The Problems of the Many

Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

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Graduate Program in Philosophy

The Ohio State University

2019

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Abstract

Ordinary kinds, *K*, admit of leeway, both in the number of things that must be arranged *K*-wise and even in what arrangements count as being arranged *K*-wise. Consider a chair. A slightly smaller collection of things in *pretty much* the same arrangement would presumably still be some things arranged chairwise and would count as a chair. But there are plausibly many such collections of things in the vicinity of any chair. Thus, it seems that I am seated in many chairs. This is an instance of *the problem of the many*.

The first half of the dissertation is about solutions to the problem of the many. In chapter 2, I evaluate the proposal that *constitution*, a relation of non-identity between a thing and what it is made out of, is needed to solve the problem. I argue against this by showing that parallel, constitution-free solutions solve the problem using the very same machinery as constitutionalists, *sans* constitution.

In chapter 3, I develop, motivate, and defend a novel solution to the problem of the many. According to this solution, the many things that have what it takes to be a chair, say, are collectively identical to a single chair.

In the second half of the dissertation, I discuss problems of the many that arise in personal ontology. *The thinking animal problem* is the main argument for *animalism*, the thesis that human persons are identical to animals. Animalists use this problem against

constitutionalism, the thesis that human persons are constituted by, but not identical to, human animals. The thinking animal problem challenges constitutionalists to avoid the result that both the person and animal think. Animalists face *the thinking parts problem*, which challenges them to avoid the result that the human animal and its large proper parts think. In chapter 4, I argue that constitutionalists about human persons can solve the thinking animal problem using solutions parallel to those animalists use to solve the thinking parts problem. Furthermore, I argue that animalists must offer such a solution if they are to use *the animal ancestors argument* in support of their own view.

Finally, in chapter 5, I discuss *the personite problem*. On certain views of persons, there are *personites*, person-like things in our vicinity coming into and going out of existence at different times than us. If personites have moral status, then seemingly innocuous actions harm countless of them. This threatens to throw our ordinary moral and prudential practices into disarray. I begin by arguing that Alex Kaiserman's (2019) exdurantist solution fails to solve the problem; a version of the personite problem arises for exdurantism. Next, I show how the personite problem is connected to a version of the problem of the many. I offer and defend a solution to the personite problem according to which persons have psychological properties, but personites don't. Since the supposed harms done to personites require personites' having psychological properties, personites cannot be harmed in the ways the personite problem purports to show.

Dedication

For my grandparents.

Acknowledgments

I am very grateful to have committee members who allowed me to work in the way that I work best. I was given pretty much free rein to explore what I wanted to work on. When I wanted to talk, they were available, and always offered insightful, helpful, and challenging feedback. I am a better philosopher because of their hard work not only in the classroom, but also on the committee.

I owe Ben Caplan a debt of gratitude. He got me interested in metaphysics, and he's modeled how to do metaphysics in numerous seminars and meetings. He has given me advice on professional and personal matters. He has been generous with his time and talents. Here's just one example. By my count, I have sent at least fourteen papers to Ben, not including papers for classes and seminars. These ranged in length from ten pages to around fifty. I sent him multiple drafts of most of these papers. Some of these papers were intended to be part of a dissertation. (At one point, the dissertation was going to be about hylomorphism. At another point, it was going to be about constitution.) The dissertation, of course, changed, and many of those papers are not in it. I even wrote some papers that were never even intended to be part of the dissertation. Ben read and commented extensively on everything I sent him.

The ideas in this dissertation have benefitted from feedback from a great many philosophers, and it is better because of their work. The main ideas in chapters 2 and 3, or ancestors of them, at least, were presented at a number of conferences. I benefitted greatly from comments and discussion at these conferences from Mike Bertrand, Sam Cowling, Cruz Davis, Carolyn Garland, Jared Henderson, Teresa Kouri Kissel, Erin Mercurio, Adam Murray, Eileen Nutting, and Craige Roberts. In addition, several anonymous referees at *Mind*, *Synthese*, and *Erkenntnis* have offered helpful comments on papers that have become chapters 2 and 3.

Chapters 4 and 5 are fairly new, at least in comparison to the rest of the dissertation, but I have received a lot of feedback on them. Thanks are in order for participants in the spring 2019 dissertation seminar at tOSU, especially Ethan Brauer; Eric de Araujo; Jamie Fritz; Erin Mercurio; Evan Thomas; and the instructor, Julia Jorati. In spring 2019, I had the enormous good fortune to teach a class on the metaphysics of human persons to a group of curious students at Denison University. I am very thankful for the opportunity to work with them and to talk about topics related to the second half of this dissertation.

The last seven years as a graduate student have been very special to me. It has not only been intellectually rewarding, but I have had the exceptional good fortune to spend time with some very cool and smart folks, both inside the classroom and outside. I count many of them among my friends.

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Chapter 1. The Problems of the Many

The ordinary material objects of our everyday experience—tables, cars, sandwiches, cats, dogs, and persons, for example—are made out of smaller material things in various arrangements. For instance, my chair is made out of four legs, a seat, a back, and various hardware. They are collectively arranged in the shape of a chair, i.e. they are *arranged chairwise*. These parts of the chair, in turn, are made out of smaller pieces of wood and metal; they, too, are arranged chairwise. And those are made out of … Eventually, perhaps, we reach the ground floor: the chair is made out of a collection of simple, subatomic entities arranged chairwise.[1] Or perhaps matter is infinitely divisible and there is no ground floor. In this case, they chair is made out of gunk arranged chairwise.

Chairhood admits of leeway, both in the number of things that must be arranged chairwise and even in what arrangements count as being arranged chairwise. A slightly smaller collection of things in *pretty much* the same arrangement would presumably still be some things arranged chairwise and count as a chair. But there are plausibly many

[1] It will be helpful to have some mereological terminology in what follows. Here, I follow Lewis's (1991: 72–4) treatment. Let's take *parthood* as a primitive relation; it is reflexive (everything is a part of itself) and transitive (everything that is a part of a part of a whole is a part of the whole). Something is a *proper part* of another thing iff the former is a part of the latter, but they are not identical. Two objects *overlap* iff they have a part in common. Some things are *disjoint* iff they do not overlap. Something is a *fusion* of some things iff it has all of them as parts and has no part that is disjoint from each of them. Some things *compose* something iff it fuses them. Something is *simple* iff it has no proper parts. Something is *composite* iff it is not simple. Something is *gunky* iff it has proper parts and all of its proper parts have proper parts.

such collections of things in the vicinity of any chair. Thus, it seems that I am seated in many chairs. This is an instance of *the problem of the many*.[2]

This dissertation is about the *problems* of the many. These include the problem of the many and some other, similar problems that arise in the metaphysics of human persons: the mental problem of the many,[3] the thinking animal problem,[4] the thinking parts problem,[5] and the personite problem.[6]

This is an introduction to the dissertation. In 1.1., I present the problem of the many as an inconsistent triad, extend the problem to ordinary material objects quite generally, and survey the options for solving the problem. In 1.2., I show how the problems of the many are similar to the problem of the many. In 1.3., I summarize the dissertation.

1.1. The Problem of the Many

Although I've presented the problem using an example of a chair, the problem has a much wider scope. In typical presentations, the problem is presented as arising for composite material objects of those kinds, *K*, that (i) admit of leeway in the number of

[2] The problem of the many was introduced by Geach (1980) and Unger (1980). The literature is now quite large. Important treatments include Lowe 1982, 1995; van Inwagen 1990: §17; Johnston 1992; Lewis 1993/1999; Markosian 1998: 247–8; Unger 1999, 2006; Hudson 2001; Sider 2001b; Jónsson 2001; Jones 2013, 2015; Sutton 2014; and Korman 2015: chapter 12.

[3] See Unger 1999, 2006 and Hudson 2001 for treatments of the mental problem of the many.

[4] See Snowdon 1990 and Olson 1997 for classic presentations of the thinking animal problem.

[5] See Olson 2007: 215ff. for the thinking parts problem. Yang (2015) offers a novel solution I discuss in chapter 4.

[6] Olson (2011), Taylor (2013), and Johnston (2016, 2017) all raise the problem. Eklund (forthcoming) discusses the personite problem in connection with debates in metaontology. Kaiserman (2019) argues that exdurantists can solve the problem. *Exdurantism* is the thesis that objects persist through time by having temporal counterparts at different times. See Hawley 2001 and Sider 2001a for classic presentations of exdurantism.

their parts and in the particular relations those parts must bear to one another for there to be a *K* and (ii) are such that we take it that it is possible for there to be just a single object of kind *K* where we normally take there to be just one. The scope of the problem, then, includes not only chairs and tables and other artifacts, but also trees; cats; dogs; and, I'll assume, human persons, among many other things.[7] Objects of these kinds satisfy (i) and, arguably, (ii). At least, only those of us in the grip of some philosophical thesis or a delusion would think that these kinds of objects fail to satisfy (ii). Thus, reasoning parallel to that above can be run for all of these ordinary objects and others.[8]

The problem of the many can be presented as an inconsistent triad. The problem arises for appropriate individual *K*s when the following all appear to be true:

ABUNDANCE	There are many *K-candidates*, i.e. things the parts of which seem to be arranged *K*-wise, in the vicinity of any object of kind *K*.
PARITY	If there is a *K*, then each *K*-candidate makes up a different *K* from the others.
CONSERVATISM	There is just one *K* where we take there to be a single *K*.

[7] The thesis that human persons are composite material objects is controversial, at least in the history of philosophy. By making this assumption, I mean to rule out views of human persons according to which we are immaterial objects. Unger (1999, 2006) and Seemuth Whaley (2017) argue for immaterialism about human persons on the basis of problems of the many. Ultimately, I am concerned to argue against these forms of immaterialism and I offer a solution to a closely related problem in chapter 5. If the proposal there can be extended successfully, then perhaps the arguments for immaterialism can be resisted, although showing that will require work beyond this dissertation.

[8] It is difficult to characterize which objects are included among the ordinary ones. Luckily, this needn't be done with any precision, at least for my purposes; I am concerned mostly with paradigmatic ordinary objects including human persons. Ordinary objects are, roughly, those objects that we ordinarily judge to exist: chairs, tables, cats, dogs, human persons, trees, etc. See Korman 2015 for further discussion. The way I've characterized the scope of the problem of the many seems to suffice as a rough test to carve out a great many of the ordinary objects.

Suppose that CONSERVATISM is true and that I am sitting in just one chair. Given ABUNDANCE, there are many things that seem to have what it takes to make up a chair; for example, there is not only the chair, but all of it minus a single atom. Call the former 'Chair' and the latter 'Chair-minus'. Chair and Chair-minus are so similar that it is difficult to see how *just one* could make up a chair if either does. What could be the relevant difference that qualifies one, and disqualifies the other, from chairhood? Since there appears to be no such difference, then, by PARITY, since Chair is a chair, Chair-minus makes up a chair, too. Chair-minus is presumably distinct from Chair because they have different parts. So, I am sitting in many chairs, contradicting the initial assumption of CONSERVATISM. CONSERVATISM and the other principles appear to be mutually inconsistent. Something has to go.

1.1.1. Options

In this dissertation, I am interested in *conservative solutions* to the problems of the many. These solutions are conservative in the sense that they accept CONSERVATISM: there are ordinary objects, but not too many of them.[9] If defensible, such solutions allow us to maintain the existence of ordinary material objects. But why accept CONSERVATISM? And how are we to resolve the contradiction in the problem of the many? I answer the first question by ruling out the other options for avoiding contradiction.

[9] The sense of "conservative" here is different, then, from that of Korman 2015. Korman's conservatism has three parts. First, there are ordinary objects. I agree with this. Second, there aren't too many of them. I agree with this, too. Third, there aren't *extraordinary objects*, where these are things like arbitrary fusions. I have no qualms with these.

First, we could reject CONSERVATISM and *eliminate* ordinary material objects. I am seated on, well, *nothing* except, perhaps, some things arranged chairwise. There are no chairs. But there's nothing special about chairs. There are no cats or trees or human persons, either. There are several ways of developing this sort of response.

On one view, *nihilism* is true and the only material objects that exist are material simples.[10] On a second view, *near nihilism* is true and there are material simples and those objects, if there are any, that are not susceptible to the problem of the many.[11] On both views, none of the ordinary material objects of everyday life exist.[12] Barring some sort of surprise about human persons whereby we're immaterial or we're material simples, we don't exist on this view, either.

Second, we could reject CONSERVATISM and embrace the many.[13] On this view, I am sitting in many chairs. But, again, there's nothing special about chairs. The reasoning applies also to persons: there are either many persons in my chair or there are none. I can tell from own experience that there's at least one. So, on this view, there are many. According to this response to the problem of the many, there's much more furniture of the world than anyone would ever have thought, and it is overcrowded: there are many persons in many chairs.

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[10] See Rosen and Dorr 2002 and Sider 2013 for defenses of nihilism.

[11] Unger (1979: 241–2) suggests such a view in connection with a decomposition argument: "decomposable things which are in a relevant way 'defined with precision' escape the present reasonings."

[12] This is Unger's (1980) preferred response to the problem in his earliest presentation of the problem. More recently, Unger (1999, 2006) makes an exception for persons: persons exist, *but they are not material objects*. See fn. 7, above.

[13] Lewis (1999) and Sutton (2014) deny CONSERVATISM and embrace the many, although they offer accounts of our counting practices on which it is *appropriate*, although not strictly *true*, to say that there is just one chair that you and you alone are seated in.

The strange consequences of denying CONSERVATISM multiply along with human persons. First, there are many people writing this dissertation. Surely this is grounds for failure. Second, we can never be faithful in our relationships. My grandfather was a polygamist and my grandmother was a polyandrist. Third, if we aim to maximize pleasure and minimize pain, we should benefit the largest among us. Benefiting the large will create pleasure in more persons than if we were to benefit the smaller among us.[14] Size matters, morally speaking. These consequences of denying CONSERVATISM in favor of the many run the gamut from the merely peculiar to the disturbing.

Both ways of denying CONSERVATISM strike me as implausible. Accordingly, I think that there is some reason to explore the prospects of denying one of the other principles.

We could deny ABUNDANCE. On this view, there aren't many things that seem to have what it takes to make up a chair in the vicinity of my chair. For instance, perhaps there is a chair, its very small parts, and no large, chair-like fusions of those parts distinct from the chair.[15] Or we could deny PARITY: some one of the many chair candidates is special in the sense that it, and it alone of the many candidates in its vicinity, makes up a chair.[16]

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[14] Simon (2017) discusses this sort of case. I see it as a *spatial* version of the personite problem, which I develop in chapter 5, as a problem for exdurantism.

If we're *gunky*, i.e. if all of our parts have proper parts, then there are plausibly infinitely many personites in the vicinity of any person. In that case, if the personite problem is not solved, I suppose we cause an infinite amount of suffering when we cause any.

[15] Van Inwagen (1990: §17), Markosian (1998: 247–8), and Korman (2015: chapter 12) deny ABUNDANCE.

[16] Many responses to the problem deny PARITY. Lowe (1982) offers a response on which the *largest K*-candidate is the best candidate for making up a *K*. Johnston (1992) offers a response on which just one of the candidates constitutes a *K*. Sider (2001b) develops a response on which ordinary kind properties are *maximal* in the sense that large proper parts of *K*s are not themselves *K*s; an object's being a *K* disqualifies its large proper parts and the things that it is a large proper part of from being *K*s.

Both strategies face familiar challenges. Denying ABUNDANCE seems to require a restriction on composition,[17] but it is notoriously difficult to state a restriction that coheres with the existence of ordinary objects without introducing ontological vagueness.[18, 19] Denying PARITY seems to require identifying some feature had by the one chair that qualifies it to be a chair, say, and disqualifies the candidates from being chairs. But it is hard to see how there could be such significant distinctions between such similar things as Chair and Chair-minus, for example, or between us and our large proper parts.

1.1.2. Why We Should Deny PARITY

I think that there are good reasons not to deny ABUNDANCE as part of a conservative solution to the problem. First, there are instances of the problem of the many where eliminating the many conflicts with conservative motivations, so a denial of an ABUNDANCE-like principle doesn't serve a conservative solution's aims. Second, on some views, the many candidates play explanatory roles that could not be played were they eliminated.

Suppose we deny ABUNDANCE as part of a strategy to save ordinary objects. The problem with this is that a similar denial doesn't, by itself, allow us to save ordinary objects while avoiding *the mental problem of the many*.

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[17] A *restriction on composition* claims that not every plurality of things has a fusion.

[18] See Lewis 1986: 212–3 for the classic statement of the argument. Sider (2001a: 120–32) develops the argument further.

[19] Of those who deny ABUNDANCE mentioned earlier, van Inwagen (1990) and Korman (2015) both embrace ontological vagueness. Markosian's (1998: 247–8) *brutalist* solution, however, denies ABUNDANCE without thereby incurring ontological vagueness. According to this solution, composition is restricted, but there's no principle—vague or otherwise—that restricts it. Markosian (2014) is no longer a brutalist about composition; he now accepts brutalism about existence. Paul (2012: 251) accepts brutalism about composition.

The mental problem of the many has the same structure as the problem of the many, but rather than being about *kinds* of objects quite generally, it is about subjects of conscious experiences, or *thinkers*, for short.[20]

M-ABUNDANCE[21]	There are many candidate thinkers, i.e. things the parts of which seem to be arranged in such a way that they have what it takes to think, in the vicinity of any thinker.
M-PARITY	If there is a thinker there, then each candidate thinker makes up a distinct thinker than the others.
M-CONSERVATISM	There is just one thinker where we take there to be a single thinker.[22]

The idea is that, in addition to you, there are a lot of things in your chair that seem to have what it takes to think. For instance, there is your upper half, your head, and your brain. Each of these has a functioning brain as a part. Having such a part is plausibly what is required to think.[23] Thus, if you think and M-ABUNDANCE and M-PARITY are true, it seems that there are many thinkers in your vicinity, contradicting M-CONSERVATISM.

Suppose that we deny M-ABUNDANCE in order to maintain M-CONSERVATISM: we do not have large proper parts that, were they to exist, would be candidate thinkers. If the denial of M-ABUNDANCE is to solve the mental problem of the many, it must eliminate

[20] If *subject of conscious experience* or *thinker* is a kind property, the mental problem of the many is just an instance of the problem of the many. If it isn't, then it's clearly a closely related problem. I don't assume that *subject of conscious experience* is a kind property.
[21] 'M' stands for *mental*.
[22] See Unger 1999, 2006 and Hudson 2001 for extended treatments of the mental problem of the many.
[23] I use 'brain' as shorthand for whatever physical system it is (at least partly) in virtue of which persons think. Perhaps this is the cerebrum, or the central nervous system, or some large part of one or the other.

brains, heads, and other large proper parts of us that have brains as parts. But that's not a conservative solution; brains and heads, at least, are certainly ordinary objects. So, either the denial of M-ABUNDANCE isn't part of a conservative solution, or M-ABUNDANCE doesn't solve the problem because it doesn't eliminate brains.

In the latter case, to solve the problem, we could embrace the result that both you and your brain think, we could deny that there are any thinkers, or we could try to disqualify one of you or your brain from thinking. The first two options deny M-CONSERVATISM and are thus inconsistent with the conservative motivation for denying M-ABUNDANCE in the first place. It appears, then, that we must deny M-PARITY. So, the strategy of denying M-ABUNDANCE to solve the problem seems to require a denial of M-PARITY, as well. Wouldn't a denial of M-PARITY *by itself* do the necessary work while allowing us to maintain that there are brains?[24]

Because of the close connection between the mental problem of the many and the problem of the many, it would be at least somewhat unmotivated to give one solution to one problem and another to the other. So, I think we should deny PARITY and its analogues in the problems of the many quite generally.

[24] Korman (2015) defends a conservative ontology in the sense described in fn. 9, above. He also proposes to solve the problem of the many by denying ABUNDANCE; see Korman 2015: chapter 12. However, the solution cannot be extended to the *mental* problem of the many, as I've argued, while maintaining Korman's brand of conservatism. Either denying M-ABUNDANCE will mean that there are no brains or heads, or such things aren't eliminated by denying M-ABUNDANCE. In the former case, Korman's brand of conservatism isn't true. In the latter, Korman hasn't shown how to solve the mental problem of the many. It appears that Korman will need to give different treatments to the problem of the many and the mental problem of the many.

In other cases, denying ABUNDANCE or M-ABUNDANCE and eliminating the many conflicts not with CONSERVATIVISM, but with the ontology of one's theory. On some views, the many play various explanatory roles.

For instance, *constitutionalists* about human persons[25] believe that human persons are *constituted by*, but not identical to, human animals.[26, 27] This view is plausibly committed to ABUNDANCE in virtue of accepting that there is a person and a human animal in the same place at the same time. Both seem to have what is required to think. Constitutionalists, however, would not want to eliminate either persons or animals from their ontology. The existence of both the constituting animal and the person is used to explain certain facts, e.g. how persons can persist for less time than their human animals.

Or suppose that persons *perdure*, i.e. that they exist at different times by having different instantaneous temporal parts, or *person stages*, at those times.[28] *The personite problem* purports to show that fusions of person stages have moral status because of how person-like they are. An ABUNDANCE-denying solution would *eliminate* person stages. It

[25] Johnston (1987), Baker (1999, 2000, 2007, 2016), and Shoemaker (1999) are among the defenders of constitutionalism.

