a way that the literature is not.

My next aim is to show not just *why* we should reject sortalism, but also *how* we can reject it. By clarifying the sortalist's arguments about the structure

of thought, I try to show that, although these arguments do not actually support the sortalist's conclusions, they do contain important insights we should not ignore. Although there are fairly straightforward arguments against the sortalist's conclusion about thought, the arguments for her mistaken view (once they have been properly disambiguated) contain insights that shed light of the character of the very ability that she denies we have: the ability to think about particular objects *without* thinking of them as objects of particular kinds.

Philosophers of mind (or any philosophers who are interested in our capacity to have contentful thoughts about particular objects in the world) therefore have something important to learn from the debate about sortalism. This is the lesson that, although it *must* be the case that we are able to individuate particular objects for thought without classifying them as objects of particular kinds, there are difficult questions to be answered about *how* it is that we are able to do this. The sortalist gives us a way of formulating and pressing these questions. In recognising this (without accepting the sortalist's conclusions), we come to better understand our ability to think about particular objects without classifying them as members of particular kinds. The sortalist therefore teaches us something important about how we are able to achieve *conceptualisation without classification*.

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Before outlining the sortalist's position and argument in detail, let me briefly say something general about the broadest aim of this paper. This is the aim of shedding light, through an examination of sortalism, on a puzzle about thought that is not recognized as such either by defenders or rejecters of sortalism: On the one hand, it must be possible to have sortal-free thoughts, otherwise, we would have no account available of the way that unfamiliar objects come into the subject-matter of thought; on the other, there are obstacles that make it seem as if this couldn't be possible.

At a broad level, the question is, how do particular objects³ come to be the subject matter of thought? But, why is this a pressing question? Consider a case in which you stumble upon an *unfamiliar* object and have a thought,⁴ which we would naturally express with an utterance of:

‘I think this is an F’

We undoubtedly have thoughts like this all the time, but there is a puzzle about the thought's meaningfulness. That a thought like this is meaningful presupposes that one has succeeded in referring to something, or that the ‘this’ has a referent. So, to have a thought like this, one must individuate⁵ the object it is about. But, there are considerations that make us think that an individuation we might express simply with the demonstrative ‘this’ must in fact have a hidden complex form. These considerations are sometimes voiced in terms of the inadequacy of mere pointing. If I point over there, what do I thereby pick out? A statue, or a lump of clay, or the statue's facing surface? The scope of the indeterminacy of

my act of pointing seemingly depends on what range of kinds of thing we think there are over there.

Now, if, among other things, there is an *F* over there, and I believe there is an *F* over there, and wish to pick out that *F*, then I can make up for the inadequacy of merely pointing by specifying ‘that *F*’.⁶ On the other hand, it can’t be that one always needs to rely on one’s knowledge or true belief that there is an *F* over there in order to individuate an *F*. For a start, if it is to be a possibility that a thought like the one above is false—if thoughts to the effect that ‘*this* is an *F*’ are to be something other than tautologies—then the object in question must be individuated independently of the thinker’s believing or knowing it is an *F*.⁷ Furthermore, what if I see the *F*, but don’t know or believe it is an *F*. Finally, in order to be able to wonder or learn that this is an *F* you can’t depend on already knowing or believing it is an *F* to pick it out. There is, of course, the possibility of picking out an *F*, (when you don’t know or believe it is an *F*) on the basis of other knowledge or true belief about it—for example, your knowledge or true belief that it is a *G*—but this can’t always be the way individuation goes. This would presuppose that we always have existing knowledge or true belief about particular objects at our disposal when we individuate those objects. But, this brings us back to the question of unfamiliar objects: How do *those* come into the subject matter of thought?

In the paper, I will argue that a solution to this problem emerges when we 1) disambiguate two points from the sortalist’s larger case, 2) acknowledge these points as insights, and 3) let go of a fallacy that makes it seem as if these insights necessitate sortalism. The sortalist’s insights are, first, that there is a structural requirement on any act of (even attempted) individuation—that the act is structured by the application of principles for individuating objects—and, second, that there must be some mechanism by which an act of individuation solves for an indeterminacy between objects and their parts. Disambiguating these insights from the sortalist’s case is the work of §I & §III of the paper. In §II, I show why, despite these insights, sortalism cannot be true. In §IV, I argue that the key to reconciling these seemingly competing facts is giving up what I call *the descriptivist fallacy*: the fallacy that the only means by which an act of individuation can be structured by principles for individuating objects is through the use of a *concept*. I argue instead that the application of such principles can take place in perception, and therefore without the use of a sortal concept. Empirical work on perception, attention and infant cognition illustrates how this is so.⁸

I The Sortal Dependency of Thought

The sortalist position is that ‘individuation is sortal-dependent’.⁹ What is meant by this is *both* that picking out an object for thought requires employing a sortal concept (a kind concept) and that what it *is* for an object to be the object it is, depends on the sortal under which it falls.¹⁰ He views these claims as two sides of a single coin.

1.1 *What is a sortal concept?*

A better understanding of what a *sortal concept* is helps us to better understand the sortalist's position.

According to the sortalist, a sortal concept is a kind concept, but there is a particular sense of 'kind' intended here.¹¹ There is a sense in which any old property is a kind (on this sense of 'kind', *blue thing* is a kind, just as *rabbit* is a kind) but a sortal concept is a concept of a special type of property:¹² a property that determines principles of identity and persistence for particular objects that possess it.

There are grammatical features that take us part way to distinguishing the category of properties that determine principles of identity and persistence for the particular objects that fall under them. For example, the predicates that pick out these properties can feature meaningfully in a '*how many?*' question about spatiotemporal objects. So, only nouns, not adjectives, and, within that category, count nouns not mass nouns, express sortal properties.¹³ For example, '*how many tall/longs?*' and '*how many golds?*' do not usually yield sensible answers,¹⁴ whereas '*how many cats?*' and '*how many cars?*' do. However, this grammatical distinction only gives us a preliminary grip on the category of sortal property. Noun phrases like 'brown thing' have the same grammatical role as 'cat' and 'car' but many such phrases underdetermine answers to the '*how many?*' question. Absent further instruction, for example, one might count brown chairs *and* brown surfaces *and* brown patches when asked to count brown things. Brown things extensively overlap one another and, in any given case, there might therefore be indefinitely many of them.¹⁵

'Puppy', 'duckling', 'ANZAC'¹⁶ and 'passenger', all yield sensible answers to the '*how many?*' question, and thus determine principles of *identity* for particulars at a time, but they do not determine principles of *persistence* for the objects that fall under them. An individual can cease to be a puppy or a duckling without ceasing to exist.¹⁷ An individual can become an ANZAC, but this does not mark the birth or creation of that individual. A person can become a passenger when he boards a plane, stop being one when he disembarks and become one again on his next journey, without these changes entailing any object being destroyed or created.¹⁸ The fact that individuals persist through the change from, e.g., puppyhood to non-puppyhood, means that the property of being a puppy doesn't determine persistence conditions for the individuals that possess it. In contrast, 'human being' (arguably) does determine persistence conditions for the objects that fall under it, since (again, arguably) they cannot cease to be human beings without going out of existence.

In line with this contrast, there is a distinction between *phase sortals*, which do not necessarily apply to individuals over the course of their entire existence, and *substance sortals*, which, if they apply at all, necessarily do so over the course of an entire existence.¹⁹ A substance sortal is therefore a concept of a property that, if possessed by an individual, is necessarily possessed—that is, it is

a property that is a condition on the existence of individuals possessing it.²⁰ On the sortalist view, only substance sortals determine both principles of identity and principles of persistence.²¹

The sortalist claims (with a caveat I explain here) that all thoughts about particular objects employ concepts that determine identity and persistence conditions for those objects—that is, they all employ correct substance sortal concepts. The caveat is that, for example, a phase sortal, although it does not directly determine principles of identity and persistence for an individual, can be used to individuate that individual iff it *implies*²² a substance sortal that correctly applies to it. Likewise, an *incorrect* substance sortal can be used to individuate an individual iff it implies a substance sortal that correctly applies to that individual. The notion of *implication* I have in mind here is the reverse of subsumption. Some sortals subsume others, in the sense that all objects falling under the latter sortal, also fall under the former, but not *vice versa*. This is so for some pairs of substance sortals: All dogs are animals, but not all animals are dogs. All men are human, but not all humans are men. *Animal* and *human* subsume *dog* and *man*, respectively. It is also true for phase sortals and the substance sortals they are phases of: The substance sortal *dog* subsumes the phase sortal *puppy*.²³ Since implication is the reverse of subsumption, sortal concepts (and predicates) *imply* all the sortal concepts (and predicates) that subsume them. If a sortal, *F*, is true of *x*, then all the sortals that subsume *F* will also be true of *x*. If an object falls under the phase sortal *duckling*, it is therefore implied that it falls under the substance sortal *duck*, and under the substance sortal *bird*, since *bird* subsumes *duck* and *duck* subsumes *duckling*.

This means that, with respect to their individuating resources, uses of concepts expressed by count nouns can be divided into three classes: Uses of concepts that directly determine principles of identity and persistence for the objects falling under them, uses of concepts that imply a concept that directly determines principles of identity and persistence for the objects falling under them, and uses of concepts that do not directly or indirectly determine such principles.²⁴ Given this, it is arguably the case that, by falling in the second class, uses of phase sortals like *puppy* or *duckling* could be appropriate sortal concepts with which to individuate not just puppies or ducklings, but also adult dogs and ducks. It is also arguable that, although the sortal *duck* does not correctly categorise a dog, it can nonetheless be used to individuate a dog because *duck* implies the sortal *animal*, which *is* correctly applied to a dog. This caveat will be relevant later in the paper.

I.II *An argument for sortalism*

As I've said, one of the sortalist's claims is that all thoughts about particular objects employ sortal concepts in order to individuate those objects. This is a claim about thought. But the most frequently discussed argument for this

claim is in fact based on a claim about identity *itself*—that is, the argument for the claim about thought is usually premised on a *metaphysical* claim. In this section, I outline this argument in order to show, in the following section, that, if we set aside the sortalist’s metaphysical commitments, what remains are two independent arguments specifically concerning the structure of thought.