[26] Constitution is a relation of non-identity that obtains between a thing and what it is made out. Wiggins (1968), Doepke (1982), Lowe (1982, 1995), Simons (1987), Johnston (1992), Baker (1997, 2000, 2007), Thomson (1998), Jónsson (2001), Fine (2003, 2008), Koslicki (2008, 2018a, b), Jones (2013, 2015), Korman (2015), Saenz (2015), and Jago (2016) all accept that there is such a relation.

[27] Some constitutionalists, e.g. Baker (2016), hold that human persons need not be constituted by human animals. For instance, you might come to be constituted by a cyborg someday. For convenience's sake, I will continue to talk as though constitutionalists hold that all human persons are constituted by human animals.

[28] Something is an *instantaneous temporal part* of a thing at a time iff the former is a part of the latter, the former exists only at that time, and the former overlaps every part of the latter that exists at that time (Sider 2001: 60). See Lewis 1986: 202–4 and Sider 2001 for classic defenses of perdurantism.

Here's a note on terminology. Typically, instantaneous proper temporal parts of persons *are* person stages, but not always. Suppose I travel back in time to my tenth birthday. My instantaneous proper temporal part at that time will have the scattered shape of two persons. I'm going to ignore time-travel cases for ease of presentation; I don't think the possibility of such cases causes any trouble for what I say here, and ignoring them lets me use the less ungainly "person stage" in place of "instantaneous proper temporal part."

would hold that person stages don't exist. Perdurantists need them, though: those parts explain how objects exist at different times and how change is possible.[29] In this case, it is better to *disqualify*, rather than to eliminate, stages, i.e. to show that they do not have what it takes to be thinkers.

So, let's grant ABUNDANCE. According to ABUNDANCE, there are lots of other things in the vicinity of my chair, and each of these seems to have what it takes to be a chair. So, too, with cats and human persons. Yet, the seeming similarity of all of these things makes a denial of PARITY implausible; given the seeming similarity of the many candidates and the chair, how could there be just one chair here? Acceptance of ABUNDANCE and the concomitant existence of the many makes answering those questions extremely difficult. The only way that a rejection of PARITY will be plausible is if we can make sense of how ordinary objects are *special* compared to the many things in their vicinity. First, though, it will be helpful to have an understanding of the full scope of the problems of the many.

1.2. Problems of the Many

The problems of the many share the structure of the problem of the many. Each consists of a version of ABUNDANCE, PARITY, and CONSERVATISM. In this section, I show that the following three problems in personal ontology are problems of the many: the thinking animal problem (1.2.1.), the thinking parts problem (1.2.2.), and the personite

[29] Lewis (1986: 202–4) uses temporal parts in response to the problem of temporary intrinsics. On this view, temporal parts have intrinsic properties like *being bent* or *being straight*. The perduring object has those properties temporarily by having different parts with different, incompatible intrinsic properties at different times.

problem (1.2.3.). I return to the mental problem of the many in 1.2.4., where I argue that it is closely connected to each of the three problems of the many in personal ontology.

1.2.1. The Thinking Animal Problem

Constitutionalists about human persons believe that human persons are constituted by, but not identical to, human animals. *Animalists*[30] believe that human persons are numerically identical to human animals.[31]

The main argument for animalism and against constitutionalism is *the thinking animal problem*: animalists claim that constitutionalists are committed to the existence of two thinkers in the vicinity of any human person, viz. the human person and its constituting human animal.[32, 33] Here's the problem in the form of an inconsistent triad:

TA-ABUNDANCE[34]	There are two candidate thinkers, e.g. a human person and their constituting animal, in the vicinity of any thinking human person.
TA-PARITY	If there is a thinker there, then each thinker-candidate makes up a different thinker from the others.

[30] Animalists include Snowdon (1990), van Inwagen (1990), Olson (1997, 2007), Merricks (2001), Toner (2011), Blatti (2012), Bailey (2016), and Thornton (2016, forthcoming).
[31] This statement of animalism will work for my purposes in this dissertation, but there are a variety of ways to develop animalism beyond this. See Johansson 2007, Bailey 2015, and Thornton 2016 for surveys.
[32] Olson (2007: 216), Blatti (2012: 685), and Lim (2018: 419)—animalists all—claim that the thinking animal problem is the main argument for animalism.
[33] This, animalists contend, is not only implausible, but also raises difficult epistemological problems, like knowing which of the thinkers you are. Olson (2007: 236) calls this *the epistemic problem*.
[34] 'TA' stands for *thinking animal*.

TA-CONSERVATISM There is just one thinker where we take there to be a single thinker.

TA-ABUNDANCE is motivated in part by the core thesis of constitutionalism about human persons: human persons are constituted by human animals. It is in virtue of having a functioning brain that a human person thinks, presumably. But the constituting animal apparently has a functioning brain, as well. So, there are two different things there, each of which seems to have what it takes to think. TA-PARITY is motivated by the thought that both the person and its constituting animal seem to have what's required to think. Thus, if the human person thinks, its constituting animal should think, as well. This contradicts TA-CONSERVATISM.[35]

1.2.2. The Thinking Parts Problem

The thinking parts problem threatens animalists with their own multiplicity of thinkers. This problem can also be presented in the form of an inconsistent triad:

TP-ABUNDANCE[36] There are many candidate thinkers, e.g. an animal and its large proper parts, in the vicinity of any thinker.

TP-PARITY If there is a thinker there, then each thinker-candidate makes up a different thinker from the others.

[35] The most developed constitutionalist solution to this problem is Lynne Rudder Baker's. She appeals to a distinction between sameness in being and sameness in number to solve the problem. See Baker 1999, 2000: 197ff., and 2016 for applications of the distinction to the thinking animal problem. In chapter 4, I develop some solutions on behalf of constitutionalists without Baker's distinction.

[36] 'TP' stands for *thinking parts*.

TP-CONSERVATISM There is just one thinker where we take there to be a single thinker.[37]

TP-ABUNDANCE is motivated by the thought that, in the vicinity of any human animal, there seem to be many different things, all of which apparently have what it takes to think. If it exists, your head is distinct from you; it is a proper part of you. Additionally, it seems to have everything required to think. It has a functioning brain. This motivates TP-PARITY. If you have parts like this, there are thinkers distinct from you in your close vicinity. Thus, animalists themselves appear to be committed to their own multiplicity of thinkers.

1.2.3. The Personite Problem

According to perdurantism, persons persist through time by having person stages at every time at which they exist. On this view, persons are temporally extended fusions of person stages. On standard developments of perdurantism, you have a part that is a

[37] Constitutionalists face this problem, too, but the stakes here are especially high for animalists. The falsity of TP-CONSERVATISM would undermine animalism in two ways. First, animalists would be unable to use the thinking animal problem in good faith to motivate their own view and to undermine constitutionalism. Second, they would be faced with an analogue of the same problem they level against constitutionalists. Indeed, Olson (2007: 216), a leading proponent of animalism, thinks that, if the thinking parts problem cannot be solved, then animalism is no better off than constitutionalism.

In response to the thinking parts problem, many animalists adopt *biological minimalism*. According to this view, animals have cells and their parts as proper parts, but animals have no larger proper parts. This solution denies TP-ABUNDANCE. This allows biological minimalists to maintain TP-CONSERVATISM, but the resulting view is not conservative in the sense in which I've been using the term: it denies the existence of brains and other ordinary objects, viz. the familiar parts of animals like heads, hands, and hearts. Olson (2007: 226–7) emphasizes that the view is most naturally paired with restrictions on composition that do away with all non-living composite objects. See van Inwagen 1990 for a way of developing such a restriction. For an animalist view that *doesn't* restrict composition, see Yang 2015; I discuss Yang's view in chapter 4.

fusion of your person stages from your first birthday to your tenth birthday.[38] This is an example of what Mark Johnston (2016, 2017) calls a *personite*.[39]

Olson (2011), Taylor (2013), and Johnston (2016, 2017) argue that, if personites exist and have moral status, then this undermines many of our prudential and moral practices. This is *the personite problem*. That personites have moral status is plausible; they seem to be very person-like, apparently differing from us only in things like temporal extent. Such differences presumably aren't morally relevant.

Undertaking projects that are unpleasant in the short-term but rewarding in the long-term is usually thought to be a part of a well-ordered life. Such projects include going to college and, I'm told, raising children beyond their teenage years. But, if

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[38] There are some potentially controversial assumptions at work here. The first is that there are arbitrary fusions of person stages. The second is that those fusions are parts of persons.

One way to motivate the first assumption is by appeal to *unrestricted composition*, the thesis that any things whatsoever have a fusion. If unrestricted composition is true, there are arbitrary fusions of person stages. Standard perdurantism is committed to unrestricted composition. See Lewis 1986: 202ff., for instance.

Even if there aren't arbitrary fusions of person stages, the existence of the person stages themselves is enough to get the problem going; they're seemingly very person-like! Here's Lewis (1976/1983: 76), for instance: "[A stage] does many of the same things that a person does: it talks and walks and thinks, it has beliefs and desires, it has size and shape and location."

The existence of such fusions, however, falls short of the claim that they are *parts* of perduring persons. That these are proper parts of perduring persons can be ensured with *strong supplementation*: if something is not a part of another thing, then there's something that is a part of the former but disjoint from the latter. To see how this works, suppose that there is a fusion of your person stages from when you came into existence up until ten years ago, but it is not a part of you. By strong supplementation, there must be something that is a part of that thing that is disjoint from you. But there's no such part. So, that fusion is a part of you.

Both unrestricted fusion and strong supplementation are, depending on the axiomatization, theorems or axioms of *classical extensional mereology*, a theory closely associated with perdurantism. See, again, Lewis 1986: 202ff. Sider (2001a: 120–32) argues for the ontology of perdurantism from unrestricted composition; he accepts exdurantism, however, as a thesis about persistence. For presentations of classical extensional mereology, see Simons 1987: chapter 1 and Lewis 1991: 72–4.

[39] Olson (2011) and Taylor (2013) call personites 'subpersons'. I have chosen 'personite' because it is Johnston's term and I discuss Johnston's (2016) argument for the moral status of personites in chapter 5. Additionally, the personite problem has to do with whether personites have moral status; 'subperson' makes me think of 'subhuman', and that's a word with historical and moral baggage that it's best to eschew when discussing whether entities have moral status, even if it does make the stakes of the debate quite clear; whether personites have moral status *really matters*.

personites have moral status, these projects are apparently immoral. Many personites are compelled to undertake the short-term unpleasantries, they go out of existence in the interim, and they don't enjoy the long-term rewards.

Here's a way of presenting the problem as an inconsistent triad:

P-ABUNDANCE[40] There are many things that seem to have what it takes to have moral status in the vicinity of any person.

P-PARITY If any one of them has moral status, then each does.

P-CONSERVATISM There is just one entity with moral status where we take there to be a single one.

P-ABUNDANCE is motivated by the standard ontology of perdurantism.[41] Personites are just fusions of person stages. That these are plausible candidates for moral status, meanwhile, is motivated by the observation that they are *extremely similar* to persons; they differ only in temporal extent, it seems. Together, these observations give us reason to accept P-ABUNDANCE. P-PARITY, meanwhile, is made plausible by the observation that, on standard developments of perdurantism, personites have many of the

[40] 'P' stands for *personite*.

[41] This is how Olson (2011), Taylor (2013), and Johnston (2016, 2017) present the problem. However, Olson and Johnston both note that the problem arises more widely. Olson presents the problem as a problem for *generous ontologies*. Unfortunately, he doesn't say what, exactly, all such ontologies have in common. Olson (2011: 260) notes that perdurantism is one such view, and he claims that a similar problem arises for constitution theory, as it is a generous ontology, although not as generous as most perdurantists tend to accept. I suspect that what generous ontologies are supposed to have in common with respect to the personite problem is that the mental problem of the many arises in them. Johnston (2017: 641) notes that

> [I]t would be mistaken to understand the problem as one that can be solved simply by rejecting [perdurantism]. That is the wrong reaction because the problem can be reproduced in roughly the same form, both within continuity theories of identity over time that are not [perdurantist] and within successivist theories that are not [perdurantist] (including [exdurantism]).

same features as persons: they think and feel and plan. Thus, there seems to be no morally significant difference between persons and personites. So, if the person has moral status, its personites seem to, also. That gives us P-PARITY.

1.2.4. The Mental Problem of the Many

I introduced the mental problem of the many in 1.1.2. The problems of the many I surveyed in 1.2.1.–1.2.3. are versions of this problem or are closely related to it. This is clearest, I think, in the thinking animal and thinking parts problems. Like the mental problem of the many, these purport to show that there are too many thinkers. The difference is that TA-ABUNDANCE and TP-ABUNDANCE are motivated the ontology peculiar to particular views of human persons.

It is less clear, I take it, that the personite problem is connected to the mental problem of the many. The connection is most apparent when we ask why personites are plausible candidates for having moral status. An entity's having moral status is presumably not a brute fact about it. An entity has moral status in virtue of other facts about it.[42]

Olson (2010) focuses on the ways in which the interests of personites to minimize personal harm and maximize personal benefit often clash with their persons' interests to minimize personal harm and maximize personal benefit. It is in the interest of my personite that will exist only for tonight to eat, drink, and be merry, but it is in my interest—all things considered, at least—to do none of these things because I am too busy

[42] I won't take any stand on what exactly is required for having moral status. I intend for the discussion here to be compatible with a variety of views of the grounds of moral status. Cf. Johnston 2016: 202–3.

with things I judge to be more important. Taylor (2013) notes that the desires of personites are often frustrated because they are not around to experience long-term benefits. Johnston (2016) emphasizes the unpleasantness of many personites' existence. Some exist only during my half-hour on the treadmill, for instance.

Having interests to minimize personal harm and maximize personal benefit, having desires that can be frustrated, and having the ability to experience unpleasantness all require having psychological properties. If personites are to be harmed in these sorts of ways, then they will need to have psychological properties. Understood in this way, the personite problem appears to rely on the idea that there are many things with psychological properties, i.e. that there are many *thinkers* in the vicinity of any human person. The conclusion that personites are capable of being harmed in the ways that the personite problem purports to show relies on the outcome of the mental problem of the many. If a conservative solution can be given to the mental problem of the many as it arises here, then there will be little reason to think that personites are capable of being harmed in the ways that Olson, Taylor, and Johnston worry.

1.3. Overview of the Dissertation

The problem of the many is a comparatively new problem in material object metaphysics.[43] Because of this, there is still much work to be done in determining what a solution requires and what solutions are even available.

[43] Compare the problem to the puzzle of Dion and Theon, for instance, which was introduced by Chrysippus (c. 280–206 BCE).

In part I of the dissertation, I aim to answer two questions about the problem of the many. First, is a thesis about the relation between a thing and what it is made out of needed for a conservative solution to the problem of the many? This is the topic of chapter 2. Second, are there solutions that have been ignored? Chapter 3 discusses such a solution.

In chapter 2, I assess an influential suggestion for how to solve the problem of the many. E.J. Lowe (1982) and Mark Johnston (1992) argue that a solution requires getting clear on the relation between a thing and what it is made out of. Specifically, they argue that constitution is "crucial" in giving a conservative solution to the problem (Johnston 1992: 101).

If Lowe and Johnston are correct, that would be a powerful consideration in favor of constitution theory. In chapter 2, I argue that the argument fails and that neither Lowe's, Johnston's, nor other constitution theorists' solutions to the problem of the many support the thesis that constitution is crucial in solving the problem.

Here's the idea. There is a "gap" between identity theory—the view that things are identical to what they are made out of[44]—and constitution theory, on the one hand, and a solution to the problem of the many, on the other. The views do not, *by themselves*, seem to provide a conservative solution to the problem. For instance, *even if* constitution theory were true and a cat is constituted by one of the candidates, this seems to tell us nothing about why the many other candidates don't themselves constitute different cats; that is, it gives no reason to deny PARITY. Nor does acceptance of either theory seem to

[44] Lewis (1986, 1999), van Inwagen (1990), and Noonan (1993), among others, all accept identity theory.

give any reason to deny ABUNDANCE. Something *additional* is apparently needed in order to maintain CONSERVATISM. Call this additional something an *additional thesis*.

In chapter 2, I argue that constitution-based solutions are motivated by additional theses and that these theses are available to identity theorists. To show that identity theorists' acceptance of the additional thesis is not *ad hoc*, I argue that plausible motivations for constitution theorists' accepting the additional theses similarly motivate acceptance of the additional theses by identity theorists.

In the course of arguing for the claim that constitution isn't needed to solve the problem of the many, I sketch a solution to the problem of the many according to which the many cat-candidates that have what it takes to make up a cat, say, all make up the same cat. This is a novel solution to the problem of the many. In chapter 3, I develop this solution in more detail, defend it from some objections, and compare it to some extant solutions.

Part of the project of chapter 3, then, is to explore a neglected portion of logical space. In addition, the machinery I use in chapter 3—many-one identity and composition-as-identity—is somewhat unusual, and it is of independent interest to see how that machinery can be used. In this respect, chapter 3 is a contribution to a growing literature on many-one identity and composition-as-identity. Finally, the outcome of chapter 3 bears on the thesis of chapter 2. If the many-one identity solution developed in chapter 3 doesn't work, but the parallel constitution view discussed in chapter 2 does, then there is a solution that constitution theorists can adopt in response to the problem of the many that identity theorists cannot.

Part II of the dissertation is about the problems of the many that arise in personal ontology. Chapter 4 is about the thinking animal problem and the thinking parts problem. Chapter 5 is about the personite problem.

In chapter 4, I explore the role of the thinking animal and thinking parts problems in arguments for and against animalism and constitutionalism. Animalists use the thinking animal problem against constitutionalism. The thinking animal problem challenges constitutionalists to avoid the result that both the person and the animal think. However, animalists face the thinking parts problem, which challenges them to avoid the result that the human animal and its large proper parts think. These, I argued above, are both versions of the mental problem of the many.

Part of the argument in chapter 4 is that different animalist arguments—the thinking animal problem and *the animal ancestors argument*, which claims that only animalists can maintain the claim of evolutionary theory that our ancestors were animals—pull animalists in different directions. The dialectical effectiveness of the animal ancestors argument requires rejecting *biological minimalism*, the view that animals lack any large proper parts, while the dialectical effectiveness of the thinking animal problem requires accepting biological minimalism. I argue for the latter claim using Eric Yang's (2015) *unrestricted animalist* solution to the thinking parts problem as my stalking horse. Whereas biological minimalism *eliminates* candidates by denying their existence, Yang's view rejects biological minimalism and holds that animals have

parts like brains, heads, and hand complements; it *disqualifies* candidate thinkers to solve the thinking parts problem.[45]

Yang's unrestricted animalism is a somewhat heterodox form of animalism. Typically, animalists accept biological minimalism as a way of denying M- or TA-ABUNDANCE and solving the problem of the many. But, earlier in this introduction, I argued that conservative solutions to the mental problem of the many shouldn't reject M-ABUNDANCE. It is either the case that such views eliminate ordinary objects like brains, or else they don't solve the problem. So, although it is heterodox, Yang's view deserves serious consideration among those animalists who wish to develop a conservative, animalist solution to the thinking parts problem.[46]

In chapter 4, I argue that apparently *any* animalist solution by disqualification can be co-opted by constitutionalists to provide equally motivated, equally plausible solutions to the thinking animal problem. The argumentative strategy of this part of chapter 4 is similar to that of chapter 2. I exploit a "gap" between animalism and a conservative solution to a version of the mental problem of the many.

I also try to sort out some issues about which arguments animalists can use in favor of their position. Animalists have recognized the structural similarity of the thinking animal and thinking parts problems.[47] Stephan Blatti (2012) offers the animal ancestors argument as a new argument for animalism. According to this argument,

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[45] The *x complement* of an object is the fusion of all of the parts of the object that are disjoint from *x*.

[46] Although the chapter is organized around Yang's solutions, I discuss several related solutions in passing, including Toner's (2011) hylomorphic solution to the thinking parts problem.

[47] For instance, Olson (2007: 217) hypothesizes that "the possible solutions to the thinking-parts problem ought to parallel the possible solutions to the thinking-animal problem." Madden (2016: 186) notes that, for animalists who accept TP-ABUNDANCE, "the prima facie worry … is that any sound response to the problem of thinking parts will *mutatis mutandis* furnish a reply to the problem of the thinking animal."

animalists, but not constitutionalists, can claim that our ancestors were animals. This is supposed to be a problem for constitutionalism, as constitutionalism claims that human persons *aren't* animals. Thus, the view apparently requires the denial of something that evolutionary theory asserts. Because evolutionary theory is an incredibly well confirmed theory, this would be a strong consideration against constitutionalism if it is correct.[48]

I argue that use of the animal ancestors argument is in tension with use of the thinking animal problem. Specifically, use of the animal ancestors argument seems to require a solution by disqualification to the thinking parts problem, rather than a solution by elimination, because evolutionary theory also claims that brains are the product of evolution. In this is right, animalists cannot endorse both arguments. Those animalists who wish to use the animal ancestors argument should reject biological minimalism and solve the mental problem of the many by rejecting M-PARITY, rather than M-ABUNDANCE.

In chapter 5, I turn to the personite problem. If personites have moral status, as seems plausible on the basis of their apparent similarity to actual and possible persons, then even our most seemingly innocuous actions harm countless of them. This threatens to throw our ordinary moral and prudential practices into disarray; for instance, short-term sacrifice for long-term gain seems to harm those personites who are around for the sacrifice but cease to exist before accruing any benefit.

Part of the project of chapter 5 is getting clear on the scope of the personite problem and how it is related to the problems of the many. I begin by arguing that Alex Kaiserman's (forthcoming) exdurantist solution fails to solve the problem; a version of

[48] For criticisms of the argument, see Daly and Liggins 2013 and Gillett 2013.

the personite problem arises for exdurantism. The argument relies on exploiting the similarity between the personite problem and the mental problem of the many.

I offer and defend a solution to the personite problem that appeals to differences in the properties that persons and personites have. I argue that personites lack psychological properties. Since the supposed harms done to personites require personites' having psychological properties, personites cannot be harmed in the ways the personite problem purports to show.

Chapter 2. Is Constitution Needed to Solve the Problem of the Many?

The ordinary, material objects of everyday experience are *made out of* something. For instance, a clay statue is made out of a certain lump of clay. As I use the term here, "made out of" is neutral between several different theses about the relation between a thing and what it is made out of.

Some philosophers accept

CONSTITUTION THEORY *Being made out of* is *being constituted by*, a relation other than identity holding between a thing and what it is made out of.[49]

A clay statue is constituted by the lump of clay out of which it is made, but the statue and the clay are not numerically identical.

Other philosophers accept

IDENTITY THEORY *Being made out of* is *being identical to*.[50]

Identity theorists hold that objects are numerically identical to what they are made out of. On this view, the statue and the clay are numerically identical.

The main point of disagreement between constitution theorists and identity theorists is over which relation is picked out by "made out of" in the above examples.

[49] Wiggins (1968), Doepke (1982), Simons (1987), Johnston (1992), Lowe (1982, 1995), Thomson (1998), Baker (1997, 2000, 2007), Jónsson (2001), Fine (2003, 2008), Koslicki (2008), Jones (2013, 2015), Saenz (2015), Jago (2016), and Korman (2015) all accept CONSTITUTION THEORY.

[50] Lewis (1986, 1999), van Inwagen (1990), and Noonan (1993) all accept IDENTITY THEORY.

This is *the puzzle of material constitution*. The puzzle has generated an enormous literature.[51] One corner of this literature is occupied by E.J. Lowe's (1982) and Mark Johnston's (1992) arguments against IDENTITY THEORY and in favor of CONSTITUTION THEORY. Briefly, these arguments purport to show that Peter Geach's (1980) and Peter Unger's (1980) *problem of the many* undermines IDENTITY THEORY and supports CONSTITUTION THEORY.[52]

I use Lowe's and Johnston's arguments as jumping off points to investigate the prospects of IDENTITY THEORY vis-à-vis the problem of the many. I argue that identity-based solutions to the problem can be given that are structurally parallel to constitution-based solutions and that these identity-based solutions are motivated by the same considerations that motivate the parallel, constitution-based solutions. In addition, I argue that these solutions are adequate to solving the problem. These constitution-based views, then, don't support the thesis that CONSTITUTION THEORY is needed to solve the problem, *pace* Lowe and Johnston.

In 2.1., I introduce the problem of the many and show how Johnston and Lowe use it to argue against IDENTITY THEORY and in favor of CONSTITUTION THEORY. In 2.2., I sketch the general argumentative strategy of the chapter. In 2.3.–2.6., I consider particular constitution-based views.

[51] For overviews of the literature, see L.A. Paul 2010 and Wasserman 2017.
[52] Lowe (1982) responds to Geach (1980) on behalf of CONSTITUTION THEORY. Johnston (1992) positions himself as developing Peter Unger's (1980) problem of the many as an objection against IDENTITY THEORY and in support of CONSTITUTION THEORY. (Johnston (1992) refers to Unger 1980 as "Unger 1981.")

2.1. Stage Setting

In 2.1.1., I introduce the problem of the many in more detail. In 2.1.2., I present Johnston's and Lowe's arguments for the claim that constitution is crucial in solving the problem of the many.

2.1.1. The Problem of the Many

The problem of the many arises from what we take ourselves to know about ordinary objects and what they are made out of. Cats, for instance, are made out of fusions of cells in particular arrangements. But there are plausibly many minutely different fusions of cells in the vicinity of any cat, and each plausibly makes up a different cat, if it makes up a cat at all. It seems sufficient for any one of them to make up a cat that its parts be appropriately arranged and related to one another. But small differences in the arrangement and number of the fusions' parts don't seem to make a difference as to whether those fusions make up cats.[53] At least, it's hard to see how such differences could make a difference. Plausibly, then, many fusions of cells in the vicinity of any cat seem to have what's required to make up different cats. So, it seems that there are either many cats where we thought there was only one, or else there are no cats.[54] The argument apparently generalizes to tables, chairs, human beings, and other ordinary material objects.

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[53] The relation *making up* is the converse of the relation *being made out of*.

[54] Lewis (1999), Williams (2006), and Sutton (2015) all hold that, counting by identity, there are many cats on the mat. Lewis and Sutton sweeten the pill by holding that, typically, we count by some relation other than identity and that this makes it appropriate to count the many cats as a single cat. At the other extreme, in his early statement of the problem, Unger (1980) takes the problem to show that there are no cats and no other ordinary objects, either. More recently, Unger (1999, 2006) takes the problem as it arises *for thinkers* to show that substance dualism is true; as it arises for objects like tables and chairs, he takes the problem to show that CONSERVATISM is false.

In subsequent discussion, it will be helpful to have a more general statement of the problem of the many. The problem arises for composite objects of those kinds, *K*, that (i) admit of leeway in the number of parts they must have and in the particular relations that those parts must bear to one another for there to be a *K* and (ii) are such that we take it that it is possible for there to be just a single object of kind *K* where we normally take there to be just one. Here are the main principles used in generating the problem:

ABUNDANCE	There are many *K-candidates*, i.e. things the parts of which seem to be arranged *K*-wise, in the vicinity of any object of kind *K*.
PARITY	If there is a *K*, then each of the many *K*-candidates in its vicinity makes up a different *K* from the others.
CONSERVATISM	There is just one *K* where we take there to be a single *K*.

All of these are plausible, but they are inconsistent. For instance, consider a cat. In its vicinity, there are many things that seems to have what it takes to be a cat; there is all of the cat minus a particular hair, for instance, or minus a different hair, or … That gives us ABUNDANCE. Given how similar those cat-candidates are to the cat, it seems that they must also be cats; what could disqualify them from cathood? And presumably each makes up a different cat than any other; they have different parts and locations, for instance. That gives us PARITY. Finally, CONSERVATISM is plausible; there's just one cat there. But now we have a contradiction. The same reasoning applies to tables, chairs, plants, and the other ordinary objects of everyday experience.

In early presentations of the problem, there's pretty stark disagreement about which of CONSTITUTION and IDENTITY THEORY is affected by the problem. Unger says that the nature of the problem *presupposes* a denial of IDENTITY THEORY:

> For our problem of the many it is the alleged constitution of certain concrete things by certain other ones that is of importance. … [N]o matter what is constituting what, that which constitutes cannot be the very same thing as what is thus constituted; that is, nothing can constitute itself. (Unger 1980: 433)

On the other hand, Lowe (1982: 27–8) seems to think that the problem *doesn't even arise* for CONSTITUTION THEORY: "*none* of the … lumps of feline tissue is a cat, so there is not even a *prima facie* case for saying that there are [many] cats sitting on the mat."

However, there are two reasons why it is a mistake to conceive of the problem of the many as a problem for one view and not the other. First, consider the initial statement of the problem. We presented the problem without saying *anything* about constitution or identity. This gives at least some reason to think that the problem is a general problem that arises for both CONSTITUTION and IDENTITY THEORIES. Second, as I understand it, what's *problematic* about the problem is that it threatens to show that ordinary kind properties are distributed in ways that are seriously counterintuitive.[55] This problem arises because the conditions governing the instantiation of certain kind properties seem to admit of leeway in the ways described above. Views can differ on whether the things that instantiate those kind properties are identical to, or constituted by, what they are made out of, but if they share the background assumption of how those kind properties are instantiated, the problem arises.

[55] Cf. Jones 2013: 28ff.

The problem is presented in two different ways in the literature; these differ in how they motivate ABUNDANCE. The first—CLEAR BOUNDARIES—doesn't involve vagueness and motivates ABUNDANCE with the observation that there are many different, but extremely similar, fusions in the vicinity of any ordinary object. The second—UNCLEAR BOUNDARIES—uses vagueness to motivate ABUNDANCE with the observation that there seem to be many different ordinary objects of indeterminate composition in the vicinity of any ordinary object.[56, 57] I discuss solutions to both versions of the problem.

2.1.2. CONSTITUTION THEORY and the Problem of the Many

In this section, I discuss both Lowe's (1982, 1995) and Johnston's (1992) constitution-theoretic responses to the problem of the many. I begin with Johnston's response, rather than Lowe's, because Johnston's engages with broader issues in the debate between CONSTITUTION THEORY and IDENTITY THEORY. This order of presentation serves to situate the problem of the many vis-à-vis that debate.

Johnston 1992 is organized around responding to the following claim of IDENTITY THEORY:

(1) In the case of complete coincidence, the statue and the clay it is made out of are identical. (Johnston 1992: 98)[58, 59]

[56] See Unger 1980 for CLEAR BOUNDARIES. See Lewis 1999 for UNCLEAR BOUNDARIES.
[57] The names for these cases come from Korman 2015: chapter 12.
[58] The numbering and text of (1), (8), (9), and (9′) come from Johnston 1992.
[59] Gibbard (1975) discusses a case of *complete coincidence* where a statue and the lump of clay it is made out of come into existence at the same time as one another and cease to exist at the same time as one another.

CONSTITUTION THEORY's denial of (1) is *prima facie* strange. The denial means that it is possible for two things to be in the same places at all of the times at which they exist. Even more worrying, however, is a consequence of the following, plausible principle:

(8) If *y* is a paradigm *F* and *x* is intrinsically exactly like *y* then *x* is an *F*. (Johnston 1992: 98)

If the statue and the clay it is made out of are numerically distinct, overlap all of the same things, and are coincident throughout their careers, then they are presumably intrinsically exactly alike. From (8), it follows that the statue and the clay are *both* statues. This seems to undermine a standard argument for CONSTITUTION THEORY.

That standard argument appeals to *de re* modal differences among objects and what they are made out of. For instance, constitution theorists standardly appeal to the claim that the statue couldn't, but the clay could, survive being squashed.[60] One reason for thinking this is that the statue is of the kind *statue*, and statues typically cannot survive such changes, whereas lumps of clay can. Constitution theorists distinguish them on the basis of these sorts of differences. However, if the lump of clay is *itself* a statue, then it, too, couldn't survive being squashed. The apparent *de re* modal difference between the statue and the clay disappears.

In response, Johnston argues that, if (8) is true, then a variety of related principles, including the following, ought also to be true:

[60] See, e.g., discussion in Wasserman 2009.

(9) If *y* is a paradigm *F* and *x* is an entity that differs from *y* in any respect relevant to being an *F* only very minutely then *x* is an *F*. (Johnston 1992: 99)

Ordinary objects' kinds seem to admit of the leeway described above, so the many similar things in their vicinity seem to have what it takes to be objects of that same kind.

Johnston (1992: 101) uses the problem of the many to argue against IDENTITY THEORY. Specifically, he takes the problem to show that (i) neither (8) nor (9) is true, (ii) CONSTITUTION THEORY is "crucial in dealing with the problem of the many," and (iii) IDENTITY THEORY is false.

Johnston's argument for (i) can be summarized as follows.[61] Suppose the many candidates differ from a paradigm cat only minutely in any respect relevant to being a cat. If (9) is true, then there are many cats in the vicinity of any cat, or else there are none. But there is just a single cat on the mat. So, (9) is false. Because (8) and (9) stand or fall together, (8) is false, too.

The problem with (9), Johnston (1992: 100) thinks, is that, "[o]n any ordinary way of talking," what makes up objects of kind *K* do not themselves count as objects of kind *K*. That is, we do not count as *K*s those objects that make up, or could make up, objects of kind *K*. Thus, we are committed to CONSTITUTION THEORY by our ordinary practices. Johnston thinks this shows we're committed to a distinction in *ontological category* between ordinary objects and quantities of matter. On Johnston's (1992: 103)

[61] Johnston (1992: 100ff.) uses the example of a cloud.

view, the difference has to do with persistence conditions: ordinary objects "constantly undergo material change," but mere quantities of matter do not.

In defense of (ii) and (iii), Johnston thinks ordinary ways of talking commit us to the following principle in place of (9):

> (9′) If *y* is a paradigm *F* and *x* is an entity that differs from *y* in any respect relevant to being an *F* only very minutely and *x* is of the right ontological category, *i.e. is not a mere quantity or piece of matter*, then *x* is an *F* .(Johnston 1992: 100)

If (9′) is true and there is a categorical difference between ordinary objects and what they are made out of, then the matter of an object is not of the same kind as the object it constitutes. Johnston's constitution theorist holds that objects' matter and the many candidates in their vicinity are mere quantities of matter and are not of the same kind as the object. Johnston offers a conservative solution to the problem of the many; PARITY is false.

Identity theorists, according to Johnston, *can't* posit a distinction in ontological category between an object and what it is made out of; after all, according to IDENTITY THEORY, objects are identical to what they are made out of. But because (9') is true, the identity theorist is committed to holding that there are many cats on the mat if there's at least one, or else that there are no cats. Because the identity theorist holds that objects are identical to what they are made out of, as (1) claims, they are committed to a denial of CONSERVATISM. But, because CONSERVATISM is true, (1) must be false.

According to Johnston, the problem of the many undermines IDENTITY THEORY by showing that it cannot recognize a distinction in ontological category between objects and what they are made out of and by showing that it cannot maintain CONSERVATISM. Meanwhile, the problem provides support for CONSTITUTION THEORY because, of the two theories, only it has the resources to offer a conservative solution to the problem. Thus, Johnston writes:

> So we see that recognizing that constitution is not ever identity, which involves recognizing a distinction of category between a material object and the matter which constitutes it, is crucial in dealing with the problem of the many. (Johnston 1992: 101)

Lowe likewise endorses a distinction between ordinary objects and mere quantities of matter. In his response to Geach's (1980) presentation of the problem, Lowe writes that

> neither *c* nor any of the other 1,000 lumps of feline tissue … on the mat is a cat ... For cats and lumps of feline tissue have different and incompatible criteria of identity, which import different persistence conditions for things of these respective kinds. *c* is a cat only in the sense that it constitutes a cat, … and [making up] is not identity. (Lowe 1995: 179)

Again, Lowe (1982: 28) thinks that, for constitution theorists, "there is not even a *prima facie* case for saying that there are" many cats on the mat. I take it that Lowe holds that *no* candidate has what it takes to be a cat because the candidates are mere quantities of matter—lumps of feline tissue—and these have persistence conditions incompatible with the persistence conditions of ordinary objects like those of cats.[62] He holds that just one candidate *constitutes* a cat. Thus, he rejects PARITY and maintains CONSERVATISM.

[62] Lowe (1982: 28–9) argues that no cat could be a mere quantity of matter because cats and mere quantities of matter have incompatible persistence conditions: cats and other ordinary objects can survive

Identity theorists cannot avail themselves of the first move if there is at least one cat on the mat and it is identical to what it is made out of. If there is a cat there, it is unclear why the candidates don't *all* have what it takes to be cats, as the initial reasoning that generates the problem of the many shows. This, at any rate, is what I take Lowe's reasoning to be.

If successful, Johnston's and Lowe's arguments are powerful considerations in favor of CONSTITUTION THEORY and against IDENTITY THEORY. Additionally, these arguments would supply a response to a recent argument *against* CONSTITUTION THEORY. Smid (2017) has argued that CONSTITUTION THEORY is *ad hoc* in the sense that it is posited to solve just *one* puzzle, viz. the puzzle of material constitution. But, if constitution does what Johnston and Lowe argue it does, then this would mean that Smid's argument fails. There would be *additional* work for CONSTITUTION THEORY to do, viz. offering a conservative solution to the problem of the many. What's more, if Johnston and Lowe are correct, it would be work that couldn't be done by IDENTITY THEORY.

I don't know of other constitution theorists who argue that constitution theory is crucial in solving the problem of the many or who offer reasons for thinking that identity theorists cannot solve the problem. But we can nevertheless ask whether these constitution theorists might be underselling their solutions. Might they solve the problem in a way that identity theorists can't? Is CONSTITUTION THEORY a crucial part of a solution to the problem? To answer this, I assess seven different constitution-based solutions and

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changes in their parts, but mere quantities of matter cannot. Cf. Johnston 1992: 103. Thus, no cat could be a mere quantity of matter.

construct parallel, similarly motivated IDENTITY THEORY solutions. These are all of the constitution-based solutions in the literature that I know of. I argue that identity theorists can replicate each of these solutions with parallel, similarly motivated solutions that solve the problem of the many without constitution.

2.2. The Argumentative Strategy

I argue that none of the constitution-based solutions support the thesis that constitution is crucial in solving the problem of the many. Discussion of each case employs a similar argumentative strategy. In this section, I note an apparent fact about solutions to the problem of the many and use it to sketch that strategy.

There seems to be a "gap" between IDENTITY THEORY or CONSTITUTION THEORY, on the one hand, and conservative solutions to the problem of the many, on the other. The theories do not, *by themselves*, seem to provide conservative solutions to the problem. For instance, *even if* CONSTITUTION THEORY were true and the cat is constituted by one of the candidates, this seems to tell us nothing about *why* many candidates don't constitute different cats; that is, it gives no reason to deny PARITY. For instance, consider Lowe's claim that just one candidate constitutes a cat. If that's true, then *why* is it true? The truth of CONSTITUTION THEORY seems to offer no answer. Nor does the truth of either theory seem to give any reason to deny ABUNDANCE. Something *additional* is apparently needed in order to maintain CONSERVATISM. Call this additional something an *additional thesis*.

Additional theses could take the form of a thesis about the candidates. For instance, perhaps there is only one candidate. Or perhaps there are many, but one is best.

These are ways of denying ABUNDANCE and PARITY, respectively. Or additional theses could be about language. For instance, perhaps the name of the cat is vague, and it is true that there is a single cat on the mat because, on any way of resolving that vagueness, there is but a single cat. This would allow one to deny PARITY. In any case, the claim that objects are identical to, or constituted by, what they are made out of does not seem to solve the problem of the many by itself. Such views must be supplemented by an additional thesis, and it is this thesis that apparently allows one to solve the problem.

This suggests an argumentative strategy to show that constitution doesn't play a crucial role in solving the problem on any of the extant solutions. First, argue that a constitution-based solution is motivated by or requires an additional thesis. Second, argue that this additional thesis is available to identity theorists and that it equally affords a parallel, constitution-free solution to the problem. Third, to make is plausible that identity theorists' acceptance of the additional thesis is not *ad hoc*, argue that plausible motivations for constitution theorists' accepting that additional thesis similarly motivate acceptance of the additional thesis by identity theorists. Fourth, to show that the resulting identity-based view is acceptable *qua* solution, argue that the view is coherent and that it is adequate to solving the problem if the corresponding constitution-based view is. If this can be done in each case, then it will show that constitution is not needed on any extant solution.

The fourth step deserves additional comment. First, to argue that the views are coherent, I will rely mostly on judgments about how similar they are to constitution-based solutions or to extant identity-based solutions. This is mostly because I don't think

there's any serious worry about the coherence of many of the views given how familiar they and the machinery they use are. There's one case, however, in which I will spend some time making the case for the coherence of an identity-based solution. This solution uses many-one identity. Second, there may be reasons to be dissatisfied with either CONSTITUTION THEORY or IDENTITY THEORY independent of the problem of the many. For instance, perhaps one does a better job of accounting for *de re* modal truths. As much as possible, I bracket issues external to the problem of the many; my concern is restricted as much as possible to the problem of the many and, in particular, whether the identity-based solutions I discuss are coherent solutions to the problem of the many. This is a familiar strategy. Just as we can assess views of persistence on the basis of their treatment of change independently of their treatment of material coincidence, so, too, can we assess these solutions as solutions to the problem of the many independently of their treatment of problems elsewhere in metaphysics.

2.3. Johnston's Abundant Constitution Theory

As we saw above, Johnston holds that ordinary objects and mere quantities of matter differ in ontological category. The cat is an ordinary material object, and its constituting matter and the candidates are mere quantities of matter; this is because the cat and other ordinary objects can survive changes in parts, but its constituter and the candidates cannot.

For Johnston, PARITY is plausible only when small differences are among entities of the same ontological category; this is the upshot of (9') (Johnston 1992: 100). Because

the cat is *not* a mere quantity of matter, there is no reason to think that the candidates or the constituter of the cat are cats; they're of the wrong ontological category.