The sortalist is committed to the following metaphysical claim: The relation of *identity* is really the relation of *identity under a sortal* (the relation of being ‘...*the same F as...*’). This claim is used as a premise in her argument for the sortal dependency of individuation. In order to clearly distinguish this metaphysical view, I’ll call it *metaphysical sortalism* (MS):

(MS) The identity relation is a three-place relation of *identity under a sortal*, identity (& difference) facts are fully specified by facts about this three-place relation, and claims involving the two-place identity relation are derivative on these facts

If there is a question as to whether *a* is the same object as *b*, this always *amounts to* the question of whether *a* is, e.g., the same *person*, or *animal*, or *puppy*, or *statue*, as *b*. This is, as I have already said, not a claim about thought, but one about identity itself.²⁵

Given that sortal properties have been *defined* as properties that determine (either directly or indirectly) principles of identity and persistence for the objects that fall under them, this claim hardly looks surprising. But, the sortalist does not intend to be making a trivial claim. For her metaphysical claim to be more than trivial entails that the identity and persistence conditions determined by different sortal predicates sometimes *vary* or *differ*.²⁶ It would be vacuous to say that the facts about the identity of particular objects are determined by the sortal predicates that correctly apply to them unless there is a real and substantive *role* for sortal facts to play in constituting identity facts. The real substance of the sortalist’s metaphysics of identity is therefore that the identity facts about particular objects are constituted by sortals that determine *varying* identity and persistence conditions for different kinds of spatiotemporal objects (she holds that kind membership and identity are inseparable and mutually dependent).²⁷ For example, an animal arguably ceases to exist when it dies, whereas non-living things do not have their persistence conditions determined in this way. What it would be to *reject* MS would be to hold that the identity conditions of spatiotemporal objects are determined simply by their *being* spatiotemporal objects *tout court*, independently of these objects belonging to certain kinds.²⁸

MS therefore justifies what I will call *the argument that multiplies entities*, which, in turn, is used to argue for the sortalist’s view about thought. This argument takes as its premises Leibniz’s Law—that is, the Indiscernibility of Identicals: $(x)(y)((x = y) \rightarrow (\Phi x \equiv \Phi y))$ —and the commitment just outlined to the idea that substance sortals (in some cases) vary in the principles of identity and persistence that they determine for the objects to which they correctly apply.

A very familiar example illustrates the argument. Let's say that, in an otherwise empty corner of my garden, there is a statue of Socrates. In the very same location as the statue, there is of course the piece of bronze from which it was cast. Are the statue and the piece of bronze the same object? Are they identical? Melting would destroy the statue, but the piece of bronze would survive this disfigurement (statues and pieces of bronze are different kinds of things and have different *persistence conditions*). Thus, Leibniz's Law dictates that the statue and the piece of bronze are distinct objects. Although it may be natural to point at the corner of my garden and claim there is but one object in it, according to the argument for multiplying entities, there are so far at least two. Once we take into consideration the identity and persistence conditions for statue surfaces, statue parts, aggregates of matter, etc., there will be indefinitely many distinct objects.²⁹

MS and the argument for multiplying entities are then taken to entail the claim about thought that we are interested in. From here on, we will call this claim about thought, *thought sortalism* (TS):

(TS) All thoughts that individuate particular objects employ sortal concepts.

The reasoning towards this claim is not always entirely clear,³⁰ but it goes something like this. If we can say of an agent that she is thinking of a particular object, x , then we are crediting her with an act that individuates x . This is an act that involves counting x (or conceiving of x) as a single thing to be distinguished from other things, and therefore involves an implicit judgment about identity.

Furthermore, the consequence of a metaphysics of varying identity and persistence conditions for different *kinds* of objects—that is, of MS—is that an act of individuation will not be successful unless it appeals to the notion of identity under a sortal and in fact specifies an individuating sortal. Recall the argument for multiplying entities and the statue occupying the corner of my garden. If it is true that there are in fact indefinitely many objects occupying this corner of my garden (a statue, a piece of bronze, a statue half, etc.) then singling out only *one* of them as the referent of thought demands a specification of *which* one. Pointing or demonstrating, or referring to 'the object over there' will not do the job, because, if there are many objects to choose from, it could always be asked, '*which* object over there?' The proponent of TS claims that distinguishing between the possibilities requires either a correct substance sortal concept, or a sortal concept that implies a correct substance sortal.³¹

I.III *The Statue/lump problem*

It is clear that the sortalist's argument for TS is presented as a worry about indeterminacy and, therefore, failure of reference. The broad shape of the sortalist's claim about indeterminacy is something like the following.

Without the employment of a sortal concept, an act of thought would fail to individuate a single object—and therefore fail of reference—because it would remain indeterminate between indefinitely many objects that co-occupy the location towards which, say, an attempted demonstrative identification is aimed.

However, there are in fact two distinct indeterminacy challenges, which discussions of sortalism often fail to distinguish. One of these challenges presupposes the sortalist's controversial metaphysical position. The other is an indeterminacy challenge that must be faced regardless of whether one accepts or rejects MS.

Both indeterminacy challenges have the same structure. They begin with the premise that, if a thought is to succeed in individuating a particular object, there must be something that *makes* it the case it is about one object rather than another. One's act of pointing, directed towards some source of information, is insufficient to secure reference. The sortalist asks, 'which of the indefinitely many objects at that location is the thought about?' She challenges us to account for a determinate answer without positing the use of a sortal concept.

I'll call the most familiar form of this challenge the *statue/lump problem*, because it is often illustrated with the example, which was discussed in §I.II, of a statue and the lump of, say, bronze or clay, which constitutes it. Take some location at a time, say, the corner of my garden with the statue in it, this afternoon. Despite the natural tendency to think there is only one object in this location, the sortalist argues there are indefinitely many objects that share the exact location in question:³² a statue, a lump of clay, an aggregate of matter, etc. As a consequence, no purely spatial identification, no matter how exact, can distinguish one from the rest.³³ This indeterminacy challenge relies on a metaphysics of *varying* principles of identity and persistence for physical objects of different kinds—it relies on the truth of MS. It is only if we presuppose this metaphysics that the argument for multiplying entities generates the claim that a multitude of different kinds of objects share an exact location in space.

This argument therefore depends on a substantive and disputed claim: that distinct physical objects can share space at a time when one is not a part of the other. It therefore depends on rejecting the attractive conception of physical objects according to which they *exclude* one another in space. It is a compelling fact about ordinary medium-sized physical objects, and arguably part of our ordinary conception of them, that you can *bump into them*. If you wish to occupy the space currently occupied by an ordinary medium-sized physical object, you will need to *move* it. This point motivates some philosophers to reject the sortalist's metaphysics.³⁴ Aside from the worry that MS presupposes a distorted conception of the nature of physical objects, her view also poses problems for the idea that a single physical object could change from a statue into a mere lump of clay,³⁵ and for the idea that a single object could be *both* a statue and a lump of clay.³⁶ Wiggins famously introduces the notion of an 'is' of constitution to account for the sense in which the statue 'is' the lump of clay, and there is much to be said about the plausibility of this move and about the

viability of the sortalist's metaphysics, but this debate is a debate in metaphysics. Thus, the statue/lump indeterminacy problem cannot be resolved independently of giving a substantive account of the metaphysics of physical objects and the nature of identity.

I.IV Part/whole indeterminacy

Arguments against sortalism often focus on questioning MS—that is, on disputing the claim that a statue and the lump of clay that constitutes it are distinct objects. But there is a second indeterminacy challenge we can pull out of the sortalist's argument, which does not rely on metaphysical sortalism. This challenge, firstly, *cannot* be rejected on the basis of rejecting the sortalist's metaphysics and, secondly, *can* be addressed on the basis of considerations about thought.

This second indeterminacy challenge is not based on the claim that distinct physical objects can share an exact location at a time, but on the more commonplace idea that whole objects share partial locations with their parts. This fact generates what I will call *the part/whole indeterminacy challenge*.

The part/whole indeterminacy problem can be illustrated by thinking about the account of perception-based demonstrative thought that is offered by Gareth Evans, in Chapter 6 of *Varieties of Reference*. Evans offers an account of perceptual demonstrative thought according to which these thoughts do not require a sortal concept to succeed.³⁷ He argues that successful demonstrative identification requires, firstly, that the thinker have a perceptual informational connection with the object of her thought that governs her conception of it and,³⁸ secondly, that she have knowledge of the object's *location* on the basis of this connection.³⁹

It is this second condition that, according to Evans, accounts for the determinacy of demonstrative identification. For this to be so Evans must presume that physical objects exclude one another in space. If they did not, tracking the spatial location of an object would not serve to individuate it.⁴⁰ But, granting that this is the case, there is a further indeterminacy problem, which an account like Evans's must address. Let's agree for argument's sake that knowledge of the exact location of a physical object would serve to individuate that object from all other physical objects, because whole physical objects exclude one another in space. Even given this, it is hard to accept that ordinary perceivers ever *have* knowledge of the *exact* locations of objects on the basis of perception. Perception simply does not seem to supply us with knowledge of the exact boundaries of the objects we perceive. Take the case of me perceiving the statue in my garden. I have some sense of where it is located with respect to my body, but exactly how precise is this sense? How far away is the statue? How deep is the statue? How far does it extend in space on its unseen side? Are there any holes in it? This problem generalizes in an alarming way. I see a hydrangea bush

in front of me clearly, but how deep are its roots? Is the apple on the counter a whole piece of fruit? It is possible that a slice been cut from the opposite side. If it is whole, is the unseen surface flat or lumpy? If it has been cut, where does the piece I perceive end?⁴¹

A more general version of this point has been important in the philosophy of perception. There is a worry that there is a tension (or gap) between the information we *strictly* speaking receive on the basis of perception, and that to which we take ourselves to have perceptual access on that basis.⁴² Although parts of material objects are always out of view in perception, we often take ourselves to perceive a statue or an apple, not merely the facing surface of a statue or an apple-part.

Unaddressed, this problem puts pressure on the possibility of non-descriptive perception-based thoughts. If perception itself does not disambiguate between parts, surfaces, wholes, etc., then all successful perception-based thoughts have the hidden form of descriptions.⁴³ My thought about the statue in my garden either fails (because it is indeterminate whether it refers to the statue, or some visible statue part), is really only about a statue-surface, or in fact has a content (something) like,

1) *The statue whose surface I now perceive is F,*

which is descriptive in form.

The second indeterminacy challenge that can be abstracted from the sortalist's argument is therefore that there must be some means by which the object of a thought is distinguished from its parts. The sortalist's claim is that this disambiguation cannot be achieved without the use of a sortal concept.

I.V *The argument from structure*

The challenge I just discussed faces the theorist of thought even if she rejects the sortalist's metaphysics. But there is also an even more basic consideration that is raised by the sortalist, which is not merely an indeterminacy problem, but rather a fundamental and compelling point about the logical or cognitive structure of thought—a point about what it takes for a thought to so much as be an *attempt* at individuation.

At the heart of the sortalist's argument is an idea that is similar to one made by Frege in the *Foundations of Arithmetic*: To judge that $a = b$ (or to conceive of a as identical to b) is to judge that a and b ought to be counted as one. But there is no way of counting a , b or anything else as the same or different without applying principles for the count. Individuating an object for thought involves distinguishing it from other things, and doing so involves conceiving of it as distinct from other things. This in turn involves a kind of identity judgment (a negated identity judgment). And, making such a judgment must involve the application of principles of sameness or difference for the object in question. In order to *be*, in this implicit sense, a judgment of identity, a mental

state must be structured by such principles. We'll call this, *the argument from structure*. The central thought behind the argument from structure is that there is an obligatory question we must ask about putative thoughts about particular objects: *What structure must a thought have in order to so much as be in the business of individuating?* According to the structure argument, the application of principles for carving things up is a structural requirement on an attempt at securing reference.

The sortalist takes the argument from structure to entail that thoughts about particular objects must be structured by a concept that determines the principles of identity and persistence for the object it applies to—that is, a sortal concept.⁴⁴ But, the argument from structure can be seen, more broadly, as laying down a condition that, in order to so much as be in the business of individuation, a thought about a particular object must be structured by some application of principles of identity.

II *Why to Reject Sortalism about Thought*

We have abstracted from the sortalist's case two arguments that do not rely on metaphysical sortalism as a premise. These arguments suggest that there are two constraints on any account of thoughts about particular objects. Firstly, there must be something that accounts for the determinacy of such thoughts—in particular, successful reference to a particular object presupposes that there is some way that the thinker disambiguates a perceived object from its parts. Secondly, since a thought about a particular object presupposes individuation of that object, it must be structured by some application of principles of identity.

The sortalist claims that the use of a sortal concept as part of a thought would satisfy these constraints. It may be true that sortal concepts *can* play this role, but the sortalist does not appreciate the puzzle about thought with which this paper began. The puzzle is that, although sortal concepts are the right kind of thing to account for the determinacy and the individuating structure of thoughts about particular objects, and although there are reasons to think that there must be *something* that plays these roles, TS *cannot* be true. In §II.I, I argue that sortalism cannot be true because it forecloses the possibility of cases that do and must exist. In §II.II, I further illustrate the nature of these cases by expanding on their special conceptual features.

II.I *Counterexamples to TS*

Three kinds of case, all involving perception-based thought, illustrate why the sortalist's claim, that all individuation of particular objects involves the use of sortal concepts, must be false.

Firstly, TS forecloses the possibility of wondering, of a perceived object,

2) What *is* that?

But, we undoubtedly do this all the time. Imagine me in my garden, perceiving the statue in the corner, and thinking about it. Imagine, further, that I'm agnostic as to what *kind* of thing I'm seeing (the statue is obscured by foliage in such a way that I can make out its boundaries, and some of its properties, but not what kind of thing it is.) In fact, the nature of my thought is that I am wondering what kind of thing the object in front of me *is*: 'what on earth *is* that thing?', 'Is it a statue, a human being, or something else entirely?'

TS rules out the very possibility of such a case. Without the employment of a sortal concept, TS holds, there simply *is* no particular object about which I am thinking—no object has been individuated. This would mean that it would not even be possible to sensibly formulate in one's mind the question, 'what *is* this thing?', because the lack of an answer to this question would preclude the question from having *content*. But, we meaningfully formulate this question all the time.

Over and above the fact that we *do* have thoughts in which we wonder, of an object, what kind of thing it is, there is also force to the argument that we *need* to sometimes do this. If we didn't, there would be no such thing as examining a thing in order to *learn* what kind of thing it is.⁴⁵ This would be a strange outcome, since one of the primary ways we have of making up our minds about what objects are like, and what kinds of things they are, is *looking at them* (or touching them, listening to them, etc.). If we could not think about things antecedently of knowing what kinds of things they were, we could not *answer* a question 'what kind of thing is *this*?' by looking. Furthermore, it is compelling to think that one way of acquiring concepts of kinds is through the process of recognising similarities and differences in the particular objects that fall under them.⁴⁶ In ruling this out, the sortalist rules out some of the primary and necessary functions of perception: learning and concept acquisition.

It is also a condition on any reasonable account of thoughts about particulars that it accommodates the possibility of thinking about a particular perceived object despite being *mistaken* about what kind of thing it is. If I see the statue in the garden, and form the belief

3) That is a man (who is sitting very still)

I will have entertained a thought that is *false* but nonetheless *contentful*: I think falsely, of the statue before me, that it is a man. The sortalist precludes the possibility of *many* such cases.⁴⁷ In claiming that a sortal concept is required to *determine* the referent of any thought that succeeds in referring to a particular object, the sortalist precludes the possibility of this kind of *failure within the scope of success*. On her view, since sortal concepts necessarily play the role of *determining content*, the kind of mistake involved in (3) must either be understood as an attempted act of individuation that fails of reference because it *lacks* the employment of an appropriate sortal, or as an attempted act of individuation that fails of reference because it employs a *mistaken* sortal concept.

If the case is theorised as one in which there is no sortal concept employed, then the sortalist is committed to the thought being indeterminate. If the case is conceived in the latter way, as employing a false sortal concept, then the thought will fail of reference. If the concept *man* is functioning as a sortal concept in the content of the thought (and plays a role in individuating the object of thought rather than merely playing the role of a predicational concept), then the content of that thought can be represented as having the following complex demonstrative form:

4) *That man* is a man

But, as an act of thought directed towards the statue in the garden, (4) is not false, but rather fails to pick out an object: There *is* no *man* in my garden. The thought fails of reference by virtue of my false belief about what kind of thing I am thinking about. In claiming that a sortal concept must always be employed in order to individuate a particular object, the sortalist rules out a case in which an object is individuated *independently* of the agent's belief that the object in question is, say, a *man*. She rules out the possibility of my having a false belief *about that very object* to the effect that it is this or that kind of thing.

A third kind of case, which depends on the same possibility of failure within the scope of successful mental reference, involves disagreement. Walking through the garden together, you and I both see a small object in the grass. I think that it is a rabbit, paralysed by fear of our presence. You think it is a white ball of wool. We stand at a distance, and argue about this. The possibility of this argument rests on the fact that we disagree about whether a particular object is a rabbit or a skein of wool—it rests on us thinking about the same object. We have conflicting beliefs and no more than one of us could be correct. This could not be the case if not for the possibility of mistakes about kind within the scope of referential success. Thus, it could not be the case on the sortalist's view.

*

Whilst nobody would deny the possibility of these kinds of cases, the sortalist might respond by arguing that her view can accommodate them. For example, it might be suggested that a *mistaken* sortal concept can act to secure determinacy (and therefore reference) for a perception-based thought by *implying* a *correct* sortal concept. Secondly, but less compellingly, the sortalist might argue that TS claimed only that *some* sortal concept is employed as part of every successful individuation, not that a *correct* sortal concept is always employed. One could satisfy this condition, she might suggest, by employing a sortal concept that is not in fact true of the object one is thinking about.

These attempts to redeem TS fail, but they allow us to become clearer about exactly what the thought sortalist does commit herself to.

The suggestion that a mistaken sortal concept can (in some cases) secure reference should be conceded. But this concession does not protect TS from

counterexamples. The notion of *implication* (introduced in §I.I) helps to precisify the suggestion, and the appropriate response to it. Recall that a sortal concept *implies* the sortal concepts that subsume it. In some cases, a mistaken sortal concept can *imply* a correct sortal concept. Thus, a mistaken sortal could serve to secure successful reference as long as it is subsumed by, and therefore implies, a correct sortal. Take a case in which I perceive a dog running through my garden and, mistaking it for a cat, think,

5) *That cat* is the largest cat I have seen

A thought like this would fail of reference because there is simply no cat present for me to think about, but, if a thinker is committed to (5) and is an adult concept-user with some grasp of the relationships between many of the concepts she possesses, she will also be committed to (6):

6) *That animal* is the largest cat I have seen

Unlike (5), (6) *is* (false but) contentful. It succeeds in picking out the dog in front of me.

But, this response does not explain away the counterexample I outlined with (3) above. Not *all* cases of thoughts involving mistaken sortal concepts leave open the possibility of successful reference in virtue of the relation of sortal implication. In some cases, the concepts used do not imply a correct sortal concept. In fact, the case I outlined earlier was one in which an artifact is mistaken for a living thing. There is therefore no implied higher sortal concept that could account for the success of the thought.⁴⁸ Thus, even allowing for the possibility of implied sortal dependent identifications, TS still rules out important cases of failure within the scope of success.

The second suggestion is less interesting (but I have heard it suggested often, so I will address it). It is sometimes claimed that the sortalist could retreat to the position that *some sortal concept or other* is required to be employed in an act of individuation.⁴⁹ The suggestion here is not that any sortal concept can play the required role by implying a correct sortal (this would amount to the suggestion discussed above), but rather that there need not be a *correct* sortal implicated in successful individuation, as long as some sortal concept or other is employed.

In making this suggestion, the sortalist is unfaithful to her own view. She has claimed that the employment of a sortal concept plays a special (and necessary) role in any thought about a particular object: it does essential work in individuating the object the thought is about. The *absence* of a sortal concept is meant to result in the indeterminacy of an act of perceptual individuation. This results in a failure to think a fully formed *content*. Furthermore, it is claimed that a thought involving, e.g., the concept *statue*, and one involving the concept *lump of bronze*, will have *different* contents—they will refer to different entities. Thus, the use of one sortal concept rather than another *makes a difference* to the content of the resulting thought. The sortal concept is supposedly doing the work of making the attempted act of individuation refer to some particular object (say,

the statue) rather than some other (the lump), or none at all. But, this means the sortalist faces a dilemma. Either sortal concepts do indispensable *work* in generating the contents of thoughts, or they do not. If they do, then it doesn't make sense to claim that particular sortal concepts can be substituted without effect. If they don't, then this seems to impugn the sortalist's original claim; it seems tantamount to abandoning TS. If the use of any sortal concept at all can secure successful individuation, then how could the use of any particular one (ie., *statue* rather than *lump* or a *statue part*) solve a problem of indeterminacy, or secure referential success?