Johnston is an *abundant constitutionalist* and he offers a conservative solution: he thinks that there are many candidates, that there is just one cat on the mat, and that it is indeterminate which candidate constitutes the cat:

> Our [cat] *c* is not only not identical with any one of the [candidates], but also it is not definitely constituted by any one of [them]. Rather, on one legitimate sharpening it is constituted by one of the[m], on another, another of the[m], and so on. (Johnston 1992: 100)

Johnston accepts a *supervaluationist* account of the vagueness: it is true on each acceptable precisification of the name of the cat that there is exactly one cat on the mat, but there is no candidate such that, on each acceptable precisification, it constitutes the cat. [63, 64] So, the antecedent of PARITY is *supertrue*, i.e. it is true on each acceptable precisification, and its consequent is *superfalse*, i.e. it is false on every acceptable precisification. PARITY is therefore superfalse.

Identity theorists, Johnston thinks, cannot offer this kind of solution because of their commitment to the claim that the cat is identical to what it is made out of:

> What is important for our purposes is that on no legitimate sharpening is [the cat] identical with any one of the [quantities of matter]. For if that were so there would be a precise cluster which on one legitimate sharpening was a paradigm [cat] and there would be entities of the same category as [it]—the other precise clusters—which deserve the name of a [cat]. (Johnston 1992: 100–1)

[63] For an overview of motivations for supervaluationism, see Keefe 2000.
[64] In this solution and all of the others I talk about in this chapter, CONSERVATISM is assumed; the task is to show how it is possible to maintain it.

Johnston here assumes that the identity theorists' commitment to the claim that objects are identical to what they are made out of requires a commitment to the claim that ordinary objects are mere quantities of matter. But this seems to me to be an additional commitment that identity theorists need not accept and, in fact, can *reject* for the same reason Johnston rejects it.

Here's how this works. Identity theorists can say the very same thing Johnston (1992: 103) says in defense of the additional thesis that there is an ontological distinction between ordinary objects and mere quantities of matter: "the middle-sized persisting objects of our experience are materially complex and constantly undergo material change," mere quantities of matter cannot survive such changes, so ordinary objects are not mere quantities of matter. So, identity theorists can accept the additional thesis that there is a categorical distinction between ordinary objects and mere quantities of matter, and they can accept this for the same reasons as Johnston.

As we saw above, Johnston seems to think that identity theorists must hold that the cat is identical to a mere quantity of matter. But this doesn't seem correct. Identity theorists of the sort being described here will claim that cats are ordinary objects and not mere quantities of matter, at least given the way that Johnston described the difference: cats and other ordinary objects can change their parts, but mere quantities of matter can't. Furthermore, identity theorists can reason as follows in defense of the claim that the candidate the cat is identical to is *not* a mere quantity of matter: If the cat is an ordinary

object, then it is not identical to a mere quantity of matter. The cat is an ordinary object. So, the cat is not identical to a mere quantity of matter.[65]

On this view, the cat is *not* a mere quantity of matter, but the other candidates are. Identity theorists can thus endorse Johnston's additional thesis (9′), reproduced here, while maintaining CONSERVATISM in a way perfectly parallel to Johnston:

> (9′) If *y* is a paradigm *F* and *x* is an entity that differs from *y* in any respect relevant to being an *F* only very minutely and *x* is of the right ontological category, *i.e. is not a mere quantity or piece of matter*, then *x* is an *F*.

What the cat is identical to is not of the same ontological category as the candidates; if (9′) is true, from the claim that there is a cat on the mat and the candidates are very similar to the cat, it does not follow that each candidate is a cat. They are of the wrong ontological category.

What of the supervaluationist aspect of Johnston's solution? Johnston thinks that the problem involves vagueness because none of the many candidates is "privileged" as "*the* cluster [i.e. quantity of matter] which exactly" makes up the cat (1992: 99–100, emphasis in original). He understands this in terms of indeterminacy or vagueness in which candidate makes up the cat. Identity theorists can agree that this is the upshot of the problem, and they can accept supervaluationism. Supervaluationism, as a thesis about the nature and resolution of vagueness, is independent of any view of the relation

[65] Compare this to Michael Burke's (1994: 596) argument for the view that what an ordinary object is made out of is not identical to the mere quantity of matter that preexisted the ordinary object. He holds that the reason why a lump of clay that existed before a clay statue is not identical to the statue is that the lump of clay is a mere lump of clay and the statue is a statue.

between things and what they are made out of. In addition, its major motivations are similarly independent.

Identity theorists will hold that, on each acceptable precisification of the name of the cat, there is a candidate such that it is identical to the cat, but there is no candidate such that, on each acceptable precisification, it is identical to the cat. Furthermore, on each acceptable precisification, the candidate that is identical to the cat is not a mere quantity of matter. That is, it is indeterminate which candidate is an ordinary object, although it is determinate that the cat is an ordinary object and not a mere lump of matter.

Both views posit a difference in ontological category between ordinary objects like cats and mere quantities of matter, and they do this for the same reasons. Both views hold that the cat is an ordinary object, and not a mere quantity of matter. Both views accept (9′). Both views help themselves to familiar supervaluationist machinery to resolve indeterminacy in what the cat is made out of. The views differ in that Johnston's holds that the cat is *constituted* by a different quantity of matter on each precisification while the identity theorist's view holds that the cat is *identical* to an ordinary object, but a different one on each precisification.

As described, the resulting identity-based view appears to be internally coherent. David Lewis (1993/1999), an identity theorist, accepts something quite close to this view.[66] For Lewis, UNCLEAR BOUNDARIES introduces indeterminacy in what the cat is made out of. Lewis uses supervaluationism to deny PARITY and to maintain ABUNDANCE

[66] Lewis (1993/1999) actually offers two different solutions. The first is supervaluationist. The second is his "almost identity" solution: the many are *almost* one. The latter bears some similarities to a view I offer in 2.5.1. and defend in chapter 3.

and CONSERVATISM *without* constitution; on his view, it is determinate that there is one cat on the mat, that there are many candidates, and that some expression used to pick out the cat is vague. The identity-theoretic view described here simply adds to this view the distinction in ontological category between ordinary objects and mere lumps of matter. So, the view does appear to be a live option for identity theorists. Both views give conservative solutions to the problem of the many.

2.4. Lowe's Abundant Constitution Theory

Lowe offers different abundant constitutionalist solutions in CLEAR BOUNDARIES and UNCLEAR BOUNDARIES. The first denies PARITY by appealing to one candidate's being the best candidate on account of its being the largest candidate. The second denies PARITY by appealing to a supervaluationist treatment of vagueness.

2.4.1. Clear Boundaries

Lowe holds that there are many candidates for constituting the cat, none of them are cats, and that just one of them constitutes the cat. In CLEAR BOUNDARIES, let *c* be "the largest continuous mass of feline tissue on the mat" (Lowe 1995: 179). Other candidates differ from *c* in having fewer parts than *c*, but having no parts that are not parts of *c*. That is, the other candidates are *smaller* than *c*.

Lowe (1995: 179) holds that *c* constitutes the cat and that other candidates would come to constitute it were appropriate parts removed from the cat. As an additional thesis, Lowe accepts that the largest candidate is the best candidate because it is the *largest*

candidate. Accordingly, the candidates aren't all equally good candidates for constituting a cat. Only one candidate—the largest—constitutes a cat. PARITY is false.

This way of denying PARITY is clearly available to identity theorists. If what makes a candidate *best* is its being the largest candidate, then this can be accepted by constitution theorists and identity theorists alike. After all, nothing about the claim that the largest candidate is the best seems to be such that constitution theorists have a special claim to it. And whatever *motivation* is to be given for that claim, identity theorists also seem to be able to accept that motivation. For instance, one might think that it is just *prima facie* plausible that the largest candidate makes up the cat.[67] So, the IDENTITY THEORY solution I've offered here isn't *ad hoc*.

Finally, this identity-based view appears to be an adequate solution if Lowe's is. First, proponents of IDENTITY THEORY can, like Lowe, accept the additional thesis that the largest candidate is the best. Second, identity theorists can claim that the largest candidate *is* the cat and deny PARITY on that basis while maintaining that the other candidates are mere quantities of matter. Third, the view is apparently coherent if Lowe's view is; it's Lowe's view with identity in place of constitution, and nothing in this case suggests that the change would make any difference to the view's coherence. Identity theorists can accept Lowe's additional thesis, deny PARITY, and affirm CONSERVATISM in just the same way as Lowe.

[67] This is a very common reaction in conversation!

2.4.2. Unclear Boundaries

UNCLEAR BOUNDARIES introduces indeterminacy in what the cat is made out of. The candidates are each of *determinate* composition, i.e. every part of each is such that it is determinately a part of it, but the cat itself is of *indeterminate composition*, i.e. some things are such that is indeterminate whether they are parts of it. Perhaps, for example, some hairs are such that it is indeterminate whether they are parts of the cat.

In UNCLEAR BOUNDARIES, Lowe (1995: 180) holds that there are many candidates, that just one of them constitutes the cat, and that it is indeterminate *which* constitutes the cat: "we can say that [the cat] has just *one* constituter, but that it is *indeterminate*" which candidate it is.[68] According to Lowe, in UNCLEAR BOUNDARIES,

> we can no longer insist that *c*, which includes all of the [candidates], is indisputably the one and only constituter of [the cat]. But we needn't be driven to saying that [the cat] has many constituters: we can say that she has just one constituter, but that it is indeterminate whether this is *c* or [another candidate]. (Lowe 1995: 180)

Lowe regards the indeterminacy as semantic:

> On this view, which seems quite plausible, the definite description 'the constituter of [the cat]' is a vague designator. … Clearly, the kind of vagueness that I am invoking here is not ontic, but is a product rather of what Lewis calls 'semantic indecision'. (Lowe 1995: 180)

As ADDITIONAL THESES, Lowe accepts supervaluationism and holds that an expression that refers to the cat is vague.

According to Lowe, there are different acceptable precisifications of "the constituter of the cat." On each, a different candidate constitutes the cat. But, on each precisification, *just one* constitutes a cat. As Lowe (1995: 180) says, "it is determinately

[68] Italics in original.

true that just one of [the candidates constitutes the cat], because *whichever* candidate were chosen as occupying the role of constituter of [the cat on any acceptable precisification] would exclude all others from that role."[69] That is, on each acceptable precisification, there is exactly one cat and just one candidate constitutes a cat. On each precisification the candidates are mere quantities of matter (Lowe 1982: 27–8). PARITY is superfalse, and ABUNDANCE and CONSERVATISM are supertrue.

This is Johnston's solution described in 2.3. Again, the parallel identity-based view is a live option for identity theorists. On this view, it is determinate that there is just one cat on the mat, and it is indeterminate which candidate the cat is identical to. This means that PARITY is superfalse and CONSERVATISM is supertrue. Identity theorists can offer a parallel solution to the problem of the many without constitution that is adequate to solving the problem if Lowe's solution is adequate.

2.5. Multiple Constitution

Ólafur Jónsson (2001) and Nicholas K. Jones (2013, 2015) offer abundant constitutionalist solutions to the problem. Both deny PARITY on the basis of rejecting

PAIRING No two candidates make up the same *K*.

Jónsson and Jones hold, roughly, that *more* than one candidate can constitute *the same* cat. For Jónsson, the many candidates *collectively* constitute a single cat. For Jones, *each* of the several candidate individually constitutes the *same* cat.

[69] Italics in original.

2.5.1. Jónsson's Abundant Constitution Theory

On Jónsson's (2001) view, constitution is a *many-one* relation; it takes a plural argument on its "left-hand side" and it takes a single argument on its "right-hand side." *The candidates* collectively constitute the cat.

Jónsson (2001: 114) holds that the candidates collectively constitute the cat because "there is no single collection whose fusion is more plausibly the constituter of [the cat] than is an indefinite number of others." But there *is* a single cat on the mat. Therefore, they must *all* constitute that cat *collectively*.

I call the argumentative strategy displayed here *similarity-based reasoning*; the idea is that the candidates are so *similar* to one another that no one of them could make up a particular cat unless the others also make up that same cat. As a result, Jónsson (2001: 114) rejects PAIRING. This denial is one of Jónsson's ADDITIONAL THESES. PAIRING rejected, Jónsson accepts

MANY-ONE CONSTITUTION	The many *K*-candidates collectively constitute the same *K*.

Jónsson rejects PARITY: there is a cat on the mat, but each candidate doesn't make up a different cat. Instead, the candidates collectively make up the same cat.

Jónsson motivates his rejection of PAIRING by appeal to the similarity of the candidates and an acceptance of CONSERVATISM: there doesn't seem to be anything special about any candidate such that it has claim to make up the cat and the others don't, but there's only one cat on the mat, so they all make up that same cat. But nothing here seems to depend on CONSTITUTION THEORY, and identity theorists can also accept

similarity-based reasoning and reject PAIRING on that same basis. This would commit identity theorists to

MANY-ONE IDENTITY — The *K*-candidates are collectively identical to the same *K*.

If the view is coherent, identity theorists can say that there is one cat on the mat, but each candidate doesn't make up a different cat. Instead, the candidates are collectively identical to that single cat. Finally, because this view has the same motivations as MANY-ONE CONSTITUTION, this view is not *ad hoc* unless Jónsson's view is. However, MANY-ONE IDENTITY might give one pause.

Some philosophers[70] have considered the idea that many things can be collectively identical to one thing. Here are some putative examples of such identities. You are identical to your limbs, your head, and your torso, taken together.[71] And a six-acre field is identical to six, non-overlapping one-acre portions of land, taken together.[72]

Many-one identity can be explicated using *portions of reality*.[73] Your limbs, head, and torso are portions of reality, and they are collectively the same portion of reality as you are. On this many-one identity view, this would mean that they are (collectively)

[70] Baxter (1988) advances such a view. Lewis (1991), according to van Inwagen (1994), holds that identity and composition are merely analogous. Bøhn (2011) and Bricker (2016) read Lewis (1991) as holding that many-one identity and one-one identity are instances of a more general form of identity. Wallace (2009, 2014) defends the view that *composition* is a *form* of identity.

[71] This example is taken from Bøhn 2009: 7.

[72] This example is taken from Baxter 1988: 579. It reappears in Lewis 1991: 83.

[73] I follow Bøhn's (2009, 2014, forthcoming) development of many-one identity. The notion of a portion of reality comes from Frege (1884: 49, quoted in Bøhn 2009: 6), although Frege doesn't use it to explicate many-one identity. See, also, Bricker 2016 for use of "portion of reality" terminology.

identical to you. The fifty-two cards in a standard deck of playing cards are the same portion of reality as the deck; they are (collectively) identical to it.[74]

Familiar examples of many-one identity involve *disjoint* objects' being identical to a single object. But now consider your top 2/3rd and bottom 2/3rd. They are collectively the same portion of reality as you. This seems as true a claim as that your arms, legs, torso, and head are the same portion of reality as you. Accordingly, I allow that there are examples of many-one identities where the many overlap one another.

According to MANY-ONE IDENTITY, the many candidates are collectively identical to the single cat.[75] Just as my limbs, torso, and head are the same portion of reality as me and are thus identical to me, and my top 2/3rd and bottom 2/3rd are collectively the same portion of reality as me, and are thus identical to me, on the many-one identity view, the many candidates are the same portion of reality as the cat and, thus, are identical to the one cat on the mat. This means that PARITY is false, and CONSERVATISM is true: there is a single cat on the mat, and all of the candidates collectively make up the same cat.

While the other identity-based views surveyed in this chapter appear to be straightforwardly coherent if the corresponding constitutionalist solution is coherent, the current solution is the one case, I take it, where there will be some question about the view's internal coherence. The issue arises with the introduction of many-one identity.

A full discussion of the coherence of many-one identity would take us too far afield, but I will say one thing: There are some standard objections, and there are a

[74] This example is from Frege (1884: 49), although he uses it for different purposes.
[75] Importantly, they are not *distributively* identical to the single cat; that is, it is not the case that each candidate is individually identical to the single cat. Instead, all of the candidates, taken together, are identical to the single cat.

variety of available responses to these.[76] I am sympathetic to Bøhn's (forthcoming) assessment of the state of the literature on many-one identity: "There should no longer be a serious worry about the thesis being incoherent…"

For instance, the most common objection is that the view requires the falsity of Leibniz's law: the many candidates are, well, many, but the one cat is one.[77] Thus, the many cannot be collectively identical to the one. A number of replies to this objection are available; I suggest following Bøhn (2009, forthcoming) in holding that at least some predication is relative to how a portion of reality is conceptualized. For instance, when one and the same portion of reality is conceptualized as your limbs, torso, and head, it is three in number. When it is conceptualized as your body, it is one in number. One and the same portion of reality bears different relations to different predications on different conceptualizations. There's no contradiction. The many and the one are identical; a portion of reality can be many relative to thinking of it as candidates, but one relative to thinking of it as the cat. The candidates and the cat are the same portion of reality, only conceptualized in different ways.

First, identity theorists can, like Jónsson, accept the additional thesis that PAIRING is false. Second, identity theorists can claim that the many candidates are collectively identical to the cat and deny PARITY on that basis. Third, the view is arguably coherent. If all of that is right, the view is adequate if Jónsson's is; I return to this view in chapter 3.

[76] See Bøhn 2009, 2014, forthcoming; Cotnoir 2014; and Wallace 2009, 2014 for surveys of standard objections and replies.
[77] See Lewis 1991: 87 for an early version of this objection. The objection is encountered in conversation quite often.

2.5.2. Jones's Abundant Constitution Theory

On Jones's (2013, 2015) view, the candidates are pluralities of simples. Let 'T', 'I', and 'B' be plural referring expressions, each of which collectively refers to some simples. Let 'T' collectively refer to $s_1, \ldots, s_n$; 'I' collectively refer to $s_1, \ldots, s_{n-1}$; and 'B' collectively refer to $s_1, \ldots, s_{n-2}$, and s_n. Jones holds that T (collectively) constitute the cat, that I (collectively) constitute the cat, and that B (collectively) constitute the cat. Thus, Jones also rejects PAIRING and PARITY.

According to Jones, this solution follows from the nature of ordinary objects' *characteristic changes*. An object's characteristic changes are the changes that it can survive, given the kind of object that it is (Jones 2015: 226). Cats, for instance, can survive changes like purring, lapping up milk, and losing hairs; these are among cats' characteristic changes. Jones (2015: 228) holds that the problem of the many results from objects' characteristic changes being too "coarse-grained" to distinguish between the many candidates with respect to their making up those objects. For instance, the problem arises for the cat on the mat because its characteristic changes don't distinguish between the many candidates with respect to whether the cat is made out of T, I, or B.

Suppose that the cat is made out of T. Something about the characteristic changes of cats will explain why the cat is made out of T. But what about I and B? According to Jones (2015: 228), because cats' characteristic changes are so coarse-grained and T, I and B are so similar to one another, whatever explanation there is for why the cat is made out of T will apply equally to I and to B. On the basis of this reasoning, Jones denies PAIRING. On Jones's view, PAIRING is false because T (collectively) constitute the cat, but

I, for instance, doesn't (collectively) constitute a different cat, and similarly for each of the other candidates. Instead, each of T, I, and B constitute *the very same* cat and no other. Jones's denial of PAIRING is his additional thesis. This allows Jones to deny PARITY: T's constituting the cat doesn't preclude other candidates' also constituting that same cat.

The view that objects have characteristic changes and that these determine what those objects are made out of is a view about the nature of change and its role in explaining objects' properties. Both CONSTITUTION and IDENTITY THEORY allow for change of parts, and both can claim that the changes objects can undergo are determined by their kinds. As such, the additional thesis about characteristic changes is seemingly independent of any view about the relation between a thing and what it is made out of.

Jones claims that the pluralities T, I, and B each constitute the cat. Identity theorists will need to hold that there is some other relation such that each of the pluralities T, I, and B stand in that relation to the cat. For now, let's call that relation '*R*'.

A cat's characteristic changes are too coarse-grained to distinguish among which of T, I, or B makes up the cat. If any one of them stand in *R* to the cat, each one of them does. At least one of T, I, and B stand in *R* to the cat. So, T stand in *R* to the cat, I stand in *R* to the cat, and B stand in *R* to the cat. This, of course, is just Jones's reasoning, with '*R*' in place of 'constitute'. To emulate the structure of Jones's solution, the identity theorist needs a view according to which a single thing can stand in some relation, *R*, other than constitution, to many different pluralities at once. How might this go?

Let's take *parthood at a region, r* as a primitive relation. Following Hudson (2001: chapter 2), we can then define "x *overlaps y at region r*": For all objects *x* and *y* and region *r*, x overlaps *y* at region *r* iff something is part of both *x* and *y* at *r*. And we can also define "*xx* are *fused by y* at *r*:" *xx* are *fused by y* at *r* iff each of the *xx* is part of *y* at *r*, and every part of *y* at *r* overlaps at least one of *xx* at *r*. Allowing that something can fuse different things at different regions and remembering that 'T', 'I', and 'B' are plural referring expressions, the identity theorist can allow the cat to fuse T at r_1, I at r_2, and B at r_3, where r_1, r_2, and r_3, are the regions, respectively, at which $s_1, \ldots, s_n$; $s_1, \ldots, s_{n-1}$, and s_1; and $s_1, \ldots, s_{n-2}$, and s_n are located. On this view, *R* is the relation *ys are fused by x at r,* defined above.[78]

Both views, then, deny PAIRING and PARITY: there's one cat on the mat and each candidate makes up *the same* cat. The denial of PAIRING is available to constitution and identity theorists alike, and Jones's reasons for holding that PARITY is false similarly motivate identity theorists to deny PAIRING by holding that the cat fuses each of the many candidates at their locations. The view is coherent; indeed, Jones (2015: 255) notes that the mereology is compatible with his own view, and it could be used to analyze multiple constitution. So, this identity-theoretic solution is apparently adequate to solving the problem if Jones's constitution-theoretic solution is.