II.II *Conceptualisation without classification*

The cases discussed in §II.I stand as counterexamples to thought sortalism—they are cases in which a thinker successfully individuates a particular object in thought, without relying on a sortal concept to do so. We see the importance of these cases by recognising that they represent a special kind of possibility that the sortalist rules out with her view: the possibility of thoughts that involve conceptualisation of particular objects without classification of those objects. Aside from the mere fact, which was illustrated in the previous section, that these cases actually exist, it is also worth noting that they have distinctive conceptual features that do not show up on a picture of thought that embraces TS.

Imagine, that there is a single duck circling the pond in front of my cottage (let's call him Donald). Contrast two different kinds of thought I could have about Donald. The first is a descriptive thought:

7) The only duck who is now circling the pond in front of my cottage is yellow

What strikes us immediately about (7) is that thinking it obviously requires me to have and employ the sortal concept *duck* (as well as several other property concepts). This is because the concept is part of the content of the thought. And, possession and employment of the concepts composing the content of a thought is a condition on entertaining that thought. There are many different descriptive thoughts that might (under the right circumstances) relate a thinker intentionally to Donald, but they all require the possession and employment of property concepts (some of them sortal concepts) under which Donald in fact falls. They all achieve reference to Donald *through* classification of him as an object with *x*, *y* or *z* properties.

In contrast, there is a kind of thought I could have about Donald, which doesn't individuate him by classifying him as an object with certain properties or an object of a particular kind. If I look out at the pond in front of my cottage, I might *see* Donald and think,

8) *that* is yellow

(8) is an example of what philosophers call a perceptual demonstrative thought.

So, here is my suggestion. We could say that there is a relation—call it, the ‘thinking-about-Donald’ relation—that comes in two distinct forms. One form we’ll call the *satisfactional*⁵⁰ thinking-about-Donald relation. It involves individuating Donald by his properties (Donald is the object on which the truth or falsity of a thought involving this relation turns because he *satisfies* the conditions laid out by the thought). The other we’ll call the *non-satisfactional* thinking-about-Donald relation. It involves individuating Donald in some other way—some way that does not depend on his satisfying any descriptive conditions.

This difference is reflected in the contents of thoughts of the two kinds. The content of (8) does not contain the concept *duck* or any properties that serve to individuate Donald.⁵¹ It is about Donald *independently* of anyone thinking or knowing that he is a duck. In contrast, the fact that Donald is a duck is essential to the fact that (7), the satisfactional thought, is about him. (7) picks out *whichever* thing happens to satisfy the description that features in its content. Since Donald happens to be the only duck circling the pond, (7) is about him.⁵² If Donald were not a duck, it wouldn’t be. (8) doesn’t rely on Donald’s *duckness* to individuate him. If Donald were a swan, or someone mistook him for a swan, this wouldn’t preclude (8) from being about him.

It is essential to the nature of a *satisfactional thought* that it relates a thinker to an object through classification. In contrast, what is characteristic of (8), and the cases that are counterexamples to TS, is precisely that they relate thinkers to particular objects in a way that doesn’t rely on classification—they involve *conceptualisation without classification*. This suggests that embracing TS involves foreclosing the possibility of genuinely non-satisfactional thoughts about particular objects.

Beyond the fact that this would, as we discussed in §III.I, rule out the possibility of cases whose occurrence we are familiar with, there are more general theoretical reasons why this would be problematic. The possibility of thoughts that involve conceptualisation without classification has an important role to play in our larger theory of thought and mental content. The distinctive epistemic and conceptual features of these thoughts—that is, the fact that they allow for mistakes, or agnosticism, about properties within the scope of successful reference—means that they can play a distinctive role in learning and concept acquisition. They might also have a special role to play in our understanding of how a system of thought in general could come to be contentful or to be about the world.⁵³

III The Sortalist’s Insights

It seems to me that this leaves us with a problem to solve. We have good reason to reject the sortalist’s conclusions about thought. It seems that we *can*

individuate objects for thought without using kind concepts to do so. There are thoughts with contents of the form,

9) *this* is an *F*

and the content of such thoughts is not, as would appear to be the case on the sortalist's view, really elliptical for something of the partially satisfactoral form of,

10) *this H* is an *F*

However, the sortalist's argument gives us reason to regard this as at least *puzzling*. A way of thinking about this puzzle is that we know there are thoughts that involve conceptualising objects without classifying them but, given the considerations brought to our attention by the sortalist, we need an explanation of *how* this could be so.

It is common that arguments against sortalism focus on the statue/lump problem, and attempt to argue against thought sortalism by arguing that physical objects exclude one another in space,⁵⁴ or that *physical object* in fact functions as a substance sortal,⁵⁵ and the sortalist is therefore wrong to posit an indeterminacy problem. However, there are two reasons why approaching the topic differently will be useful. Firstly, even if we set aside the problem of statue/lump indeterminacy, a proponent of the possibility of sortal-free thoughts must still show how the problem of part/whole indeterminacy can be solved without adopting sortalism. Secondly, it seems to me that, unlike the statue/lump problem, the part/whole indeterminacy challenge, and the argument from structure, raise questions that are specifically about thought (not the metaphysics of identity), which can be addressed through a discussion of the structure of thought. They force us to think carefully about how thought can succeed in individuating particular objects *without taking a satisfactoral form*.⁵⁶

So, in showing how we can address the part/whole argument and the argument from structure without adopting TS, we will establish some conclusions about how non-satisfactoral or sortal-free thoughts *work* and, therefore, some important conclusions about our ability to think thoughts about particular objects.

IV How to Reject Sortalism about Thought

Luckily, we can reject TS whilst also resolving the part/whole indeterminacy problem and addressing the argument from structure. In doing so, we will recognise two insights about thoughts about particular objects: 1) thoughts about particulars must be structured according to the application of principles of individuation and 2) thoughts about particulars must have some mechanism by

which they distinguish between objects and their parts. My proposal for how we can accommodate these insights furthermore shows us where the sortalist goes wrong in her account of thought.

IV.I *Rejecting the descriptivist fallacy*

Let us begin with the argument from structure. This argument centers on the basic logical or cognitive point that there is no way to individuate a single object without structuring an act of individuation according to the application of principles of individuation. But, the sortalist concludes on this basis that the application of a sortal concept must structure any act of individuation. In order to generate TS as a conclusion, the sortalist makes an assumption: that the principles of individuation that structure an act of individuation must be contributed in the form of a *concept* (in particular, on her view, a sortal concept), which is employed in the thought—one that will therefore enter into the thought's *content*. And this claim has simply not been established. I am going to call the assumption that only the use of a property concept could provide the individuating structure required of an act of individuation, *the descriptivist fallacy*, because it entails that, in order to satisfy the demands set in place by the argument from structure, a thought must have a satisfactoral, or descriptive, component.

By giving up the descriptivist fallacy, we can do justice to the argument from structure without adopting TS. If we recognize that employment of a *sortal concept* as part of the content of a thought is not the *only way* a thinker can bring to bear principles of individuation that structure her concept of an object, we will see that the sortalist's insight about the structure of thought can be vindicated without adopting thought sortalism. In particular, we can do this by seeing that our perceptual abilities themselves involve the application of principles of individuation that meet the demands of the argument from structure.

In §IV.II, I flesh out my suggestion that, by giving up the descriptivist fallacy, we can address the argument from structure without adopting TS. In §IV.III, I show how the account of perceptual abilities involved in rejecting the descriptivist fallacy also resolves the problem of part/whole indeterminacy. I then return, in §IV.IV, to say more about my claim about perception.

IV.II *Principles of individuation in perception*

My suggestion is that the sortalist is wrong to think that picking out a particular object for thought requires employing a property concept (in particular, a sortal concept) as part of one's act of individuation. Rather, we should recognize that, the application of principles of individuation comes 'built in' to our perceptual abilities.

A growing body of cognitive scientific results helps us to understand this suggestion. These results demonstrate that very young infants have a perceptual sensitivity to spatial information and are able to *bring this information to bear* in a systematic and reliable way in forming ‘expectations’⁵⁷ about the identity and number of physical objects. These results are sometimes said to prove that infants operate with a concept *physical object*, which they use to make judgments about identity and number. But they seem to me to underdetermine this. They more clearly show that infants have a *perceptual ability* to attend to and successfully track objects on the basis of spatiotemporal information *before* they have developed a full-fledged system of concepts (among which are sortal concepts like *cup*, *dog*, etc., and concepts like *physical object*).

Xu (1997), for example, argues that infants are able to use spatiotemporal information to form expectations about identity well before they develop kind concepts or can harness kind information for the same purpose. The case she makes is of interest to me because it gives us a sense of what it would mean to have available an *implicit* understanding of principles of identity (in this case spatial principles), which could be brought to bear in providing the required individuating structure to thoughts about particular objects.

Xu makes a division between spatiotemporal information criteria and kind/property information criteria of individuation for physical objects.⁵⁸ Spatiotemporal criteria she mentions are that 1) two objects cannot be at the same place at the same time, 2) one object cannot be at two places at the same time and, 3) objects travel on spatiotemporally continuous paths (so that no object can move from point A to point B without traversing a continuous path in space in between).⁵⁹ Kind/property criteria she mentions are the following: 1) if one sees a member of a certain kind (eg. a cup) at a time t_1 , and then a member of a different kind (eg. a dog) at a later time t_2 , one has evidence that one has seen two numerically distinct entities and, 2) if one sees a member of a certain kind with some visible property (eg. a red block) at a time t_1 , and then a member of the same kind with a different property (eg. a blue block) at a later time t_2 , one has evidence that one has seen two numerically distinct entities.⁶⁰ She argues that infants as young as four or five months old make use of all three spatiotemporal criteria but fail to operate with kind criteria until much later.⁶¹

That infants of five months form expectations based on the criterion that objects exclude one another in space is demonstrated by Baillargeon et al. (1985), through experiments in which infants were shown displays involving a screen, which is rotated by 180° forward and then backward, in ‘a drawbridge fashion’. After habituation to the display, a box was introduced to it, and then placed behind the screen. The infants were then shown two outcomes. The first, which is the expected outcome if you are operating with the principle that two objects cannot be at the same place at a time, was one in which the screen stopped short of its 180° rotation (because it is blocked by the box behind it). The second, the unexpected outcome, was one in which the screen rotated the full 180°. Infants looked longer at the unexpected outcome, suggesting that they form expectations

about identity based on the generalization that objects exclude one another in space.

Baillargeon & Graber (1987) show that five month-olds have their expectations guided by the principle that objects cannot get from point *A* to point *B* without traversing a continuous path through the space in between. The subjects were shown rabbits that moved from one side of a stage, behind a screen that obscured them from view, and then appeared on the other side to complete their motion across the stage. They then watched a similar event that used a screen from which a 'cut-out' was taken from the middle section of the top-half of the screen and the rabbit was tall enough that motion from one side of the screen to the other would involve it appearing as it crossed behind the cutout in the screen. Again, two outcomes were shown. In the first, the rabbit moved across the stage, disappeared behind the screen, appeared behind the cutout as it moved behind the screen, and then appeared again on the other side of the screen. In the second, it disappeared behind the screen and did not appear again until it emerged from behind the other side. The second outcome produced longer looking times, indicating the infants expected that the rabbit would need to cross behind the screen to appear on the other side.

Spelke et al. (1995) demonstrate that infants as young as four months old take spatiotemporal discontinuity as evidence for the existence of numerically distinct objects, thus showing that they employ criterion (3) to form expectations about identity. These experiments involve a display of two screens with a gap between them, which are lowered onto a stage. A first test conducted is one in which a rod then appears from behind the left screen, moves to the far left end of the stage and then returns behind the left screen. An identical rod then appears from behind the right screen, moves to the far right of the stage, and then returns to its original place behind the right screen. There is a pause between the two events, (of the right length of time for a rod to travel between the two screens) but no rod appears between the screens during this pause. Infants are then shown two different outcomes as the screens are removed. In one outcome, the screens are removed to reveal only one rod while, in the other, the screens are removed to reveal two identical rods. Infants exhibited longer looking times for the outcome that revealed only one rod. In a second test, in which, during the pause between the two events, a rod *was* shown to move between the two screens (emerging from behind the left screen into the gap between the screens and then disappearing behind the right screen) the infants looked for equal amounts of time at the one-rod and two-rod outcomes. This suggests they formed an expectation that there were two numerically distinct rods in the first test, but that they were not surprised by either outcome in the second. Thus, it seems as if spatiotemporal continuity, or the lack thereof, guided their expectations about identity.⁶²

Furthermore, Xu points out that the psychological literature shows that these expectations based on spatiotemporal information do not already draw on the employment of kind generalizations. Thus, she illustrates that we can isolate the use of particular information criteria (spatiotemporal information criteria, in this

case) from other information criteria that might be employed in forming the same expectations. Xu & Carey (1996) attempt to establish that young infants do not bring to bear kind criteria with a one-screen variation of the Spelke et al. (1995) experiments. They are interested in whether infants use kind differences (like the difference between a ball and a bottle) to form expectations about identity and number. As such, they perform the same set of experiments on a group of ten-month-old, and a group of twelve-month-old infants. The experiments make use of the same kind of screen used in the Spelke split-screen (or double-screen) study, but only one screen is used. The single screen is lowered onto a stage. A *ball* then emerges from behind the left side of the screen, travels to the left end of the stage, and then travels back behind the screen. After a pause of appropriate length, a *bottle* emerges from behind the right side of the screen, travels to the right end of the stage, and then travels back behind the screen. Two outcomes are then presented to the infant when the screen is lifted: The first (expected outcome) is one in which there are two objects (a ball and a bottle) behind the screen, and the second (unexpected outcome) is one in which only one object is present. Ten-month-old infants failed to look longer at the unexpected outcome, but twelve-month-olds exhibited longer looking times in the one-object outcome test. In a control version of the experiment, the same procedure was followed, with the exception that infants were first shown the two objects simultaneously, thus providing them with spatiotemporal evidence that there were *two* objects involved. In the control version, both ten and twelve-month-olds looked longer at the one-object outcome.⁶³

Xu concludes from these studies that infants use a *concept* of *physical object* as a sortal concept before they are able to use concepts like *cup*, *ball*, and *bottle* for the same purposes. But, there is reason to hesitate about this particular conclusion. Although the looking-time experiments demonstrate that infants are *surprised* by outcomes concerning identity and number that would be inconsistent with the spatiotemporal perceptual information available to them—and thus, demonstrate that they form expectations on the basis of this information in a reliable way—they do not go as far as to provide a theoretical defense of the claim that these expectations based on perceptual sensitivity amount to a fully fledged concept, *physical object*. This gives us reason to demur from the claim that these studies show that infants can think full-fledged thoughts whose conceptual content has the complex demonstrative form of (11):

11) *this physical object is F*

But it does seem to show that their perceptual systems at four or five months of age are already processing information in a way that adds up to a sensitivity to the identity and persistence conditions for those objects. This basic perceptual ability helps us to understand perception-based thoughts about particular objects, because it allows us to see that perception itself involves bringing to bear

principles of individuation, which contribute necessary structure to an act of individuation.

The experiments therefore suggest an alternative to the descriptivist fallacy—one that nonetheless respects the sortalist's insight that individuation must involve at least implicit application of principles of individuation. When one perceptually attends to an object, one can exhibit a sensitivity to the identity conditions of spatiotemporal objects, which comes *built into* one's perceptual abilities. This sensitivity can be brought to bear in perceptual attention so as to make individuation of particular objects possible. In particular cases, this can happen in the absence of justification for applying a sortal concept, or the ability to apply a sortal concept, which would classify the object in question at the level of thought. In such cases, the thinker has implicitly (not explicitly) brought to bear criteria of identity for the objects she is thinking about—this is necessary for individuation—, but she has done this *through* perception. Concepts like *duck*, *cup* and *statue* are not required, but neither is *physical object*. What I am asserting, therefore, is that, *pace* the sortalist, there are different *forms* that the application of principles for carving up the world can take. A perceptual sensitivity to criteria of identity, which can give an act of individuation the structure it requires, can occur without the employment of a concept that determines principles of persistence and identity for those objects (a sortal concept).

Before returning to say more about what it means for individuation to be structured by application of principles of identity *in* perception, I want to illustrate how essentially the same suggestion also gives us the resources to deal with the part/whole indeterminacy challenge.

IV.III *Part/whole indeterminacy*

Above, I outlined an empirical argument that human beings are able to individuate medium sized physical objects by tracking their spatiotemporal properties and bringing to bear knowledge of, or true belief about, principles concerning how such objects *do* and *can* behave. My suggestion was that, rather than establishing that human beings operate with a *sortal concept* of *physical object* that allows them to individuate spatiotemporal objects by employing this concept as part of the content of thoughts, the way that infants are able to bring to bear spatiotemporal information in forming expectations about identity and number rather suggests an alternative to the *descriptivist fallacy*—that is, the fallacy that the *only way* that principles of individuation can be brought to bear to provide the requisite structure to an act of individuation is through the possession and employment of a property concept that enters into the content of a thought. I advocated instead for a view on which implicit knowledge of such principles is exercised *through* one's perceptual abilities—it is part of the ability to perceptually attend to an object.

We now face the question of how an act of perceptual individuation could disambiguate between whole objects and object-parts, object-surfaces, etc. The

sortalist response to the part/whole problem is that a sortal concept (like *statue*) is required to disambiguate between parts and wholes, but the notion of a *whole object* would in fact serve just as well to disambiguate between the whole statue and its statue-parts (remember, we have set aside the disambiguation of statues and lumps in this paper, since it presupposes a particular metaphysics). Thus, employing a *concept* of a *whole object* would serve to disambiguate an object from, say, some visible part or surface of that object. However, if we reject the descriptivist fallacy, we should also be open to the idea that our perceptual abilities themselves involve implicit sensitivity to the principles of identity and persistence for whole objects and that this means that perception itself makes such objects available for thought. And, in fact, this suggestion is born out by empirical investigation of our perceptual abilities.

To see what I have in mind, we can look to a point made by Imogen Dickie, in a recent paper about the possibility of perceptual-demonstrative thought about ordinary empirical objects.⁶⁴ In the context of a larger argument that is not my specific concern here, Dickie points out that recent literature on visual attention shows a connection between the conditions for successfully sustaining attention on a visual object,⁶⁵ and the characteristics constitutive of ordinary objects.⁶⁶ As perceivers, Dickie points out, we are particularly good at attending to what she calls 'ordinary objects'.⁶⁷ For my purposes, the significant point is that human beings have perceptual systems that are *seekers of whole spatiotemporal objects* (not mere stuffs, or mere parts of larger wholes). When visual objects behave as whole spatiotemporal objects tend to, perceptual attention is successfully sustained. When they do not, attention often fails. This suggests the following response to the part/whole-problem. Human thinkers have perceptual systems that are fit to track whole spatiotemporal objects. Whole spatiotemporal objects are natural units of perceptual attention. Thus, thoughts based on perceptual attention net whole objects and, thus, these thoughts disambiguate between wholes and parts (about which we also receive information in perception), selecting whole objects by default.

This claim in fact lines up with the claim made in the previous section of the paper, that the application of principles of individuation is at work in our perceptual abilities. In this section, however, we are pausing to acknowledge that this accounts not only for the fact that acts of individuation must be structured by *some* such application of principles, but also that the principles applied make it the case that perception-based thoughts, by default, net whole objects (and are therefore not indeterminate between objects and their parts).

Two questions should be answered about this position. First, and most importantly, how is it that empirical investigation of perception could establish that human perceivers disambiguate between parts and wholes? Second, if perceptual attention is fit to track whole objects, does this mean that we *can't* have perceptual thoughts about parts of objects or surfaces of objects, or that we don't use the concept *whole object* in our thoughts about whole objects?