[78] If this view sounds familiar, it is because it is uses the machinery of Hudson's (2001: chapter 2) solution to the problem of the many. However, as I've presented it, it is a slightly different view; Hudson doesn't allow a thing to fuse things at a proper subregion of its location, while this view does. The difference stems from the way that Hudson presents the problem; on his presentation, none of the many are proper parts of another. Instead, all of the candidates merely overlap without being parts of any other candidate.

2.6. Korman's Sparse Constitution Theory

Sparse constitutionalists hold that there is just one candidate in both CLEAR and UNCLEAR BOUNDARIES and that that candidate constitutes the cat. Sparse constitutionalists therefore reject ABUNDANCE. Korman (2015: chapter 12) develops sparse constitutionalist responses to both CLEAR and UNCLEAR BOUNDARIES.

Because sparse constitutionalists hold that there is exactly one candidate and that that candidate constitutes the cat, sparse constitutionalists somehow *eliminate* all but one of the many candidates in both CLEAR and UNCLEAR BOUNDARIES. How is this metaphysical field-clearing effected?

One way to do this is by restricting composition according to some principle.[79] Alternatively, one might hold that there is no principle that composition is restricted in accordance with: there is no general principle that makes it the case that there is a single candidate. Perhaps it is just a brute fact that there is exactly one candidate.[80] Or perhaps there is a single candidate because only the things that are its parts have a fusion.[81] In any case, any one of these strategies is available to identity theorists because they're completely independent of the dispute between constitution and identity theorists; they're claims about when composition occurs.

Korman (2015: 222ff.) apparently accepts the following additional thesis in CLEAR BOUNDARIES

[79] Van Inwagen (1990) develops an identity-theoretic strategy like this. He holds that a principle governing the conditions under which some things have a fusion that makes it the case that there's only ever one candidate.
[80] This is the strategy Markosian (1998: 247–8) pursues.
[81] This appears to be Korman's (2015: 224–5) view.

SINGULARITY	In every apparent instance of CLEAR BOUNDARIES, there is a single candidate.

In UNCLEAR BOUNDARIES, Korman seems to accept

INDETERMINATE SINGULARITY	In every apparent instance of UNCLEAR BOUNDARIES, there is a single candidate, and it is indeterminate which things are parts of it.

In both cases, the sparse constitutionalist holds that the only candidate constitutes the cat. But note that the denial of ABUNDANCE is accomplished by acceptance of SINGULARITY or INDETERMINATE SINGULARITY, and those principles have nothing to do with constitution at all. There is nothing special about either additional thesis such that constitution theorists can accept them, but identity theorists cannot.

SINGULARITY or INDETERMINATE SINGULARITY is plausibly motivated by acceptance of ontologies on which there are *only* "ordinary" objects, like those favored by Markosian (1998) and Korman (2015), or by acceptance of ontologies that, like van Inwagen's (1990), restrict composition according to a principle which serves to cull candidates.[82] But these motivations are available to identity theorists and constitution theorists alike. Indeed, Markosian's (1998) solution accepts SINGULARITY and is an

[82] Markosian's (1998) brutalist view is consistent with there being only ordinary objects, but it doesn't entail that there are only ordinary objects. Markosian (2014) is no longer a brutalist about composition; he now accepts brutalism about existence.

Van Inwagen's (1990) denies that many ordinary objects exist. On his *organicist* view, the only composite objects are living objects.

identity-based solution, while van Inwagen's (1990: §17) view accepts INDETERMINATE SINGULARITY and is an identity-based solution, as well.

Both identity theorists and constitution theorists can accept Korman's ADDITIONAL THESES on the same basis, and the resulting views are clearly coherent and capable of solving the problem if Korman's solutions are. The identity theory view described here is not *ad hoc* unless Korman's solutions are. Identity theorists can make use of SINGULARITY or INDETERMINATE SINGULARITY to deny ABUNDANCE and maintain CONSERVATISM if constitution theorists can.

Chapter 3. Many, but One

Whether there is a cat on a mat seems to depend on whether some things—chemical atoms, say—are appropriately related to one another, i.e. *arranged catwise*. Whether some things are arranged catwise seems to admit of some leeway, both in the number of things that need to be so arranged and also in the particular relations that they must bear to one another. For instance, consider a fusion of some atoms that is a large proper part of a fusion of atoms that are arranged catwise. Let the former differ from the latter in the following way: the former fusion has all but one of the same atoms as parts as the latter fusion. The parts of both fusions seem to be arranged catwise.[83] So, it seems that there are at least two cats where we might have thought that there was just one. Similar reasoning purports to show that there are *far more* than just one. This is an instance of the problem of the many.[84]

Parallel reasoning threatens to show that, for almost any composite object of kind *K* that admits of leeway in the number of its parts and in the particular relations that they must bear to one another for there to be a *K*, there is never *just* one *K* where there is at

[83] I have presented the problem in terms of atoms. I don't make any assumptions about the ultimate architecture of matter. Perhaps there are smallest parts of matter. Or perhaps there is *gunk*, i.e. perhaps every part of matter has further parts. Nothing I say turns on any of this.

[84] The problem of the many, as presented here, comes from Unger (1980). Lewis (1999) presents a problem in which it is indeterminate whether certain things are part of a cat. Sometimes this is presented as the problem of the many, or as a version of the problem of the many. There is some debate over whether they're the same problem. Unger's problem isn't presented in terms of vagueness, for instance, and Unger (2006: 369–70) argues that the problem arises *even without vagueness*. See Jones (2013) for an extended discussion of whether the problems are the same. I return to discussion of Lewis's problem at the end of 3.4. in addressing an objection.

least one.[85] The relevant kinds of objects include the familiar objects of everyday experience, like tables, chairs, cats, and human beings, and also many entities that we believe in on the basis of scientific investigation, like cells.[86] This is problematic insofar as we take it that it is possible for there is to be *just* one object of kind *K* where we take there to be one.

In this chapter, I defend a solution to the problem of the many according to which, in those cases in which the problem arises, the many candidates for being objects of kind *K* are collectively identical to a single object of kind *K* and that there is just one such *K* in the vicinity. I call this THE MANY-ONE IDENTITY SOLUTION to the problem of the many.

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[85] Some philosophers (e.g. Lewis 1986) hold that objects of familiar kinds are temporally extended; proponents of *perdurantism* will hold, roughly, that there is a cat on the mat when there is a "time slice" of a cat on the mat. They hold, further, that the time-slice is not itself a cat. There is a cat on the mat because there is a temporally extended object that is a cat that has a time-slice as a part that is on the mat. Others hold that objects are not temporally extended. There are two ways to hold this. One way is to hold that persisting objects are *wholly located* at different times; this is *endurantism*. Proponents of this view, e.g. Haslanger (1989) and van Inwagen (1990), hold, roughly, that there is a cat on the mat when the cat is *wholly located* on the mat, i.e. when one of the many locations it has at different times is on the mat. Another way to hold that objects are not temporally extended is to hold that objects are instantaneous; proponents of *stage theory*, e.g. Sider (1996, 2001a) and Hawley (2001), will hold that there is a cat on the mat when an instantaneous cat is on the mat. I discuss perdurantism and stage theory in more detail in 3.3., below.

These different views make it somewhat difficult to state the problem in full generality. Different views require stating the problem somewhat differently. I have found it best to state the problem in one way and note that others can understand my terminology in a slightly different way, if they so desire.

Proponents of the second and third views can adopt the problem and solution I propose as stated. Proponents of perdurantism, however, will need a slightly different statement of the problem and of the solution. I suggest they hold that, in those cases in which the problem arises, the many candidates for being time slices of objects of kind *K* are collectively identical to a single time-slice of an object of kind *K*, and that there is just one such *K* in the vicinity. Proponents of this view should read "object of kind *K*" as something like "time-slice of object of kind *K*." For the perdurantist, the problem of the many will also arise temporally; I don't discuss this in any detail in the chapter, mostly because it would require too much space, and I discuss a version of it as it arises for human persons in chapter 5. However, the solution I propose is intended to generalize, *mutatis mutandis*.

[86] The problem does not arise for those objects that don't admit of such leeway. Perhaps molecules and chemical atoms are like this. See Unger 1979: 241–2 for such a suggestion. The problem also does not arise for those kinds of objects, if there are any, where we don't take it that there is just one of them.

This solution is *conservative* in the sense that it agrees with ordinary judgements about how many objects of kind *K* there are, for relevant *K*s. For instance, we are correct that there is just one cat on the mat, car in the parking space, and human being in the chair. I begin by sharpening up the statement of the problem of the many. I then situate the solution I defend with respect to some other, related views and argue for the solution. In 3.3., I consider some objections to the solution and further develop the underlying metaphysics. Finally, in 3.4., I compare the view to two other conservative solutions.

3.1. The Problem of the Many

The problem of the many arises when we reason about instances of the following three claims, for appropriate kinds, *K*:

ABUNDANCE	There are many *K-candidates*, i.e. things the parts of which seem to be arranged *K*-wise, in the vicinity of any object of kind *K*.
PARITY	If there is a *K*, then each *K*-candidate makes up a different *K* from the others.
CONSERVATISM	There is just one *K* where we take there to be a single *K*.

According to ABUNDANCE, there are many composite objects with parts that seem to be arranged *K*-wise in the vicinity of any object of appropriate kind, *K*.[87] *Prima facie*,

[87] If *mereological nihilism*, the thesis that there are no composites, is true, then ABUNDANCE is false. Unger (1980) uses the problem of the many to motivate a position like this, although it's unclear to me if he's arguing or nihilism or a weaker position on which there are no ordinary objects. See Rosen and Dorr 2002 and Sider 2013 for defenses of mereological nihilism. The statement of the problem in this chapter

having parts so arranged seems sufficient for the things with those parts *to be* a *K*. Given ABUNDANCE, PARITY seems on firm footing. Each candidate is plausibly distinct from the others; each has different parts and locations than the others. Because the candidates are so similar to one another, it is difficult to see how *just one* could be a *K* if any is; *K*-hood generally doesn't seem to be sensitive to such minute differences. Given that each candidate is distinct from the others, if one is a *K*, then it seems that, if any other is, they must be distinct *K*s. Finally, CONSERVATISM seems true of the relevant kinds: there's just one *K* where we take there to be just one. Indeed, that there are some such *K*s is an assumption of the problem.

These three principles seem to form an inconsistent triad. By CONSERVATISM, there is exactly one *K*. By ABUNDANCE, there are many *K*-candidates. Finally, by PARITY, there are many distinct objects of kind *K*. This contradicts CONSERVATISM.

Here are three notes about the problem. First, I introduced the problem using a cat as an example; I noted that there are plausibly many different cat-candidates in the vicinity of the cat. I characterized the candidates as things the parts of which seem collectively to have what it takes to be a cat. Cat candidates are fusions of atoms arranged cat-wise. But cats are made out of cells, as well, and these are made out of smaller things like chemical atoms or mereological simples, if such things there be. Now consider a fusion of mereological simples, each of which overlaps some part of the fusion of cells, and which are such that no part of the fusion of cells is disjoint from them. I assume an

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presupposes that the true theory of the conditions under which composition occurs is not nihilism and that composition occurs often enough that there are multiple *K*-candidates in at least some situations. This presupposition could, perhaps, be dispatched with; see Jones 2013 for discussion.

extensional mereology, according to which objects with the same parts are identical. On that assumption, if there are cells and simples, then the fusion of cells is identical to the fusion of simples; accordingly, the fusion of simples is not a different cat candidate than the fusion of cells, nor is any other fusion that has the same parts as it distinct from it. So, I won't distinguish candidates with the same parts. Second, when I talk of cat candidates, for instance, or *K*-candidates more generally, I mean to include all of the fusions of things arranged catwise or *K*-wise in the vicinity. Third, some of the things that are so arranged might themselves be kinds of objects that the problem of the many arises for. This is plausibly the case for cells, for instance. In the vicinity of any cell, there are plausibly many cell candidates; so, the problem of the many will need to be solved for cells as well as for things made out of cells. The solution I offer is intended to generalize to these sorts of cases.

3.2. THE MANY-ONE IDENTITY SOLUTION

In this section, I first introduce the thesis that there are many-one identities and situate it with respect to some other views. Second, I introduce THE MANY-ONE IDENTITY SOLUTION to the problem of the many. Third, I give two arguments for the claim that the many candidates are collectively identical to a single object of kind *K*, and I also give an argument for THE MANY-ONE IDENTITY SOLUTION.

3.2.1. Many-one Identity

A number of philosophers have considered the idea that many things can be identical to one thing, and they have developed this idea in different ways. The development I'm interested in holds that many things can be collectively identical to a single thing. Here are some putative examples of such identities. You are identical to your limbs, your head, and your torso, taken together. And a six-acre field is identical to six, non-overlapping, one-acre portions of land, taken together.

Objections to many-one identity are familiar. However, I simply assume the coherence of many-one identity for the purposes of this chapter. In helping myself to many-one identity, I don't mean to downplay the difficulties facing it, but I think responses can be given to the major objections. Furthermore, I have nothing new to add on that front, and I'm more interested in using the machinery of many-one identity, anyway. I therefore plead for toleration: I'm arguing only for the claim that *if* there are many-one identities, then many-one identity can offer a solution to the problem of the many.[88]

Following Bøhn (2009), I use the notion of a *portion of reality* to characterize many-one identity.[89] Here are some examples of "portion of reality" talk and its connection to many-one identity. Your limbs, head, and torso are different portions of reality. Taken together, they are identical to the portion of reality that you are, namely you. The six-acre field is a portion of reality, as are the six smaller plots of land. Taken

[88] You might think that this is a counterpossible. But counterpossibles aren't all trivially true.
[89] I follow Bøhn's (2009, 2014) development of many-one identity. The notion of a portion of reality comes from Frege (1884: 49, quoted in Bøhn 2009: 6), although Frege doesn't use it to explicate many-one identity. Bricker (2016) also uses "portion of reality" terminology.

together, the latter six portions of reality are identical to the six-acre field portion of reality.

We can now characterize many-one identity. Some things are many-one identical to something iff they, taken together, are the same portion of reality as it. We've already seen some examples of what portions of reality are supposed to be and how talk of them is related to various quotidian phenomena. All of the examples we've seen, however, are ones in which the many are *disjoint* from one another.

As I understand "portions of reality" talk, there is no reason why each of the many must be disjoint. Consider, for instance, your top 2/3rd and bottom 2/3rd. They are collectively the same portion of reality as you. This seems as true a statement as the one about your arms, legs, torso, and head being the same portion of reality as you, or as the several portions of field being the same portion of reality as the field. I suggest we recognize many-one identities in which the many are not disjoint.

Many-one identity is often encountered in discussions of

COMPOSITION-AS-IDENTITY Each fusion is numerically identical to its parts, taken together.[90]

According to COMPOSITION-AS-IDENTITY, if the six-acre field is a fusion, then it is identical to its parts, taken together.

One possible package of views combines COMPOSITION-AS-IDENTITY with *classical extensional mereology*.[91] This includes commitment to both

[90] This view is typically called something like "strong composition-as-identity" to differentiate it from related views, such as *weak composition-as-identity*, which is the view that *composition* and *identity* are merely analogous relations. For a survey of the family of views that go under the name of "composition-as-identity," see Wallace 2009 and Cotnoir 2013. I drop "strong" from the name of the present view because I am not discussing other views in the vicinity.

UNRESTRICTED COMPOSITION Any things compose something, and

UNIQUENESS OF COMPOSITION No things compose more than one thing.

The metaphysics that emerges is one in which any portions of reality are collectively identical to, and compose, exactly one portion of reality; any portion of reality is identical to its sub-portions of reality; and those sub-portions compose that portion, and only it. Given a universe of simples, the objects that exist, on this view, are exactly those posited by classical extensional mereology, but fusions are identical to their parts, taken together.

I assume COMPOSITION-AS-IDENTITY along with classical extensional mereology in this chapter. This serves to carve out a larger metaphysical position in which to situate THE MANY-ONE IDENTITY SOLUTION. Finally, I take it that these assumptions are harmless since commitment to COMPOSITION-AS-IDENTITY and classical extensional mereology can be jettisoned from this chapter, if one felt so inclined. None of my arguments rely on either.

3.2.2. THE MANY-ONE IDENTITY THESIS and SOLUTION

With the machinery of many-one identity and COMPOSITION-AS-IDENTITY, it is now simple to state what I take to be the relation between the candidates and the single cat on the mat: the many candidates are collectively identical to the single cat and collectively compose it.[92] Just as my limbs, torso, and head are the same portion of reality

[91] It is controversial whether COMPOSITION-AS-IDENTITY entails classical extensional mereology. Bøhn (2009) argues that it does. The sticking point is whether it entails UNRESTRICTED COMPOSITION. See McDaniel 2010 and Cameron 2012 for arguments against the entailment.

[92] Importantly, they are not *distributively* identical to the single cat; that is, it is not the case that each candidate is individually identical to the single cat. Instead, all of the candidates, taken together, are identical to the single cat.

as me and are thus identical to me and compose me, and my top 2/3rd and bottom 2/3rd are collectively the same portion of reality as me and are thus identical to me and compose me, on the many-one identity view, the many candidates are the same portion of reality as the cat and are thus identical to the one cat on the mat and compose it. The many candidates are, and compose, the one cat. I need some argument for this claim.

But first, here's a more general claim:

THE MANY-ONE IDENTITY THESIS — In instances of the problem of the many, the many candidates for being an object of kind *K* are collectively identical to an object of kind *K*.

Note that THE MANY-ONE IDENTITY THESIS is not, by itself, a *solution* to the problem of the many. It does not tell us which principle is false. In particular, since I will be arguing for a conservative solution, I should note that THE MANY-ONE IDENTITY THESIS is consistent with the claim that there are many cats; perhaps each candidate is (individually) identical to a cat. So, it falls short, as stated, from showing that CONSERVATISM is true. To show how one can maintain CONSERVATISM, I will show how one can reject PARITY and hold the following:

THE MANY-ONE IDENTITY SOLUTION — In instances of the problem of the many, the many candidates for being an object of kind *K* are collectively identical to a single *K*, and no

candidate is identical to any other object of kind *K*.

I begin by offering two arguments for THE MANY-ONE IDENTITY THESIS. I then argue for THE MANY-ONE IDENTITY SOLUTION.

3.2.3. Arguments

Why accept THE MANY-ONE IDENTITY THESIS? Here are two arguments.

THE FIRST ARGUMENT: Suppose there is (at least) one cat on the mat. Candidates are introduced as some of a cat, say, minus small, seemingly insignificant parts, such that each candidate seems to have what it takes to be a cat. And they are all, in some sense, in the vicinity of where a cat is. I suggest we try to make sense of these appearances. We can state the apparent relation between the many candidates and that cat in "portions of reality" talk: a cat is a portion of reality, and the candidates for being that cat are collectively that very same portion of reality. If that is correct, and given the account of many-one identity above, the candidates are many-one identical to that cat and compose that cat.

Here's another example. I am a human person. Some of the candidates for being a human person in my vicinity include my top and bottom 5999/6000^{ths} and their fusion. As a harmless simplification, suppose that these are all of the candidates for being a human person in my vicinity. They are the same portion of reality as I am. Given the account of many-one identity, I am identical to them, taken together. So, they are collectively identical to a human person and compose a human person. Since I take it that other

ordinary objects are not unlike cats or human person in any relevant respect, I take it that the argument generalizes: in instances of the problem of the many, the many candidates for being an object of kind *K* are collectively identical to an object of kind *K*. This is THE MANY-ONE IDENTITY THESIS.

THE SECOND ARGUMENT: According to CONSERVATISM, there is a single cat on the mat. Each of the candidates seems to have what it takes to be a cat. But, given CONSERVATISM, there's just one cat on the mat. Which is the cat? On the face of it, anything that could explain why one in particular is a cat also seems capable of explaining why another would be a cat. The candidates appear to be on a par with respect to what it takes to be a cat. For instance, whatever, biologically, is required for there to be a cat seems to be had by all of the candidates; that's part of what it is to be a cat candidate, after all. So, if one appealed to some biological fact about a candidate to explain why it, in particular, is *the* cat, it seems there would be a similar fact about another candidate that would explain why *it*, too, is a cat. Meanwhile, the most obvious *differences* among the candidates, viz. that some are larger or smaller than others, or that some are more-or-less mereologically inclusive than the others, seem to be facts of the wrong sort to explain why one is the cat, and the other candidates aren't cats. A candidate's size—even its size relative to the other candidates—doesn't seem to be what qualifies or disqualifies a candidate to be a cat. Of course, if we knew that one candidate *in particular* was a cat, then perhaps facts like these would serve to *disqualify* the others

from being cats on the grounds that cats don't have cats as proper parts,[93] but we don't know which candidates are cats.

Any choice according to which one candidate is the cat and the others aren't, based on these sorts of features of the candidates, seems to require arbitrariness; it doesn't respect the seeming parity among the candidates. And I can think of no other plausible explanation that would avoid similar arbitrariness. It is good to avoid arbitrariness.

We can avoid the seeming arbitrariness by saying that the candidates are all, collectively, the same cat. The seeming parity of the candidates is thereby respected. Since I take it that other ordinary objects are not unlike cats in this respect, I take it that the argument generalizes to other ordinary objects: in instances of the problem of the many, the many candidates for being an object of kind *K* are collectively identical to an object of kind *K*. This establishes THE MANY-ONE IDENTITY THESIS.

So, there are two arguments for THE MANY-ONE IDENTITY THESIS. But recall that THE MANY-ONE IDENTITY THESIS isn't, by itself, a conservative solution to the problem. It isn't THE MANY-ONE IDENTITY *SOLUTION*, and it doesn't tell us anything about which of PARITY or ABUNDANCE is false. What, if anything, does this view say about ABUNDANCE, PARITY, and the reasoning that generated the problem?

I hold that ABUNDANCE and CONSERVATISM are true and that PARITY is false. While I could reject one of the principles simply on the grounds of needing to avoid the contradiction, why reject one principle rather than another? I argue that PARITY is false.

[93] This is part of the strategy employed by Sider's (2001b) maximal properties solution to the problem of the many. See 3.4., below, for discussion.

The thought behind PARITY is that each of the candidates is as good a candidate as any other for making up a cat and

PAIRING No candidates make up the same *K*.

PAIRING's plausibility comes from something like the difficulty of seeing how different things could make up the same cat; the different candidates are distinct from one another, so if different candidates make up a cat, then each must make up a different cat. That's the thought, at any rate.

However, we are now in a position to see that, if we accept THE MANY-ONE IDENTITY THESIS, the many candidates can collectively make up the same cat. Indeed, we have two arguments for thinking that the many candidates are collectively identical to the same cat. Now, with a denial of PAIRING, we have the means to argue for CONSERVATISM and for THE MANY-ONE IDENTITY SOLUTION.

Suppose that CONSERVATISM is false and that there are multiple cats on the mat. Those cats are so similar to one another that any explanation for why the candidates make up one cat would apply also to the other cats. Consider one of the cats. All of the candidates would make up that one cat, and all of the candidates would make up the other cats, as well. These cats would all be the same portion of reality. Thus, they would be one cat, not many. Thus, there is but a single cat on the mat. Thus, CONSERVATISM is true.[94]

So, I reject PARITY; the principle is unmotivated because PAIRING is false. Furthermore, I have given an argument for CONSERVATISM. Since I take it that other ordinary objects are not unlike cats in this respect, I take it that the argument generalizes

[94] The argument here is similar to arguments given by Jónsson (2001: 114) and Jones (2015: 226ff.).

to other ordinary objects and that, in instances of the problem of the many, the many candidates for being an object of kind *K* are collectively identical to a single *K*, and no candidate is identical to any other object of that same kind. This is THE MANY-ONE IDENTITY SOLUTION to the problem of the many.

3.3. Objections, Replies, and Additional Developments

First, one might think that there is a tension between the solution's ontology and its being a *conservative* solution; this is especially the case if we accept COMPOSITION-AS-IDENTITY and UNRESTRICTED COMPOSITION. In that case, there are *many* objects in the vicinity of a single cat, for instance. But even if we don't accept these additional theses, one might wonder whether any solution which does not deny ABUNDANCE can rightly claim to be conservative; after all, there are all sorts of extraordinary objects in the vicinity of any ordinary object.

I admit that there is a tension between this solution to the problem of the many and certain other views in metaphysics which claim to be conservative. The present view is committed to many extraordinary objects, e.g. the many candidates which are not themselves cats, and those who adopt conservatisms according to which there are no such objects will be disappointed with the view defended here.[95] However, I have not claimed that the present view is conservative in this sense. Instead, I have claimed only that the view is conservative in the following sense: it holds that we're correct about how many *ordinary* objects there are, where the ordinary objects are those kinds of objects for which

[95] Korman (2015), for instance, adopts a more strict form of conservatism. On his view, not only are we largely correct about what ordinary objects there are, but folk ontology is correct that extraordinary objects do not exist.

the problem arises. There is a single cat on the mat, and not millions, for instance. There are, however, many fusions in the vicinity of the cat, but these are not objects of the same kind as the cat. Indeed, they don't seem to be objects of any familiar or ordinary kind. In any case, that there are many other objects, not of ordinary kinds, that are not cats in the vicinity of a cat does not cut against the current solution's conservative credentials, at least in the sense of "conservative" that I claim describes the solution.

Second, one might hold that THE MANY-ONE IDENTITY SOLUTION is implausible for those kinds of objects that *do*, or at least *can*, change their parts. For instance, consider our cat again. I hold that it is identical to the many candidates. However, cats can change their parts over time, and, more generally, they could have had different parts. The former is the claim that composition is *temporary*. The latter is the claim that composition is *contingent*.

Now, some take every identity to (a) hold at all times and (b) hold in all possible worlds; call (a) THE PERMANENCE OF IDENTITY, and call (b) THE NECESSITY OF IDENTITY. If composition is identity, and composition is temporary or contingent, then identity must also be temporary or contingent, as the case may be. This, of course, conflicts with THE PERMANENCE and NECESSITY OF IDENTITY.

The problem, then, is that it seems that one cannot hold (i) that objects can have different parts at (a) different times and (b) different worlds, (ii) COMPOSITION-AS-IDENTITY, and (iii) (a) THE PERMANENCE OF IDENTITY and (b) THE NECESSITY OF IDENTITY. Proponents of THE MANY-ONE IDENTITY SOLUTION as developed here must accept (ii), but they could deny either (i.a or i.b) or (iii.a or iii.b). It is helpful to consider the temporal

and modal versions of the objection separately. Consideration of possible responses illustrates the ways in which THE MANY-ONE IDENTITY SOLUTION can be adopted as a part of different packages of views about persistence and modality.

In the temporal case, the proponent of THE MANY-ONE IDENTITY SOLUTION can be a *perdurantist*.[96] According to this view, objects are fusions of proper temporal parts; they are *spread out* in time in the way that we think of many objects' being spread out in space: they have parts that exist at different times, just as they have parts that exist at different places. The perdurantist holds that four-dimensional objects don't change their parts in any sense other than their instantaneous temporal parts'[97] having different mereological properties at different times.[98]

To accommodate the ordinary view that objects change their parts over time, perdurantists appeal to facts about objects' temporal parts. For instance, a temporal part of a human being might have a hand as a part, and a later temporal part of that same object might not have a hand as a part. The perduring objects' temporal parts have different mereological properties, and these facts are used in analyzing ordinary talk of objects' changing their parts, e.g. one part has a hand as a part, and another part lacks a hand as a part, and what it is for an object to lose its hand is for an earlier instantaneous temporal proper part of an object to have a hand as a part, and for a later instantaneous temporal proper part of that object to lack a hand as a part. Both Bøhn (2009) and Wallace (2009) develop their composition-as-identity views within a background

[96] See Lewis 1986: 202–204 for the classic defense of perdurantism.
[97] The standard definition is that something is an *instantaneous temporal part* of a thing at a time iff the former is a part of the latter, the former exists only at that time, and the former overlaps every part of the latter that exists at that time.
[98] See Merricks 2003: 22ff and Wallace 2014.

metaphysics of perdurantism. They can both avoid the temporal version of the objection: the only sense in which perduring objects can change their parts, viz. by having different temporal parts that exist at different times, is not in conflict with the permanence of identity; nothing is identical to some things at one time and some other things at a different time.

Another option in the temporal case is to accept *stage theory*, the view that persisting objects are identical to what the perdurantist would say are instantaneous temporal parts of perduring objects and that objects persist through time by having *temporal counterparts* that exist at different times.[99] This view can be supplemented with a view of *de re* temporal predication where such predications are ambiguous.[100]

For instance, consider a statue, S, and a lump of clay, C, that makes up the statue. On the stage view, 'S' and 'C' refer to the same thing, namely a single stage. But, according to this view, they are merely *temporarily identical*: they are identical now, but they will not be identical in the future. Suppose, for example, that the statue will be immediately squashed, so that it is true to say that C will, but S won't, exist afterward. On this view, "will exist afterward" and "won't exist afterward" ascribe properties to a single thing, since S and C are identical. However, the predications don't ascribe *incompatible* properties to a single thing. Instead, depending on how the single object is referred to—as 'S' or as 'C'—different properties are the semantic value of the predicates

[99] See Sider 1996, 2001a and Hawley 2001 for defenses of stage theory.
[100] Both Sider (1996: 443ff., 2001) and Hawley (2001: 183ff.) defend this view of *de re* temporal predication.

in the predications, and these properties are not incompatible.[101] On this view, identity is temporary, so (iii.a) is false.

So, there are at least two possible responses to the temporal version of the objection. The proponent of THE MANY-ONE IDENTITY SOLUTION can avoid the temporal version of the objection with either response.

In the modal case, one might follow Wallace (2009, 2014) and deny (i.b) by holding that objects are *cross-world fusions* of their parts, and are identical to those parts, taken together. This view, and its response to the modal version of the objection, can usefully be conceived of as the modal analogue of perdurantism and the perdurantist response to the temporal objection. On this view, objects are "spread out" across modal space similarly to how the perdurantist takes them to be "spread out" across time: just as objects have *temporal* parts, they have *modal* parts.[102] The object is the sum of all of its modal parts and is identical to those parts collectively. The idea here is to transpose the perdurantist response to the temporal case into the modal case: the object *couldn't* have had different parts, so (i.b) is false. However, its modal parts have different mereological properties, and these facts are used in analyzing ordinary talk of objects' being such that they could have had different parts, e.g. one modal part has a hand as a part, another part lacks a hand as a part, and what it is for the object to be such that it might have lacked a hand is for it to have a modal part that lacks a hand as a part.

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[101] On this view, *de re* temporal predicates are what Noonan (1991) calls "Abelardian" predicates. Note that one need not adopt a counterpart-theoretic account of *de re* temporal claims in order to make use of the idea that predicates are Abelardian; see Noonan 1991: 191 and Lewis 1986: 248ff. for discussion.

[102] Here's Wallace's (2014: 117) definition: "*x* is a *world-bound modal part* of *y* at a world *w* iff (i) *x* exists at, but only at, *w*, (ii) *x* is part of *y* at *w*; and (iii) *x* overlaps at *w* everything that is part of *y* at *w*."

Another possible response in the modal case follows proponents of counterpart-theoretic accounts of *de re* modal discourse and rejects (iii.b).[103] This view is the modal analogue of Sider's and Hawley's response to the temporal version of the problem.[104] This view holds that claims about what an object could have been like are made true by other things—its modal counterparts—existing at other worlds. This view denies THE NECESSITY OF IDENTITY in the modal analogue of the statue and clay case, from above. S and C are identical, but they are merely *contingently identical* in this case; S could have been squashed, for instance, and C still would have existed. This view might also be supplemented with the idea that the predicates in *de re* modal predications are ambiguous. Again, depending on how the single object is referred to—as 'S', or as 'C'—different properties are the semantic value of the predicates in the predications, and these properties are not incompatible.

So, there are two possible responses to the modal version of the objection. The proponent of THE MANY-ONE IDENTITY SOLUTION can avoid the modal version of the objection.

Finally, there are two different presentations of the problem of the many.[105] The first, which I have been discussing in this chapter, is from Unger (1980). The second comes from Lewis (1999). While Unger's presentation motivates ABUNDANCE through the observation that there are many things that seem to have what it takes to be a cat, Lewis's presentation motivates ABUNDANCE through considerations of vagueness. On that

[103]Bøhn (2009: viii) uses modal counterpart theory to respond to this very objection.
[104] Both Sider (1996, 2001a) and Hawley (2001) accept modal counterpart theory.
[105] Or, perhaps, there are two different problems that are called the problem of the many. See fn. 84, above.

presentation, it is indeterminate which things are parts of the single cat, and there are many determinate things that could make up the cat. However, each has claim to make up the cat. But they can't all make up the same cat. Thus, it seems, there are many cats.

The view defended in this chapter seems to face a serious problem on Lewis's way of setting up the problem.[106] Suppose, as a first premise, that it is indeterminate whether a certain hair, *h*, is a part of the cat. Second premise: It is determinate that *h* is a part of the fusion of the candidates according to the view defended in this chapter. Third premise: The fusion of the candidates is the cat. Fourth premise: The fusion of the candidates differs from the cat because the cat is such that it is indeterminate whether *h* is a part of it, but it is determinate that the fusion has *h* as a part. That's a contradiction, of course. Conclusion: The view is false.

In response, I see no reason why the proponent of the view defended here should grant the first premise. According to the view I've developed, the cat is the fusion of the candidates. If that's right, then it isn't indeterminate whether *h* is a part of the cat. Thus, the first premise is false. Because there is an argument for the claim that the cat is the fusion of the candidates, my denial of the first premise is not *ad hoc*; there's an argument that the proponent of this view accepts that entails that the first premise is false.[107] This reasoning generalizes.

A potential worry about this response is that it is *question-begging*. However, I do not beg the question in the sense of assuming what I set out to prove: I haven't just

[106] The following objection comes from an anonymous referee of a version of this chapter, Woods forthcoming. The referee notes that similar problems arise for the location and mass of the cat, as well. The solution I offer below seems to generalize to these cases.

[107] This general response seems to work for the version of the problem as it arises for the cat's location and mass.

assumed that the first premise of the objection is false and used that in my argument against it. Instead, I have argued to the falsity of the premise from something I've argued for. So, while it's true that I assert something that the objection denies, this is unobjectionable.[108] The objection begs the question again the solution in this same way.

Nevertheless, one might think that the first premise is more plausible than its denial. It is worth making clear the cost of the view in connection with this. If the proponent of the view as I've developed it here wants to offer a perfectly general solution to both versions of the problem of the many, then they must hold that, necessarily, for any objects *x* and *y*, either it is determinate that *x* is a part of *y* or it determinate that *x* is not a part of *y*. This is, to say the least, *controversial*; it does sometimes—perhaps often!—seem that it is indeterminate whether, something is a part of another thing. So, those who accept the view are on the hook for denying something that certainly appears to be true. This, I admit, is a cost of the view, but it remains an open question, in my estimation, whether it is a prohibitively high cost.[109]

[108] See Korman 2015: 29–30 for discussion of this sense of begging the question.

[109] The view that borderline parts are impossible is controversial, but it's not unheard of; at least one philosopher expresses preference for such a view in print. Ned Markosian (2014: 82). endorses *regionalism*, the view that "[n]ecessarily, for any *xs*, there is a *y* composed of those *xs* iff there is a region, *r*, and an object, *z*, such that *r* is the fusion of the regions occupied by the *xs* and *z* occupies *r*." Markosian (2014: 87–8) notes that, if regionalism is true, then if it can be indeterminate whether an object is located at a particular region, then it will be indeterminate whether that object has such-and-such as a part. He surveys three possible responses; the response Markosian expresses a preference for is that it is impossible for it to be indeterminate where an object is located. He notes that, given regionalism, this entails that it is impossible for it to be indeterminate whether something is a part of another thing.

3.4. Similarities to Extant Solutions

In this section, I compare THE MANY-ONE IDENTITY SOLUTION to two solutions. This further develops the metaphysical picture in the background of THE MANY-ONE IDENTITY SOLUTION and shows how it relates to two familiar solutions to the problem of the many.

Theodore Sider (2001b) accepts a principle we can state as follows:

MAXIMALITY For all ordinary kinds *K*, anything that is a *K* does not have large proper parts that are *K*s.

Here's an application of MAXIMALITY to our toy case: one candidate is a cat, and the other candidates aren't cats because they are large proper parts of a cat, or they have a large proper part that is a cat. Like the MANY-ONE IDENTITY SOLUTION to the problem of the many, THE MAXIMALITY SOLUTION is a conservative solution; both solutions hold that, in cases in which the problem of the many arises, there is just a single object of kind *K* where we take there to be a single object of kind *K*. Additionally, both views deny PARITY: there is an object of kind *K*, but it isn't the case that each candidate is a distinct object of kind *K*.

THE MAXIMALITY SOLUTION says that some candidate is the cat, but it doesn't, by itself, say which candidate is the cat. The view says that one is the cat, but the others aren't. This requires rejecting the similarity-based reasoning described earlier. This, I think, is a problem for the view; it requires there to be distinctions among the candidates that matter as to cathood, where no such distinctions seem to exist. The defender of THE MANY-ONE IDENTITY SOLUTION will find this implausible.

The strongest consideration in favor of THE MANY-ONE IDENTITY SOLUTION and against THE MAXIMALITY SOLUTION, however, is that the former gives an argument for CONSERVATISM and against PARITY. THE MAXIMALITY SOLUTION gives no reason to think that CONSERVATISM is true; indeed, it seems simply to take it for granted. While CONSERVATISM is plausible, it would be nice to have an argument for it.

Jónsson's (2001) and Jones's (2013, 2015) solution to the problem of the many makes use of *constitution*, a relation other than identity between a thing and what it is made of. Jónsson's solution holds that, in instances of the problem of the many, the many candidates for being an object of kind *K* each constitute an object of kind *K*.[110] Jones (2010, 2015) holds that, in instances of the problem of the many, the many candidates for being an object of kind *K* collectively constitute an object of kind *K*. Call these MANY-ONE CONSTITUTION SOLUTIONS. Like THE MANY-ONE IDENTITY SOLUTION, MANY-ONE CONSTITUTION SOLUTION holds that the relation between the candidates and the object of kind *K* is many-one. Obviously, however, the views differ concerning what that relation is. That said, both solutions deny a version of PARITY. The constitution views deny a version about constitution: a candidate constitutes an object of kind *K*, but it isn't the case that each constitutes a distinct one.

The main disagreement between these views is ideological, viz. whether one accepts the ideology of constitution or many-one identity. A full evaluation and comparison of the ideological costs of constitution and many-one identity would take me beyond the scope of this chapter, but at least one conditional claim can be made which, if

[110] For a similar proposal, see Jones 2013, 2015. While Jones holds that *each* of the candidates constitutes the cat, Jónsson holds that it is only *collectively* that the candidates constitute the cat.

the antecedent can be made good on, would give some support to THE MANY-ONE IDENTITY SOLUTION over THE MANY-ONE CONSTITUTION SOLUTION: if many-one identity is just identity, then whatever its cost, it's a cost everyone has already paid and is therefore less ideologically costly than a *sui generis* relation of constitution.[111]

More interesting than potential argumentative strategies in support of THE MANY-ONE IDENTITY SOLUTION is the observation that the two views can be given parallel motivations and that they solve the problem of the many in a similar way. Consider THE SECOND ARGUMENT. It relies on arbitrariness considerations in arguing that none of the candidates seems to have any feature that would uniquely qualify it to be the single object of kind *K*, and not, also, qualify each of the others to be one. The way to avoid this arbitrariness, it is suggested, is to hold that the candidates are collectively identical to the *K*. This, I say, respects the seeming similarity of the candidates.

The argument assumes the background ideology of many-one identity. But the general strategy need not. Instead, if one accepted the ideology of constitution, they could give an obviously parallel argument, the conclusion of which would be that the many candidates each constitute a single *K*. Jónsson (2001: 112ff.) defends such a view. Jones (2010: 197) gives an argument for the thesis that the many candidates collectively constitute the cat; this is, of course, parallel to THE MANY-ONE IDENTITY SOLUTION, focusing on the similarity of the candidates for constituting objects of particular kinds. Abstracting away their ideological differences, the two solutions are similarly motivated.

[111] This view is not unheard of; some proponents of many-one identity hold that many-one identity is just identity, the relation we know and love. See, for instance, Bøhn 2009, 2011, 2014, forthcoming and Bricker 2016.

3.5. Conclusion

I have supplied two arguments for THE MANY-ONE IDENTITY THESIS, viz. THE FIRST and SECOND ARGUMENTS. THE FIRST ARGUMENT is of particular interest, since it argues from the way the problem of the many is stated to THE MANY-ONE IDENTITY THESIS. If this argument is successful, then the very statement of the problem of the many pushes us toward THE MANY-ONE IDENTITY THESIS. THE SECOND ARGUMENT, meanwhile, claims that, to avoid objectionable arbitrariness, we should accept THE MANY-ONE IDENTITY THESIS. Finally, I supplied an argument for CONSERVATISM and the

> THE MANY-ONE IDENTITY SOLUTION In instances of the problem of the many, the many candidates for being an object of kind *K* are collectively identical to a single *K*, and no candidate is identical to any other object of kind *K*.

THE MANY-ONE IDENTITY SOLUTION denies PARITY: one of the candidates is the cat, but no other candidate is a cat. The view explains why PARITY is false, and its motivation—the similarity-based reasoning—even allows for an argument for CONSERVATISM.