I'll start with the first question. What is at issue with the part/whole problem is whether there is anything in an act of perceptual individuation (unaided by a

conceptual sortal classification) that disambiguates between whole objects and their parts. If the empirical facts about human perception are that the default objects of human perceptual attention are *whole objects*—if it is a fact that human perception tracks whole objects, not parts, or points, or surfaces, or aggregates of parts—then, in virtue of the *nature* of our perceptual abilities, an act of demonstrative or perceptual individuation (that does not involve employment of a sortal concept) indeed has the resources to disambiguate between an object and its parts, and this determines that the referents of perception-based identifications are whole objects.

And, as it happens, there is good evidence that this is the case. For example, there is evidence that the kinds of abilities Xu argues that infants have with respect to bounded, coherent whole objects that move as units through space, are not equally applicable to non-coherent, unbounded quantities of stuff (like piles of sand and puddles, etc.), even by much older infants.⁶⁸ And, this kind of evidence that human beings have a particular ability to automatically track and individuate whole objects is not limited to studies on infant cognition.⁶⁹ Studies of adult perceivers show that perceptual tracking abilities apply most naturally to whole objects, and that we are considerably less able to perform the same kind of tracking of object parts.⁷⁰ That the default units of perception are whole objects is further illustrated by the fact that the tracking of whole objects persists through occlusion,⁷¹ and by the fact that changes and developments in the visual scene are processed much more easily and successfully when they are indexed to a single object, rather than spread across distinct objects.⁷²

In short, human perceptual systems are in fact particularly *good* at tracking whole objects. The result of this is that our individuations *based* simply on perception net whole objects, not merely object parts or object surfaces. Even though it is *true* that the spatiotemporal information we have access to in perception is inexact, and that this creates a potential indeterminacy between objects and their surfaces and parts, the fact that our perceptual systems are sensitive to the behaviour of whole objects means that our tracking abilities train themselves on those whole objects despite limits on spatiotemporal information. This resolves the indeterminacy between wholes and parts that would exist if perceptual thoughts relied on the accuracy of spatiotemporal information alone. Someone like Evans is therefore right to deny that a sortal concept is required for successful demonstrative identification, but wrong to think the only resources that we have at our disposal for individuation without sortal classification is the spatiotemporal information we receive from objects. The sortalist, on the other hand, is wrong to think that the only thing that could solve the indeterminacy between parts and wholes is the use of a sortal concept.

But where does this leave the possibility of perception-based thoughts about *parts* of objects? If perceptual individuation, by default, determinately nets whole objects, does this mean that there are no perception-based individuations of object-parts or object-surfaces? It does not mean this at all. It is certainly possible to individuate, say, the arm of a statue, or a particular side of an apple, on the

basis of perception, but the fact that our perceptual systems are particularly suited to tracking whole objects means that this is in fact a more sophisticated form of individuation, one that requires extra resources, and is more difficult. What this means is that the default in perception is to track whole objects, but that this can in particular cases be overridden. Whether this would require the use of a concept of *part* or *surface*, which operates like a sortal, or whether this individuation of parts is something that can take place through perception and without the need for sortal classification is beyond what I have space to discuss in this paper. The important point, however, is that my resolution to the part/whole indeterminacy challenge does not *foreclose* the possibility of thoughts about parts. Basically the same answer should be given to the question of whether this response to the part/whole problem amounts to rejecting that we use the concept *whole* object in our thoughts about whole objects. Although it is *available* to adult concept-users to employ a *concept* of *whole object* in their thoughts,⁷³ it is *also* possible to structure one's individuations in a different *way*, on the basis of one's perceptual abilities themselves.

IV.IV What does 'in perception' mean?

I have claimed that the sortalist is right to the extent that we must 1) account for the determinacy of thoughts about particular objects and 2) acknowledge and account for the fact that all acts of individuation must be structured by implicit application of principles of individuation. But, I have argued she is wrong to think this entails thought sortalism. In particular, she is wrong to draw this conclusion, because the use of a sortal concept is not the *only* way that an act of individuation can appeal to principles of individuation that can structure and disambiguate it. Rather, perception itself involves the application of principles of individuation that structure perception-based thoughts in the appropriate way and solve the indeterminacy between parts and wholes. But, what exactly does it mean to say that such principles are applied *in perception*? What is the difference between this work taking place in perception, and it taking place through the use of a sortal concept (which therefore features in the content of the thought in question)?

We can think of the difference in terms of whether it makes sense to think of the agent doing this kind of work at the level of concepts and thought (such that we would conceive of the content of her thought as containing a property concept in the role of a sortal concept),⁷⁴ or whether it makes better sense to think that this work is done at the level of the information processing and abilities that are employed to produce perceptual states. To see that there is a difference, think about the fact that the perceptual system itself does work in processing the information it takes as input, and generating *contentful states* as outputs.⁷⁵ An example of this work is that of parsing spatial information into representations of objects. The point to talking about the perceptual system

as *itself* producing object representations that are formed according to the application of principles of individuation is that what the perceptual system receives in the form of information falls far short of what it generates as output (that is, awareness of persistent, moving, changing *objects*).⁷⁶ Another example is the fact that perceptual mechanisms are governed by generalizations about how spatiotemporal objects do and can behave (the kinds of generalizations that we see at work in the infants' formation of expectations about number and identity). Yet another is that human beings have specifically *perceptual* abilities to keep track of whole objects (which can be distinguished from an ability to keep track of objects in thought). It therefore makes sense to draw a distinction between the application of principles of individuation taking place through the use of a general concept in thought, and the application of such principles taking place in perception, such that this makes available *to* thought an object that the thinker can then form a concept of. What I have been trying to suggest is that the sortalist is right to think that, without the structure provided by the application of principles according to which individuation takes place, and without some mechanism that disambiguates between whole objects and object parts, there would *be* no individuation of objects, but wrong to think that these principles that allow for individuation could only be applied through the use of a sortal concept in the content of a thought.

That she is wrong to think this is evidenced, first, by our counterexample cases, second, by recognizing that the descriptivist fallacy is not obligatory and, third, by the way that empirical evidence can illustrate an alternative to that fallacy. The counterexamples show that, if the only way that the demands of the argument from structure and the part/whole indeterminacy challenge could be met were through the use of a sortal concept, then, it would not be possible, for example, to formulate a thought in which one wondered what kind of thing a particular thing was. This would make it unclear how *unfamiliar* objects could come to be the subject-matter of thought. The empirical results show not only that infants with underdeveloped conceptual systems nonetheless are able to bring to bear spatiotemporal generalizations about how ordinary objects behave in order to form expectations about identity and number, but also that adult perception is particularly adept at tracking whole objects and parsing visual information in terms of representations of whole objects.

V Consequences

Let me clear about the implications of the claims I have made here.

I have denied the claim that all thoughts about particular objects must employ sortal concepts in order to individuate those objects. You might wonder, however, if I deny that we sometimes *do* think of statues *as* statues. Don't we often use the sortal concept *statue* to individuate particular statues? Isn't this what gives this concept a role to play in thought beyond that of a predicational

concept? Part of what motivates the sortalist, for example, must be the idea that sortal concepts are important because they *facilitate* the individuation of particular objects.

It is important to recognise that the view I advocate here does not rule this out. Just as it is possible to think,

12) *That* is beautiful

of the statue, without classifying it as a statue, it is *also* possible to think

13) That *statue* is beautiful

When I think (13), I employ a sortal concept to play the role of facilitating my individuation of the statue in front of me. Although I don't always *need* to do this, I sometimes do it. It may even be the case that I sometimes *need* to do this, in order to succeed at individuating a statue. There may be many cases in which it would not be possible for me to, say, individuate the rabbit bouncing through the grass in front of me, if it were not for my concept *rabbit*. This concept supplies me with a particular understanding of how *rabbits* behave (how they move, e.g.) that is employed to track a particular rabbit in a context where I might otherwise fail to do so. My only claim in this paper has been that this is not *always* the case. Sometimes, we individuate rabbits without it mattering that they are rabbits.

My view is that, although (12) and (13) are about *the very same object*, their content is different. Part of the point of rejecting thought sortalism is preserving this difference. (12) is a thought that involves individuating an object without relying on classification. It therefore allows for agnosticism about kind, or mistakes about kind—all within the scope of successful reference. (13) is a perfectly good way of thinking about the statue in my garden, but it relies on classification in a way that (12) does not. Without allowing for the possibility that (12) can succeed without involvement from the sortal *statue*, it is hard to see what the *point* would be in distinguishing between the contents of (12) and (13). And, by saying that the real form of (12) is always (13), we would be denying ourselves of a notion—that of conceptualisation without classification—that has a role to play in our broader understanding of thought, knowledge and content.

I want it to be clear, also, that I have *not* claimed that we could simply *do without* sortal concepts, or that there is no distinction to be made (of a grammatical, philosophical or conceptual nature) between sortal concepts and ordinary predicative concepts.⁷⁷ That adult thinkers could do without sortal concepts is sometimes taken to be what one would have in mind in denying the truth of sortalism. In this spirit, Wiggins claims that what is at stake between sortalists and those who reject sortalism is the question, 'Could adults—could we—really operate with the concept *object*...as our one and only sortal concept?'⁷⁸ For me, this is not what is at stake *at all*. Wiggins, for example, holds a view according to which picking out a thing for thought—individuating it—is 'part and parcel' with treating it *as* a thing of a particular kind.⁷⁹ Here, I have

been arguing for a possibility, which is foreclosed by this view: picking a thing out without the help of classification. So, what is at stake for me is not whether we need sortal concepts at all—it is whether *all* our thoughts about particular objects employ such concepts. These are different questions.

I also have not advocated the notion of a ‘bare this’ or ‘bare particular’. There are two things it could mean to defend this idea, and I am committed to neither. Firstly, I have not claimed that there are objects that are not objects of particular kinds. The view I have argued for is consistent with the claim that *all* objects are objects of particular kinds.⁸⁰ A second sense in which one might advocate the idea of a ‘bare this’ is in the epistemic or cognitive sense. However, even though I have been concerned to preserve the possibility of genuinely *sortal-free* content (content with the simple form, ‘*this is F*’), part of my *point* has in fact been that this does not involve advocating a ‘bare this’. I have rather argued that thoughts about particular objects always employ implicit application of principles of identity and difference for whatever one is thinking of. Other deniers of sortalism, for example Michael Ayers, have taken issue with this very point. Ayers expresses suspicion about the idea that judgments about particular objects appeal to employment of principles of individuation. He claims that ‘we do not need ‘criteria of identity’ in addition to what the world and our perceptual and agent faculties give us, when it is a matter of picking out (and, maybe, picking up) *literally* discrete, concrete, durable objects.’⁸¹ In contrast, I have claimed that the individuation of particular objects *does* make use of the application of principles of identity, but I have claimed that our ‘perceptual and agent faculties’ (as Ayers puts it) *involve* the implicit employment of these very principles.