Chapter 4. Is Animalism Needed to Solve the Thinking Animal Problem?

Constitutionalists about human persons[112] believe that human persons are *constituted by*, but not identical to, human animals. *Animalists* believe that human persons are *identical to* human animals.

Animalists object to constitutionalism, and motivate their own position, with *the thinking animal problem*.[113] This problem has it that constitutionalists are committed to the existence of two conscious subjects in the vicinity of any human person, viz. the human person *and* its constituting human animal. What makes it plausible that constitutionalists are so committed is their claim that human persons are numerically distinct from their constituting human animals. Both the person and the animal seem to have everything required for consciousness: if there is a human animal that constitutes you, it has a functioning brain.[114] This multiplicity of conscious subjects—or thinkers, for short—animalists contend, is not only implausible, but also raises difficult epistemological problems, like knowing which of the thinkers you are.[115] But, if human persons are numerically identical to animals, those problems don't arise: the human

[112] Defenders of constitutionalism about human persons include Johnston (1987), Baker (1999, 2000, 2007, 2016), and Shoemaker (1999).
[113] See Snowdon 1990 and Olson 1997 for classic presentations of the problem. Animalists Olson (2007: 216), Blatti (2012: 685), and Lim (2018: 419) regard the thinking animal problem as the main argument for animalism.
[114] I use 'brain' as a shorthand for whatever physical system it is in virtue of which persons think. Perhaps this is the cerebrum, or brain, or the central nervous system, or some large part of one or the other.
[115] Olson (2007: 236) calls this *the epistemic problem*.

person isn't something in addition to the human animal, nor is there any difficulty in your knowing which you are.

However, *the thinking parts problem* threatens animalists with their own multiplicity of thinkers. In the vicinity of any human animal, there seems to be many different things; for instance, it seems plausible that you have a head as a part. If it exists, your head is distinct from you; it is a proper part of you. Additionally, it seems to have everything required to think; it has a functioning brain. So, if you have parts like this, it seems that there are thinkers distinct from you in your close vicinity. Thus, animalists appear to be committed to their own multiplicity of thinkers.

This would undermine animalism. Not only would animalists be unable to use the thinking animal problem in good faith to motivate their own view and to undermine constitutionalism, but they would be faced with an analogue of the very same problem. Indeed, Eric Olson (2007: 216) thinks that, if the thinking parts problem cannot be solved, animalism is no better off than constitutionalism.

4.1. On the Parts of Animals

Biological minimalism denies that animals have brains and other proper parts that, were they to exist, would be candidate thinkers.[116] One way of developing this view is by restricting composition.[117] Perhaps, for instance, something is a fusion of some things iff

[116] The name 'biological minimalism' comes from Olson (2007: 218). Along with Olson, Van Inwagen (1990) and Merricks (2001) accept biological minimalism.
[117] Restrictions on composition claim that only some things compose something else.

they are caught up in a life together.[118] If that's right, then there are animals, but no parts of animals like brains, heads, or gerrymandered proper parts like all of an animal minus a single hair. Biological minimalism is a *solution by elimination*: it eliminates all but one candidate thinker.

Yang (2015) offers an animalist view he calls *unrestricted animalism*. The view is *unrestricted* in the sense that it doesn't rely on any restriction on composition to solve the thinking parts problem; it grants, for instance, that things compose parts of animals like heads, brains, and even parts like all of the animal minus a single hair.[119] According to unrestricted animalism, there are candidate thinkers besides the animal, but none of these think.[120] Unrestricted animalists *disqualify* these things from being thinkers; unrestricted animalism is a *solution by disqualification*.

As Yang (2015: 650) emphasizes, unrestricted animalism doesn't require a restriction on composition, nor does it require the denial of the existence of familiar parts of human animals. Arguably, these are considerable advantages over biological minimalism. First, one might worry that a restriction on composition of the sort required would generate ontological vagueness.[121] Second, even if one is unmoved by the threat of

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[118] The "caught up in the life of" locution comes from Young (1971: 86). Van Inwagen (1990: 92) uses it in his answer to the special composition question: what are the conditions under which some things have a fusion? Van Inwagen's answer is *organicism*, the view that some things compose something else iff they are caught up in a life together or there is exactly one thing and it composes itself.

[119] Forms of animalism between biological minimalism and unrestricted animalism are also possible. According to one such view, animals have *ordinary parts* like hands and heads and brains, but they lack extraordinary parts like all of the animal minus its left hand. Toner (2011) and Lim (2018) are animalists who reject biological minimalism, but I am unable to tell if they accept unrestricted animalism or merely some form of moderate animalism. See fn. 153, below, for discussion of Toner's (2011: 72) solution to the thinking parts problem.

[120] Olson (2007: 217) calls this a *psychological* solution.

[121] See Lewis 1986: 212–3 and Sider 2001a: 120–32 for this line of argument. Van Inwagen (1990: §§17, 18) accepts ontological vagueness.

ontological vagueness, the cost of denying that there are things like brains and heads might seem too much to bear.[122, 123] Because these commitments are controversial, some animalists might be interested in unrestricted animalism as an alternative to biological minimalism.

To these, I add a third consideration: the efficacy of a recent animalist argument seems to require animalists to accept, if not unrestricted animalism, then at least a view according to which there are large proper parts of animals like brains. Blatti's (2012) *animal ancestors argument* has it that only animalists can accept evolutionary theory because any other view must hold that we are not animals and that none of our ancestors were animals.[124] The argument charges that constitutionalism is inconsistent with evolutionary theory's claim that our ancestors were animals. Given that evolutionary theory is well confirmed, this is supposed to be a strike against constitutionalism and a point in favor of animalism.

But evolutionary theory *also* seems to say that there are things like brains and that these evolved. Biological minimalists deny that there are brains. Therefore, biological minimalists apparently cannot use the animal ancestors argument consistently, for, like constitutionalists, they appear to affirm something inconsistent with evolutionary theory. The dialectical effectiveness of this argument seems to require animalists to reject biological minimalism.

[122] See Korman 2015 for a defense of an ontology of ordinary things like heads and brains.
[123] See Watson 2016 for another criticism of biological minimalist solutions to the thinking parts problem.
[124] See Daly and Liggins 2013 and Gillett 2013 for criticism of the argument.

Couldn't the animalist paraphrase talk of animals' having brains, for example, *à la* van Inwagen (1990) and argue that the apparent incompatibility between biological minimalism and evolutionary theory is *merely* apparent?[125] According to this paraphrase strategy, although animals don't have brains as parts because there are no brains, some animals' parts are arranged brainwise, they have come to be this way as a result of evolutionary processes, and this is all that's required for the truth of the claim ordinarily expressed by the English sentence "animals have evolved brains as parts." So, evolutionary theory and biological minimalism *aren't really* incompatible, after all.

However, a paraphrase strategy like this plausibly undermines the dialectical effectiveness of the animal ancestors argument: if animalists can use a paraphrase strategy to show that evolutionary theory's apparent reference to evolved parts of animals is really consistent with biological minimalism, why can't constitutionalists paraphrase the claim that our ancestors were animals as *really* being a claim about what our ancestors were constituted by? Constitutionalists could hold that the claim made by evolutionary theory expresses the proposition that we are constituted by animals. For both positions, a straightforward interpretation of a claim of evolutionary theory and the positions' metaphysics of persons are shown not to be inconsistent with the help of paraphrase. Different paraphrases are offered, of course, but it's at least not obvious why one should be acceptable but the other not. Nothing about paraphrase, *as such*, seems to rule out the proposed constitutionalist response. Furthermore, the proposed paraphrase is

[125] Olson (2007: 222) recommends that animalists use paraphrase in response to the apparent incompatibility of the biological minimalist's ontology and ordinary beliefs about the parts of animals.

part of a familiar constitutionalist strategy of claiming that there is an "is" of constitution.[126]

All of this might give animalists reason to be interested in positions intermediate between biological minimalism and unrestricted animalism. Evolutionary theory might be taken to support the existence of your brain, but (presumably) not of a proper part of you that has all the same parts as you minus the parts of a single hair.[127]

Even if moderate animalism is the way for animalists to go, we can still use unrestricted animalism as our stalking horse to learn about the prospects of possible moderate animalisms as solutions to the thinking parts problem. What's *interesting* about unrestricted animalism for present purposes is that it is a solution by disqualification. So, although the ontology of unrestricted animalism is more expansive than that of moderate animalisms, proponents of moderate animalism should still have some reason to be interested in Yang's specific strategies for disqualifying candidate thinkers because they themselves will need to disqualify candidate thinkers.

In 4.2., I present the thinking animal and thinking parts problems as instances of a more general problem. In 4.3., I sketch the argumentative strategy of the rest of the chapter and introduce a taxonomy of constitutionalisms. In 4.4., I show that the different strategies that Yang employs can be adopted by constitutionalists to solve the thinking

[126] Blatti (2012: 688) mentions a paraphrase like this and suggests that there is no evidence that evolutionary biologists mean that human persons are constituted by animals. I suspect that Liggins and Daly (2013: 607) are correct that evolutionary biologists have probably never ever considered the suggestion. The silence of evolutionary biologists on this point shouldn't be taken as very strong evidence in favor of animalism.

[127] Although a straightforward interpretation of evolutionary theory isn't *inconsistent* with unrestricted animalism, one might nevertheless find its posited panoply of parts of animals unattractive. Considerations of these commitments might incline animalists to a *moderate animalism* between biological minimalism and unrestricted animalism.

animal problem if those strategies solve animalists' thinking parts problem. Finally, in 4.5., I discuss some implications of this result for animalist arguments.

4.2. A General Problem

Both the thinking animal and thinking parts problems are instances of a more general problem, *the mental problem of the many*.[128] This problem can be presented as an inconsistent triad:

ABUNDANCE	There are many candidate thinkers, i.e. things the parts of which seem to be arranged in such a way that they have what it takes to think, in the vicinity of any thinker.
CONSERVATISM	There is just one thinker where we take there to be a single thinker.
COMPETITOR	If there is a thinker there, then each candidate thinker makes up a distinct thinker than the others.[129]

[128] Unger (1999, 2006) presents the mental problem of the many as a special case of the problem of the many. For discussion of the latter, see Unger 1980.

[129] COMPETITOR is the principle I've been calling PARITY. I use COMPETITOR here to match Yang's terminology. Here's Yang's (2015: 643) statement of the principle he calls COMPETITOR:

> For all *x*, if *x* is a material object that is exactly located in R and is conscious, then for any *y*, if *y* is a material object that is exactly located in a sub-region of R such that the sub-region is occupied by a brain (or whatever objects that contribute to *x*'s being conscious), then *y* is conscious.

Both Yang's and my version of COMPETITOR say of the many candidates that, if one of them is conscious, then each of many candidates is conscious; the different candidates occupy different regions and are plausibly distinct. I prefer this formulation merely for ease of presentation.

Biological minimalists grant CONSERVATISM and COMPETITOR and deny ABUNDANCE: there are no brains or other large proper parts of animals that would have what it takes to think were they to exist. Unrestricted animalists and constitutionalists alike grant ABUNDANCE and CONSERVATISM, so they must deny COMPETITOR.

Unrestricted animalism tries to show how it is possible to maintain CONSERVATISM.[130] I show how constitutionalists can maintain CONSERVATISM using Yang's unrestricted animalist solutions to the thinking animal argument.

Although both positions grant ABUNDANCE, constitutionalism and unrestricted animalism differ in *why* they are committed to ABUNDANCE. Unrestricted animalism is committed to ABUNDANCE in virtue of endorsing an ontology on which there are things like heads and brains and other large proper parts of animals. Your head is a proper part of you and thus distinct from you, but it at least *seems* to have what it takes to be a thinker; after all, it has a functioning brain. Constitutionalism is committed to ABUNDANCE in virtue of endorsing, well, constitutionalism: your constituting human animal is distinct from you, but it also seems to have what it takes to be a thinker.[131]

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[130] In discussion of the problem of the many as it arises for material objects quite generally, Unger (1980), Lewis (1986) and Sutton (2015) deny a principle like CONSERVATISM; they hold that it is not the case that, in instances of the problem of the many, just one of the candidates for being an object with some feature *F* has the feature. Instead, they claim that there are no objects with feature *F* (Unger), or there are *many* (Lewis and Sutton). Hudson (2001), Merricks (2001), and Unger (2006), among others, endorse CONSERVATISM for thinkers in discussion of the mental problem of the many.

Madden (2016) denies CONSERVATISM as a part of a response to another problem that arises in connection with too many thinkers: what size and shape are you? Seemingly, any one of the thinkers has the same evidence as you do for being human-shaped. But only one of them is right. Madden's *evidential-externalist reply* rejects CONSERVATISM. The upshot of the view is that there are many thinkers in the vicinity of a human animal, but you are justified in thinking that you have the shape of the human animal. Because this is a different problem from the thinking parts or thinking animal problem, and it rejects CONSERVATISM, I set this view aside in the rest of the chapter.

[131] Constitutionalists also face the thinking parts problem. I gloss over this point in this chapter because the solutions to the thinking animal problem I discuss will be sufficient to solve the thinking parts problem for constitutionalism if they're sufficient to solve the thinking parts problem for animalism.

If you're a thinker, and you're an animal, then it's hard to say what disqualifies your head from thinking. If you're constituted by your animal, then it's similarly hard to say what disqualifies your human animal from thinking.[132] After all, your head and your animal seem to have what's required to think; they have the necessary parts in appropriate arrangements, and obvious differences between you and them don't seem to be of the right kind to make a difference when it comes to thinking. Your head's being a proper part of you, for instance, doesn't seem to be sufficient to make a difference in whether it thinks. Similarly, being the constituter of a thinker does not seem to be a difference that matters. At least, *if* these differences are to matter, something more must be said to make that plausible. Absent such a story, COMPETITOR has us infer that, since proper parts or constituters of human persons are so similar to their associated thinking persons and seem to have what's required to think, they are themselves additional thinkers. But, given CONSERVATISM, we've reached contradiction.

4.3. Argumentative Strategy

Olson (2007: 216) notes that the thinking parts problem "is structurally analogous to the thinking-animal problem: both consist in the apparent existence of beings other than ourselves that think our thoughts." Because the problems are structurally analogous in this way, Olson (2007: 217) hypothesizes that "the possible solutions to the thinking-parts problem ought to parallel the possible solutions to the thinking-animal problem." Madden (2016: 186) notes that, for animalists who accept ABUNDANCE, "the prima facie

[132] Indeed, Baker (2007) *doesn't* deny that your animal thinks; she holds, instead, that its thinking is derivative on your thinking. She denies, however, that this means there are too many thinkers. See fn. 143, below, for discussion.

worry … is that any sound response to the problem of thinking parts will *mutatis mutandis* furnish a reply to the problem of the thinking animal." My goal in 4.4. is to make good on these worries by showing that unrestricted animalist solutions solve the thinking animal problem for constitutionalists if they solve the thinking parts problem for animalists.

Because unrestricted animalists and constitutionalists accept ABUNDANCE and CONSERVATISM, both need to *disqualify* all but one of the many candidates from being thinkers. But, I argue, it's plausible that, whatever disqualifies all but one of the animalist's candidates suffices to disqualify constitutionalism's competing candidate in the thinking animal problem, viz. the human animal. If this is correct, then it goes some way to making good on Olson's and Madden's worries. In addition, it suggests that animalists who wish to use the thinking animal argument against constitutionalists should be wary of unrestricted animalism and even moderate animalisms because these animalisms need solutions by disqualification.

That constitutionalists could co-opt animalist solutions in this way might seem surprising. But none of Yang's solutions to the thinking parts problem explicitly say *anything at all* about animalism or constitutionalism, nor do they employ any special ideology that appears to be unavailable to either view. This suggests that they should be available to constitutionalists.

Here's a potential complication. For constitutionalists, the animal and person are, in some sense, made out of the same things. How, then, can they differ? How can one be

a thinker, but not the other? This is an instance of what Bennett (2004) calls *the grounding problem*.

Animalists don't face this problem. The animal and its proper parts are not made out of the same things in the relevant sense. So, it seems that there is an obstacle for constitutionalism that isn't an obstacle for animalism. For *any* solution to the thinking animal problem to work, there needs to be a solution to the grounding problem.

Constitutionalists have a variety of responses to the grounding problem available to them, however.[133] Rather than assess these, I'm happy to take it for granted that constitutionalists are satisfied with some solution, or that they simply reject the claim that the grounding problem is a genuine problem.[134] My argument, then, is conditional on the assumption that constitutionalists have a solution to the grounding problem.

One might worry that this is in effect assuming that the thinking animal problem is solved, for it is assuming that constitutionalists have a way of saying how it is possible for the animal and the person to differ.

There are two things to say in response. First, if constitutionalists cannot solve the grounding problem, then they face bigger problems than the thinking animal problem. They will be hard pressed to maintain that the person is not itself an animal because the person and animal are made out of the same things; if the grounding problem isn't solved, then they will be of the same kind. The resulting view—that persons are constituted by animals, not identical to animals, and are identical to animals—is either incoherent, or, if the claim is that persons are not identical to their constituting animals, but are identical to

[133] See, for instance, Bennett 2004; Fine 2008; Koslicki 2008, 2018a, 2018b; Saenz 2015; and Jago 2016.
[134] Louis de Rosset (2011) pursues the latter strategy on behalf of constitutionalists.

other animals, then the view is not constitutionalism. Thus, constitutionalist will need a response to the grounding problem to formulate a coherent view. For the purposes of this chapter, I think it's acceptable to assume that constitutionalism is coherent. Second, even if constitutionalists have a solution to the grounding problem, it isn't obvious what difference between the animal and the person makes it the case that the human person, but not the animal, thinks. Perhaps there is an explanation of how the person and the animal could differ in their kind properties, but without additional argument, this would not establish that only the person thinks. So, no particular solution the thinking animal problem is being assumed here, even if it is being assumed that it is possible for objects and their constituters to differ.

In 4.4., I argue that Yang's developments of unrestricted animalism provide solutions to the thinking animal problem. More carefully, I argue that the motivations that unrestricted animalists (and moderate animalists)[135] have for adopting Yang's solutions to solve the thinking parts problem are available to constitutionalists and motivate acceptance of those same solutions, or, in one case, an obviously parallel solution, that can be used to solve the thinking animal problem. Because the constitutionalist solutions I sketch have the same motivations as their animalist counterparts, they are not *ad hoc* inventions. Or, at least, the constitutionalist solutions are no more *ad hoc* than the parallel unrestricted animalist solutions. Finally, because showing that parallel views have the same motivations isn't enough to show that both are coherent solutions, I argue that the results of combining Yang's solutions with constitutionalism are coherent and solve the

[135] What I say in the remainder applies, *mutatis mutandis*, to moderate animalists. I henceforth drop the parenthetical qualification.

thinking animal problem.[136] If Yang's unrestricted animalist solutions solve the thinking parts problem for animalists, then they also solve the thinking animal problem for constitutionalists.

Constitutionalists disagree about what constitution is like. I discuss six different accounts. Because the differences between them are (largely) unimportant when it comes to whether they can adopt Yang's solutions, instead of talking about each view individually, I introduce a taxonomy of constitutionalisms to streamline the argument.

For the purposes of this chapter, I taxonomize constitutionalist views on the basis of their answer to the following question: Are constituters proper parts of what they constitute?[137] Call those views that answer affirmatively *constituters as proper parts constitutionalisms*, or CPP-constitutionalisms. Call those views that answer negatively *constituters are not proper parts constitutionalisms*, or CNPP-constitutionalisms.

One version of CPP-constitutionalism—*unique part constitutionalism*—has it that, when an object constitutes another, the former is a proper part of the latter, and the latter has no parts disjoint from the former.[138, 139] Another version—*mutual parts*

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[136] I bracket considerations of which view, if either, is true. For instance, perhaps constitutionalism is ultimately untenable and animalism is true. If that's the case, then the constitutionalist solution to the problem is not as good as the animalist solution: the latter is false, but the former is true. What I mean to be claiming here is that, *as far as the thinking animal problem is concerned*, the constitutionalist solutions are coherent and would solve the problem.

[137] The taxonomy I offer here, of course, is one taxonomy among many possible ones. Although it runs together many distinctions worth making in other contexts and for other purposes, the taxonomy I offer works well for my purposes here. For a different taxonomy of constitutionalisms' relation to mereology, see Evnine 2011.

[138] Johnston (2006) and Guillon (forthcoming) defend views of constitution that hold that constituters are related to what they constitute in this way. Guillon calls this the *unique part view*, preferring to reserve the term "constitution" to refer exclusively to what I below call "non-extensional constitution." This, he notes, is merely a matter of stipulation. I stipulatively call it "unique part constitutionalism" to fit my taxonomy.