Notes

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1. As we’ll see, this view in fact entails, with a caveat I will specify, that it is necessary to classify the object *correctly*, according to its kind—that is, according to a sortal concept that is true of it.
2. This is the claim that identity facts are dependent on facts about kind or, in terms that do not use the language of ‘dependence’ (which clearly cries out for precisification or explanation), that the identity relation is, at the most basic and explicit level, a three-place relation of *identity under a sortal*, and that the two-place identity relation is derivative on this three-place relation.
3. In this paper, I address the question of how particular spatiotemporal objects come into the subject matter of thought. I do not address the question of how, for example, other categories of objects (in the looser sense of ‘object’) come into the subject matter of thought (for example, events, sounds, properties, etc.). I will therefore use the term ‘object’ to mean spatiotemporal object, unless I specify otherwise.

4. When I talk about thoughts in this paper, I will be talking about mental states, not about abstract objects (e.g., Fregean thoughts). When I want to talk about the abstract objects we use to map mental states in terms of their intentional and truth-conditional properties, I will use the terms ‘content’ or, ‘contents of thoughts’.
5. From here on in, ‘individuate’ and ‘individuation’ will be used as epistemic terms; as a way of talking about something an agent *does*. In thinking a thought that is true or false depending on a particular object, the agent must *individuate* that object. Thus, when I say in this paper that, e.g., ‘*a* is individuated by its location/kind/(or whatever)’, I mean that this is the means by which some *thinker* picks out *a*. I do *not* mean that *a*’s location/kind/whatever is that which *constitutes a*’s identity. Since the difference between these two things is an issue addressed in the paper, it is especially important to be clear about the use of this term. The reader will have noticed that, in my very first gloss on sortalism (in the first sentence of the paper), I purposefully left the term ‘individuating’ ambiguous, as sortalists like Wiggins tend to. From now on, though, unless I am quoting the sortalist’s ambiguous usage (in which case I will flag this fact), the term is not ambiguous.
6. As I say in n.1, I will later show that a coherent version of sortalism involves the claim that the thinker must correctly classify the object according to its kind. (There is a caveat to this that will be outlined in §I.I, and further discussed in §II.I). This means the view requires that the thinker has true beliefs about the kind of the object she individuates. There is a further possible claim one could make: that she must have *knowledge* of what kind of thing she is thinking about. For my purposes, I will count both views as varieties of sortalism.
7. Kripke gives arguments of roughly this form in *Naming and Necessity*. Unlike him, however, I will be talking specifically about *thought*, not *language*, in this paper.
8. Having said this, as we’ll see, the argument does not stand or fall with its appeal to this work.
9. Wiggins (2001): 55–56.
10. That the sortal dependency of individuation is meant to imply both claims is clear. Wiggins, who is perhaps the most famous defender of sortalism, makes this clear from various remarks. For example, although he states that ‘individuation’ is something a thinker does (Wiggins, 2001: 6), thereby implying an epistemic reading of his position, he also states the thesis of the sortal dependency of individuation in terms of facts about identity, not in terms of facts about what thinkers do (e.g., Wiggins 2001: 56). Furthermore, he takes a ‘theory of individuation’ to address questions about the concept of identity, what it is to be a substance or enduring object, *and* what it takes to single objects out (Wiggins 2001: 1). His comments about meaning as use also imply that an examination of the concept of identity at once tells us about identity itself and about our practices of individuation—or that the two issues cannot be separated (Wiggins, 2001: 1–4).
11. We can distinguish between a *category concept*, which picks out a *category* of object (in the looser sense of ‘object’) like *sound*, *event*, *spatiotemporal object*, and a *sortal concept*, which (for our purposes, since we are concerned here with spatiotemporal objects) picks out a *kind* of spatiotemporal object, like

cat, cup, house. Since the discussion in this paper is restricted to sortalism about spatiotemporal objects, I can set aside the plausible suggestion that other categories of object fall under sortal concepts that distinguish particular kinds for the category of thing in question. See Marcus (2006), for example, for a discussion of the implications of sortalism about events for a metaphysics of mind.

12. I will speak in this paper both about *sortal concepts* and about *sortal predicates*. I use ‘concept’ to refer to a mental ability that is exercised in thought. A *sortal concept* is a concept of a sortal property. A *sortal predicate* is a predicate that refers to a sortal property. In what follows, I explain what a sortal property is.
13. I set aside the complication that some mass nouns also have uses in which they feature as count nouns, (as with ‘how many coffees did you have today?’). However, it does seem that such usages are often elliptical (e.g., ‘coffee’ above is elliptical for ‘cup of coffee’).
14. There are certainly contexts in which these questions might yield answers. The claim here is only that they don’t, absent some further information. In any case, this grammatical distinction is only meant to yield a preliminary way of distinguishing sortal properties from other properties.
15. ‘Brown’ is a *dispersive* term: a term that applies to individual objects that extensively overlap one another. It can combine with other terms to form complex count noun phrases but, when combined with other dispersive terms, like ‘thing’, it yields complex terms that are themselves dispersive. (see, Hirsch 1982: 48–49).
16. An ANZAC is a member of the Australian & New Zealand Army Corp. This is an example used by Geach (1980).
17. Wiggins 1980: 27. When a dog grows out of being a puppy, there is no passing away of anything, not even a puppy.
18. The airline might count this person as two passengers in its annual report, but this is exactly the point: The counting of two passengers (in the sense entailed by the airline’s use of the term) does not entail the existence of two individuals (although counting two passengers on a single flight does).
19. Wiggins 1980: 24–27
20. Wiggins 1980: 64
21. As I mentioned in n. 2, there a question about how ‘determination’ is meant to actually work here.
22. This terminology is my own, but the point I use it to make is in line with a charitable interpretation of e.g., Wiggins’s sortalism. The reason I make the point is that it will mean that I can direct my argument against the most compelling form of sortalism.
23. So, I am conceiving of subsumption in a general way here, which includes both phase subsumption and the hierarchy, for example, of genus to species.
24. I talk of uses of concepts here, rather than merely of concepts, because, depending on the context in which it is applied, the same substance sortal might either directly or indirectly determine the principles of identity and persistence for an object. In the case that *dog* is applied to a dog, there is direct determination. In the case that *dog* is applied to a cat, the determination is indirect (via implication of the sortal concept *animal*).
25. As I said earlier, this paper deals with the question as it applies to spatiotemporal objects. As I mentioned in n. 5, there is analogous position about other categories of objects (such as sounds, events, etc.). It is possible that e.g., Marcus (who I

- mention in n. 11) is right that metaphysical sortalism about events is true but metaphysical sortalism about physical objects might still be false.
26. The sortalist can of course still hold (as Wiggins indeed does, for example) that there are some distinct sortal predicates that determine consistent identity conditions and persistent conditions.
 27. This also means that she denies that *spatiotemporal object* is itself a sortal predicate. If different kinds of spatiotemporal objects have different principles of identity and persistence, then *spatiotemporal object* underdetermines these conditions.
 28. MS should not be confused with the doctrine of the *relativity of identity*. A commitment to MS involves the claim that identity is *sortally dependent*, but *not* the claim that it is *relative*. This would be the claim, defended by Geach, that it is possible for *a* to be the same *F* as *b*, for *a* to be a *G*, but for it to be false that *a* is the same *G* as *b*. For example, imagine the following case (discussed in Ayers 1974: 118). A glass bottle, *a*, is melted down. The same mass of glass is then blown into a jampot, *b*. The proponent of relative identity might claim that *a* is the same piece of glass as *b* but not the same bottle as *b* (for this to imply relative identity *a* must indeed be a bottle). Wiggins argues that this is an infringement of Leibniz's Law, and he therefore denies the relativity of identity. On his view, if *a* is identical to *b*, then, if *a* is a *G*, the truth of the indiscernibility of identicals leaves no space for *a* not to be the same *G* as *b*. The indiscernibility of identicals entails that the piece of glass and the bottle are distinct entities. This rules out the relative identity claim. In order to account for the *sense* in which it is true that 'the piece of glass is the bottle', Wiggins famously introduces an 'is' of constitution: i.e., the piece of glass constitutes the bottle but is not identical to it. The details of this dispute and Wiggins' resolution are not important for us here. What is relevant is that MS and the doctrine of relative identity are distinct claims. For our purposes, a metaphysical sortalist is someone who claims that identity is *sortal dependent* but *absolute*.
 29. For Wiggins's endorsement of this view, see Wiggins 1980: 140 & 140, n. 13.
 30. Wiggins, for e.g., is particularly cagey both in his statements of TS and about the steps that take us from MS to TS (he often talks as if the two claims are simply two sides of a single coin). But he is committed to TS. In particular, he frequently makes claims like the following: 'picking a thing out and tracing it through space and time is part and parcel with treating it as a thing with some specific way of behaving...'. (Wiggins 1977). And, in Wiggins 1980 (116–117) he claims that, for every object, there is some sortal concept that applies to that object which must be *treated* as invariant in even conditional or counterfactual 'envisagings' of that thing.
 31. For this reasoning, see Wiggins 1980: 140.
 32. For two objects to share an exact location, let us say, is for them to share exact boundaries in space, for it to be such that no part of either occupies any space that is not occupied by some part of the other. In claiming that indefinitely many objects share an exact location in this case, the sortalist can also allow that there are indefinitely many objects that share a partial location. I single out the case of shared exact location here, as a way to illustrate and distinguish a particular kind of indeterminacy that is grounded in a particular metaphysics.

33. It is worth noting that, if one is moved by this argument, it is not clear that supplying a correct sortal concept always solves the indeterminacy problem, since we might be able to generate cases in which two objects of *the same kind* share an exact location. For example, Kit Fine gives the example of Bruce and Bertha's letters, which are distinct entities of the same kind that share an exact location. (See his 2000: 357–36). We should therefore at least be aware of the possibility that, with the indeterminacy argument from shared exact location, the sortalist may generate a problem he does not actually have the resources to resolve.
34. See, e.g., Ayers 2005: 534–570.
35. Her view entails that we conceive of such changes in terms of the statue being destroyed or going out of existence and therefore rules out the idea that the object which is at time t a statue persists through the change out of statue-hood at time t^2 .
36. Since her view entails that the statue and the lump are distinct objects.
37. Evans 1982: 178.
38. What it means for the informational connection to govern one's conception of an object is that one will be disposed to form beliefs about the object depending on the information he receives from it (Evans 1982: 121–122).
39. Evans 1982: 170.
40. While I stand by this reading of Evans's account of demonstrative identification, it should be noted that the account outlined in Ch.6 is in tension with remarks Evans makes elsewhere in his (1982), which contradict the account of Ch. 6 by suggesting that physical objects of different kinds can share space at a time (when it is not the case that one is a part of the other). For example, in discussing the *fundamental ground of difference* for physical objects, Evans writes, 'although two G 's may not be able to share a position at a time, a G may be able to share a position with a thing of a different kind: for instance a statue and a piece of clay.' (107) Essentially, what Evans does here is to endorse the argument for multiplying entities (§I.II of my paper). Remarks like this in fact lead Evans to make a series of remarks in which he attempts to reject TS in a way that accommodates MS and the argument for multiplying entities. Having spent much time trying to make sense of these remarks, I am inclined to think they do not culminate in a stable position. However, Evans's account of demonstrative identification from Ch. 6 can be extracted and taken on its own terms. Even in abstraction from the rest of his (1982) it is still the most insightful and systematic account of perceptual demonstrative thought to have surfaced in the literature. In my remarks here, I attempt to outline the part/whole indeterminacy challenge by focusing on the problems for this account. I set aside Evans's complicated relationship to sortalism in the book as a whole.
41. To be clear, the problem is *not* that agents' knowledge of the locations of perceived objects is not *objectively specified*. We can grant that egocentric or *indexical* knowledge of locations is sufficient but the problem that this knowledge is *limited* remains. Evans, e.g., argues that egocentric knowledge of the locations of objects suffices for demonstrative identification, so long as the agent has a general ability to map egocentric space onto objective space, in something like the way one would use a map to find one's way around by locating oneself on the

- map. (Evans 1982: 162–163) But, this does not solve the problem we are now addressing.
42. Matt Boyle's excellent paper 'Sortalism and Perceptual Content' (unpublished) addresses this issue in a very helpful way. What he calls the 'Problem of Perceptual Presence' (a term of Alva Noe's) is at least close to what I have in mind. Boyle also points out that this is essentially the same problem Hume brings out in his criticism of the idea of substance. The problem, of course, surfaces again and again in discussions of perceptual content.
 43. This is a view endorsed by Moore and Russell. For discussion, see Evans 1982: 144–145 & 177.
 44. It is worth noting that the argument from structure does not itself seem to imply that, to fulfill the relevant structural requirement, the principles applied in an act of individuation must be principles that determine identity and persistence conditions. It may be that, to get from the argument from structure to TS, an indeterminacy argument is required.
 45. For discussion of a similar point see Ayers 1974: 113–148, 115.
 46. I don't claim that this is the only way we could or do acquire kind concepts. But I'm quite sure that *some* kind concepts are acquired in this way.
 47. As we'll see in a moment, he does not preclude the possibility of *all* such cases. Some attempts at sortal-dependent individuation that involve mistaken sortals do nonetheless net a particular object in virtue of *implying* a correct higher sortal. But, even with this possibility in place, the sortalist rules out certain cases of mistakes that we should accommodate (for example, the mistake made in (3) above).
 48. Without giving up her claim that physical objects have *different* identity and persistence conditions, the sortalist cannot claim that *physical object* is a higher sortal that can do the required work.
 49. We should understand this as the claim that any concept that implies a substance sortal would be sufficient.
 50. This terminology is due to Kent Bach, who makes a distinction between *satisfactional* and *relational* thoughts (Bach 1987). I mean the same thing by satisfactional as he does. I depart from Bach in contrasting satisfactional thoughts with *non-satisfactional* thoughts (rather than *relational* thoughts). My reasons for this have to do with trying not to beg the question against proponents of acquaintance-less singular thought, as well as with certain criticisms of purely causal accounts of acquaintance, but I need not go into these here.
 51. Of course, it contains the concept *yellow*, but this concept is applied to Donald as a predicate. This presupposes that Donald has been individuated apart from his being yellow.
 52. This way of talking is out of step with the notion, which appears sometimes in discussions of singular thought (and elsewhere) according to which *only* singular thoughts are really *about* objects. Descriptive thoughts are said to be rather about *properties*. This idea is inherited from Russell, who claimed that one could only think about the entities to which one was acquainted. The sense in which a descriptive thought was 'about' an object was therefore an attenuated sense. In contrast, I claim that descriptive thoughts are about the objects that satisfy their descriptive conditions, but that there are two *ways* a thought can be *about* an object. This divergence from the Russell-inspired terminology is harmless (it

does not do away with any philosophical distinctions). (For what it is worth, Russell would not have claimed, e.g., in 'On Denoting', that descriptions extend the reach of thought, if there were not some sense in which 'the shortest spy is Russian' were about the shortest spy, if there were one.)

53. It has often been suggested that singular thought 'supplies the content for thought in general'. For example, all of the following authors allude to this idea in one way or another: Evans 1982; Strawson 1959; Bach 2010; and Dickie 2010. The idea that this class of thoughts has special epistemic and conceptual features would make this claim more compelling.
54. For example, Ayers 1974.
55. For example, Xu 1997.
56. A longer, unpublished version of this paper also addresses the question of the relationship between thought sortalism and the statue/lump problem in greater detail.
57. The use of scare quotes here is meant to mark a sense in which one could have or form an 'expectation' without us saying that she has a *belief* (that is a contentful, conceptual mental state). Setting aside the question of whether they have beliefs, dogs have 'expectations'. Having marked this sense, I will not continue to use scare quotes in what follows.
58. Xu 1997: 370
59. Xu 1997: 370.
60. Although Xu does not discuss the issue here, it seems that successful use of property criteria like (2) would require general knowledge about particular kinds. For example, blocks don't grow or change colour without being painted (or undergoing some other relevant physical process), but living things often grow, and some living things change colour frequently. So, seeing two instances of the same kind, which differ in colour, would provide evidence of numerical distinctness in the case of blocks (although the evidence would be defeasible) but not in the case of, say, some kinds of tree frog.
61. The studies discussed here make use of the 'Spelkean' methodology in which 'looking time' is taken to provide evidence as to the nature of the expectations formed by pre-verbal infants. (Spelke 1985)
62. Interestingly, there are also experiments showing that infants as old as eight months old fail to form such successful expectations when the tests make use of unbound, non-coherent quantities of stuff, like piles of sand. This suggests that they have and exploit general knowledge about how coherent objects behave, but not about how amorphous quantities behave. (Huntley-Fenner, & Carey 1995, also Cited in Xu 1997.)
63. A further control experiment was run in order to establish that these infants even *noticed* the difference between a cup and a ball, and concluded that they did. The point of this control is to show that the infants are sensitive to qualitative differences that could be used to distinguish kinds (they see that a cup looks different to a ball), they just don't *use* this information to form expectations about number and identity.
64. Dickie 210.
65. Where visual objects are conceived as configurations of features that attention is drawn to.
66. Dickie, 210: 232.

67. Apart from her appeal to an empirical story about attention as a grounding for an account of perceptual demonstrative thought, the other central component of Dickie's view is what she calls the MCP (Modal Containment Principle), which is essentially a category constraint on object-files. This principle is, on her view, a (necessary but not sufficient) condition on successful reference to particular objects. At least for purposes of the paper in question, Dickie's MCP is a *category* constraint, not a *sortal* constraint (see n. 11 above), so I need not reject it to make the current argument against sortalism. However, I am also not committed to endorsing this component of her view.
68. Huntley-Fenner & Carey 1995, cited in Xu 1997.
69. In giving her account, Dickie focuses on studies on adult perceivers. In particular, she focuses on the automatic spread of attention, amodal completion and multiple object tracking.
70. In a variation of the now well known multiple object tracking studies, Scholl, Pylyshyn and Feldman (2002) use a technique called *target merging* where subjects are presented with objects consisting of merged parts. The subjects' abilities to track a single *part* of the whole is tested and it is established that perceivers have a diminished ability to track parts in comparison with their ability to track whole objects.
71. Other variations of the multiple object tracking task performed by Scholl & Pylyshyn (1999) have been used to show that the ability to track multiple objects persists through occlusions. The perceptual system parses objects as wholes, even when they are occluded. These results are also reviewed in Scholl 2002: 25.
72. See, Scholl 2002: 8.
73. I am setting aside the question of whether very young children have and employ such a concept.
74. To play the *role* of a sortal concept, the concept plays the role in the thought of helping to pick out the object of predication, rather than that of predicating some property of an object picked out by some other means.
75. Or, if you prefer, meaningful states, as outputs.
76. In *Origins of Objectivity* (2010), Burge gives several examples of the non-trivial work the perceptual system does in generating objective representations. He also argues that this justifies talk of perceptual *content* that is not reducible to mere sensitivity but is also distinct from the content of thoughts.
77. What I say above about the existence of cases in which a sortal concept *is* what makes the difference between referential success and failure should already imply this.
78. Wiggins 1997: 413.
79. Wiggins, 1997: 413–414. It should be noted that Wiggins explicitly claims that treating a thing as a physical object is not enough.
80. Even if I committed to denying the sortalist's *metaphysics* of distinct principles of persistence for different kinds of objects (a position which I am in fact tempted to deny but which I do not commit to or defend here) this would not commit me to the existence of bare particulars. It would be possible, e.g., to claim that the statue in my garden could *persist* through change from, say, statue-hood into mere lump-hood, without anything being destroyed—that is, it would be possible to conceive of *statue* as a *phase* of the object in my garden. This would not entail denying that it is essential to all objects that they fall under kinds.
81. Ayers 1997: 393.

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