[139] Unique part constitutionalism requires a rejection of the *weak supplementation principle* (WSP): Anything that has a proper part has another proper part that is disjoint from the former. Effingham and Robson (2007), Koslicki (2008), Eagle (2010), and Kleinschmidt (2011) all defend WSP. More generally,

constitutionalism—has it that, when one object constitutes another, they are *mutual parts*.[140] A final version—*hylomorphic constitutionalism*—has it that constituted objects are fusions of their constituter and form; on this view, the constituter of an object is a proper part of it, as is the constituted object's form.[141]

One version of CNPP-constitutionalism—*non-extensional constitutionalism*—has it that, when one object constitutes another, each object is a fusion of the same things, but neither is a part of the other.[142] Another version of CNPP-constitutionalism—and perhaps the most well-known—is Baker's (2007: 187ff.) *non-mereological constitutionalism*.[143] On this view, constituted objects are *mereological atoms*, i.e. they lack proper parts, and

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those who accept classical extensional mereology accept WSP, since it is a theorem of classical extensional mereology. Forrest (2002), Smith (2009), Caplan, Tillman, and Reeder (2010), Donnelly (2010), and Gilmore (forthcoming) all reject WSP.

[140] This approach is favored by Thomson (1998). See Walters 2019 for criticism of mutual parts constitutionalism.

[141] Hylomorphic constitutionalism is most closely associated with Fine (1999), Koslicki (2008, 2018a, 2018b), and Sattig (2015).

[142] This view is often encountered in discussions of constitution as something like the standard view. Zimmerman (1995: 70) simply assumes that objects and what constitute them have all the same parts at some level of decomposition. Wasserman (2017) presents non-extensional constitutionalism as the standard version of constitutionalism; he presents an objection from the extensionality of fusion as an objection to constitution *quite generally*.

[143] Baker develops a non-mereological constitutionalist response to the thinking animal argument that appeals to a distinction between sameness in being and sameness in number. See Baker 1999, 2000: 197ff., and 2016 for applications of the distinction to the thinking animal problem. Evnine (2016) defends a view he calls *amorphic hylomorphism*; according to this view, objects have matter and it isn't a part of them. This counts as a version of non-mereological constitutionalism.

It is an interesting feature of Baker's (2016: 53) constitutionalism that both the human person and its constituting human animal think, but there are not too many thinkers. According to Baker (2016: 56–7), this is because, although the animal and the human person differ in being, they are the same in number. That is, although they are non-identical, they are the same one thinker. More generally, "if *x* constitutes *y* or *y* constitutes *x*, then *x* and *y* are nonidentical without being numerically different" (Baker 2016: 56).

As Baker (2016: 53) emphasizes, the distinction between sameness in number and sameness in being has an Aristotelian pedigree. But, for those with Quinean metaontological sensibilities, the distinction is deeply strange, if not incomprehensible. Quinean views posit a connection between number, the existential quantifier, and (non-)identity: if the animal and person are non-identical, they are two, not one. It is perhaps of some interest, then, that non-mereological constitutionalists can co-opt unrestricted animalist solutions to the thinking animal problem *without* Baker's distinction. See van Inwagen 1998 for one way of understanding Quinean metaontological commitments.

See Zimmerman 2002 for a criticism of Baker's non-mereological constitutionalism.

they are disjoint from their constituters (Baker 2007: 187). Another view, which we might call *non-mereological hylomorphic constitutionalism*, holds that human persons have material and formal components, but that these aren't *parts* of them; on this view, the human person is the hylomorphic object and its matter is an animal.[144]

Sometimes it will be useful to talk about CPP- and CNPP-constitutionalisms separately. I will use 'constitutionalism' to refer to the view that human persons are constituted by their associated human animals.

4.4. Solving the Thinking Animal and Parts Problems

Yang surveys three ways unrestricted animalists can deny COMPETITOR to solve the thinking parts problem. I argue that each can be adopted or adapted by constitutionalists as similarly motivated solutions to the thinking animal problem and that the resulting constitutionalist views are coherent solutions to the thinking animal problem. Along the way, I discuss a few other, possible animalists strategies.

4.4.1. BULLET-BITING

Animalists could maintain CONSERVATISM with the following strategy:

BULLET-BITING[145] Reject COMPETITOR because it is incompatible with the conjunction of CONSERVATISM and ABUNDANCE.

[144] Marmodoro (2013) develops a hylomorphism according to which hylomorphic objects have matter and form as components, but matter and form are not *parts* of hylomorphic objects. I don't know of anyone who explicitly holds non-mereological hylomorphic constitutionalism about human persons, but it seems to be a view in logical space.

[145] The names and statements of the first and third principles are mine. See quotations and discussion for evidence that these are fair characterizations.

The thinking parts problem is an instance of the mental problem of the many, an inconsistent triad of independently plausible principles. Because the principles are plausible, solving the problem will require accepting something counterintuitive. Yang suggests that

> the animalist can deny COMPETITOR on the basis of her acceptance of [the other principles], and simply embrace the counter-intuitive result while also admitting that any option results in other counter-intuitive claims. (2015: 647)

By BULLET-BITING, Yang's unrestricted animalist can solve the thinking parts problem by (i) denying that proper parts of animals think while (ii) maintaining that (typical) human animals can think. BULLET-BITING itself provides no explanation of *why* the animal, as opposed to a large proper part, thinks, but BULLET-BITING resolves the contradiction (Yang 2015: 646–7).

The plausibility of BULLET-BITING is apparently completely independent of animalism and constitutionalism; what makes it plausible is simply that the other principles are plausible and that something must be denied. Whatever plausibility attaches to the unrestricted animalist's denying COMPETITOR attaches also to the constitutionalist's denial. Both views are faced with the inconsistent triad, so both must deny *something*. In both cases, denying COMPETITOR resolves the contradiction and solves the respective problems.

One might think that animalist denial of COMPETITOR is more plausible than constitutionalist denial of COMPETITOR. The animalist's competing candidates are smaller than the animal, whereas the constitutionalist's competing candidate is the animal and is, in some sense, as big as the person. The idea, presumably, is that the candidates' being

smaller than the animal disqualifies them, but no such solution is available to the constitutionalist because the animal is the same size as the person. However, this seems to conflate BULLET-BITING with disqualifying candidates based on size. BULLET-BITING just tells us to reject competitor because of its incompatibility with the other two, plausible principles. That incompatibility affects both views.[146]

Constitutionalists who deny COMPETITOR with BULLET-BITING will say that the human person is conscious, but the human animal is not. This is obviously parallel to the animalist solution. Supplementing constitutionalism with BULLET-BITING results in a coherent view; nothing about either theory seems to introduce inconsistency when combined with BULLET-BITING, even if there is something that's left unexplained on both views, viz. *why* the many candidates aren't thinkers. The constitutionalist solution solves the problem if the corresponding animalist one does.

4.4.2. MAX

Yang's second strategy accepts

[146] But what of the suggestion that the largest, animal-like thing is the thinker? Yang doesn't consider this view, but it is a natural enough thought to mention here. Jones (2013: 36–9) offers some considerations against this sort of view. For instance, perhaps there is no largest candidate. I don't find this very compelling. In that sort of case, I suspect that there are multiple animals that overlap extensively!

A more serious problem for the suggestion, I think, is that it identifies a candidate as being best, but it gives no explanation of *why* it is best. That is, although it might be extensionally correct from the perspective of the animalist, it doesn't tell what makes the largest candidate better than, say, a slightly smaller one. There are different ways of developing a motivation for the idea from the animalist perspective. I consider one in 4.4.3. and argue that animalists and constitutionalists can help themselves to it.

MAX For any x, if x is conscious, then there is no y such that x is a proper part of y and y is conscious. (Yang 2015: 647–8)[147]

If MAX is true and the animal is a conscious subject, then, from MAX, none of its proper parts are.[148] On this basis, unrestricted animalists can deny COMPETITOR:

> MAX rules out that a conscious animal is a proper part of any conscious object. But it also rules out having any proper parts that are themselves conscious (otherwise those objects would violate MAX). So if we take the animal to be the conscious object, then none of its proper parts can be conscious. Thus, MAX provides the animalist with reason for denying COMPETITOR. (Yang 2015: 647)

Similarly, CPP-constitutionalists can endorse MAX and hold that none of the proper parts of the human person are conscious. They will hold that the human person is conscious. Because the human animal is a proper part of the conscious human person, it is not conscious because MAX is true, and the human person is conscious. I can see no reason to doubt the solution's coherence; this view solves the thinking animal problem if the corresponding animalist view does.

Animalists think that the animal is numerically identical to the thinking human person while constitutionalists think that the thinking human person is constituted by the

[147] This is Yang's (2015: 647) statement of the principle. I suspect it is too strong. For instance, if Block's (1978) Chinese nation-brain is possible, then a principle like MAX would require that the people making up the large system are not conscious.

It is sometimes suggested that MAX or MAX-like principles mean that the *largest, most mereologically inclusive* candidate is the single *F* (see, e.g. Rettler 2018: 856). This is similar to the view discussed in the previous footnote. As a general way of understanding MAX-like principles, this should be avoided. Consider a block of rowhouses or terrace houses. The largest house-like thing is the whole block, but each of the row houses or terrace houses is itself a house. If *being a house* is a maximal property, and the largest house-like thing is a house, this would rule out the individual houses' being houses. There's space between MAX and MAX-like principles, on the one hand, and the claim that the largest candidate is conscious.

[148] See Sutton 2014 and Madden 2016 for criticism of MAX-like principles.

(non-thinking) human animal. What motivates the CPP-constitutionalist's thought that it is the *person* and not the *animal* that is the thinker?

This question makes apparent a potential drawback of appeal to MAX, independent of either view. Note that MAX, by itself, doesn't tell us *which* candidate—the animal, the person, a large proper part of the animal, etc.—is conscious. Yang recognizes this:

> this strategy [i.e. MAX] by itself does not offer any reason why we should treat the animal as the conscious object as opposed to the head or brain. For if the brain is a conscious object, then by MAX the animal would not be. (Yang 2015: 647)

So, if animalists want to maintain that the animal is conscious, something besides MAX is needed; they will need to argue that it is *the animal* that is conscious. That done, they will hold that none of the proper parts of animals are conscious because MAX is true. Parallel remarks apply to CPP-constitutionalists.

Animalists and constitutionalists *already* have arguments for the view that the thinking human person is an animal or is constituted by an animal, respectively. Given those arguments and MAX, both views will maintain CONSERVATISM. Animalists say that the animal is conscious; MAX is true, so, large proper parts of the animal aren't conscious; and there aren't too many thinkers. CPP-constitutionalists say that the human person is conscious; MAX is true, so, the constituting human animal isn't conscious; and there aren't too many thinkers.

What motivates acceptance of MAX for the animalist likewise motivates acceptance of MAX for CPP-constitutionalists. Consider how we count. A feature of our counting practices is that we do not count the many extremely similar things in the vicinity of an *F* as additional *F*s. We say that there's a single chair here, for instance, and

not many, despite its being the case that there are many things that are *extremely* similar to the chair in its vicinity, such as the thing that has all of the same parts as the chair minus a particular splinter of wood. The idea here is that many kind predicates express *maximal properties*. Sider illustrates that claim with the following example:

> Consider, for example, the mereological difference between a house and one of its windows. Linguistic intuition assures us that this entity, call it House-minus, is not a house. I own a single house, not thousands. House-minus is a very large part of a thing that is a house, and so it itself is not a house. Being a house is a maximal property. (Sider 2001b: 357)

For those maximal properties, *F*, because '*F*' expresses a maximal property, it is true to say that there is a single *F* here, and not many, despite there being many things that are very large proper parts of that *F*.

Animalists and CPP-constitutionalists alike can say that *being a thinker* or *being a conscious subject* is a maximal property. Linguistic intuition assures us that there's just one person in my chair.[149] Acceptance of MAX is motivated by that same intuition in both cases. So, CPP-constitutionalists have the same reason to accept MAX as animalists do. Acceptance of MAX is adequate to solving the problem and acceptable if the parallel animalist solution to the thinking parts problem is adequate and acceptable.

However, MAX doesn't get to the heart of the issue for CNPP-constitutionalists or even, I suspect, for CPP-constitutionalists. Consider a clay statue and the lump of clay that constitutes it. Both are in the same place at the same time, and they have many properties in common, but we count just one statue here; we do not count the constituting clay as a

[149] See, also, Hudson 2001: 114–22 and Burke 2003: 114ff. Hudson calls the counting phenomenon a "semantic puzzle" and posits a version of MAX about human persons, rather than conscious things, to explain it.

statue. A principle according to which large proper parts of *F*s are not themselves *F*s cannot explain this for *CNPP*-constitutionalists, as they hold that neither the statue nor the clay is a part of the other.

CNPP-constitutionalists will think that our linguistic intuitions don't just tell us that we don't count large proper parts of chairs, say, as chairs, but that we also don't count constituters of objects as being the same sort of thing as what they constitute. While MAX can't explain this, an extremely similar principle can: large proper parts of *F*s, *and constituters of* Fs, are not themselves *F*s. In the case of conscious subjects, the relevant principle parallel to MAX is

MAX* For any *x*, if *x* is conscious, then there is no *y* such that *x* is a proper part of *y*, or constitutes *y*, and *y* is conscious.

Given MAX*, if the human person is conscious, then the constituting animal isn't.

Both MAX and MAX* are motivated by our linguistic intuitions. According to constitutionalists, part of our counting practices is that we don't count the *constituter* of a human person as an additional thinker.[150] This stands in need of explanation, and the explanation open to CNPP-constitutionalists is that MAX* is true. This isn't *ad hoc*; it's motivated by the very same sort of considerations as unrestricted animalists' acceptance of MAX. The view is apparently coherent if the animalist solution is. CNPP-

[150] Johnston endorses a principle similar to MAX* and mentions the same sort of linguistic intuitions:

> On any ordinary way of talking, clusters [of water droplets] are not themselves clouds but may constitute clouds. On ordinary ways of talking, when counting the number of clouds we do not contemplate a count of all the distinct, precise, cloud-shaped clusters of water droplets in the nearest vicinity of any cloud. These do not count as clouds. *Despite their being quantities of matter which constitute clouds, we do not count them as clouds*. (Johnson 1992: 101, emphasis added)

constitutionalists' appeal to MAX* solves the problem if unrestricted animalists' appeal to MAX does.

4.4.3. LIFE-THOUGHT

The following seems a plausible characterization of Yang's (2015: 648–50) third strategy:

> LIFE-THOUGHT — Life is required for thought, there is single living thing in the vicinity of any living thing, and it alone is a thinker.[151, 152]

Yang (2015: 648) presents the motivation for LIFE-THOUGHT as the "Aristotelian insight that what makes animals and humans alive or 'have a life' is also that which makes them capable of having sensations and thought."[153] If life is required for thought and only the animal is alive, then only the animal thinks. Yang (2015: 648) notes that "there are relevant connections between our biological and psychological capacities, especially since many of the latter capacities must be cited to provide a full explanation of certain biological activities and processes." Because of this, Yang (2015: 648) continues, "if we can find the object that we properly ascribe as having a life, then we can attribute that

[151] See Madden 2016 for a similar suggestion: parts that give rise to thought contribute to the functions of the animal, but not to the functions of large proper parts; thus, the large proper parts are not conscious.
[152] Yang (2015: 650) expresses a preference for this solution.
[153] Toner (2011) develops an Aristotelian view he calls *hylemorphic animalism*. On this view, the animal is a hylomorphic composite of matter and form. On Toner's view, the animal has parts like a head and a brain. In this way, the view is similar to moderate or unrestricted animalism. These parts, Toner (2011: 72) holds, do not think because only substances think, and these parts are not substances. Toner's reason for denying that these parts of animals are substances is that they are parts of the animal, the animal is a substance, and substances don't have other substances as parts. Hylomorphic constitutionalists can likewise offer this solution, holding that the constituted person's parts—the animal, its head, etc.—are not substances on the grounds of their being parts of a substance, viz. the person. Note that this departs somewhat, for instance, from Koslicki's development of the view; Koslicki (2008: 186ff.) holds that hylomorphic objects can have other substances as parts.

object with also being the bearer of conscious states." Because the large proper parts of that thing are not properly described as being alive, they are not bearers of conscious states.

Yang's (2015: 649) animalist identifies the "single largest system … whose subsystems contribute to its functions and activities" as the animal. This is the sole bearer of life by being such that "all the activities of the various sub-systems contribute" to its activities (Yang 2015: 649).

The large proper parts of animals, on this view, contribute to the life functions of the animal. Thus, these large proper parts are not themselves alive:

> Supposing that there is a left-hand complement of the organism …, both the organism and the left-hand complement exhibit the same life (since there is one end toward which the activities of their proper parts contribute), but life should be strictly assigned to the organism as a whole since the left-hand complement will leave out some of the activities of that same life, namely the sub-activities of the single life-event that occur in the left-hand of the organism. (Yang 2015: 649)

Because life is required for thought and only the animal is alive, only the animal is conscious. Unrestricted animalists can reject COMPETITOR on this basis.

Constitutionalists, I suggest, should hold that the bearer of life and, thus, of thought, is the human person and not the human animal. This is actually quite a plausible view for them to hold given LIFE-THOUGHT; the human person is the thing toward which the animal and its parts contribute their functions and activities, so only the human person is alive and thinks.

For instance, they will say that respiration contributes toward the human person's ongoing activities; the diaphragm and lungs work together to oxygenate blood, and the

circulatory system pumps that oxygenated blood to the brain, which is required for *the human person* to continue to think.[154] The circulatory system's delivering oxygenated blood throughout other parts of the body allows cells to produce ATP, which allows *the human person* to move about in the world in the ways they want by providing the energy needed for contracting muscles and for the brain to function. These activities of the animal and its subsystems contribute to the functions and activities of the *human person* in the ways just described, among others.

For Yang's (2015: 649) animalist, the animal is the "single largest system … whose sub-systems contribute to its functions and activities." For the animalist, the human animal's sub-systems are all *smaller* than the animal. But for constitutionalists, the human person and the human animal are the same size.

This difference is unimportant. For the animalist, what makes the animal the bearer of life is that it is the object to which all of the sub-systems contribute; the relative sizes of the animal and its large proper parts matter only insofar as there are life processes going on in, say, the left hand of a human person. This, after all, is what disqualifies the left-hand complement from being alive and, given LIFE-THOUGHT, from thinking. But, if there could be ways that sub-systems don't exhaust the functions and activities of a person *without* being smaller than the person, then the idea behind LIFE-THOUGHT would suggest that the human person, not the human animal, is alive and thinks.

[154] Remember: the question is whether the constitutionalist can maintain CONSERVATISM. I am thus assuming, on behalf of the constitutionalist, that it is the person who thinks. This is parallel to the animalist assumption that it is the animal that thinks.

For constitutionalists, the activities of the animal leave out certain of the activities of the human person, namely the person's psychological activities.[155] Those are activities of the human person, according to constitutionalists, but they cannot be performed without the animal's activities and functions. Thus, constitutionalists will hold that the animal contributes its functions and activities to the human person. Given LIFE-THOUGHT, constitutionalists will hold that the human person alone is alive and thinks. The reasoning here is parallel to the animalist's; it gives the constitutionalist reason to think that only the human person, and not its animal, is alive if it gives the animalist reason to think that only the animal, and none of its large proper parts, is alive.

The constitutionalist will hold that the functions and activities of the animal and its subsystems do not exhaust the functions and activities of the human person; they leave out those life-events of the human person that are psychological in nature. Relative size, then, has nothing to do with the LIFE-THOUGHT strategy.

The view denies that your constituting human animal is alive.[156] Is this acceptable?

Any solution to the mental problem of the many that accepts ABUNDANCE and CONSERVATISM must accept that certain things that seem to have all of what's required to do something are not able to do it. For instance, one might think that brains or large proper parts of animals have what it takes to be alive or to think, but for *unrestricted*

[155] Baker (2016: 58–61), for instance, emphasizes this. She holds that the animal has special psychological abilities that the animal has only derivatively in virtue of constituting a human person. For instance, Baker thinks that the person has a first-personal perspective nonderivatively.

[156] This is not to say that it's dead, though!—Some things are neither alive nor dead, e.g. tables and chairs. Our animals, when they constitute us, are like this. Large proper parts of animals, for animalists, are plausibly like this, as well.

animalism, the brain and large proper parts of the animal are neither alive nor capable of thought. The constitutionalist adds to this that typical human animals aren't alive.[157]

Another worry is that constitutionalists seem to make human animals *special* in the sense that they are the only non-living animals. However, the view doesn't require thinking that *human* animals that constitute persons are special in this way. Consider Koko the gorilla. Koko, it seems, was capable of surviving the sorts of adventures that constitutionalists claim show that you're not identical to your animal. For instance, constitutionalists say you could survive having your cerebrum transplanted while your animal is left to die; so, too, could Koko. When Koko wakes up, she will recognize her friends, be able to sign, etc. But her animal will have been destroyed. Or, like you, Koko could exist for less time than her animal were she to suffer a traumatic brain injury that left her in a persistent vegetative state. Thus, constitutionalists will conclude that Koko is not an animal. Instead, Koko is constituted by an animal. The thinking animal problem will arise here, too, and constitutionalists can use the LIFE-THOUGHT strategy. This reasoning plausibly applies quite broadly to a number of things besides *human* animals.[158]

Relatedly, doesn't the constitutionalist deny something that's *obvious*, viz. that many human animals are alive? The best option for constitutionalists here, I think, is to paraphrase. For instance, the constitutionalist could say that the ordinary claim that your human animal is alive expresses the proposition that it's caught up in your life, but the

[157] The animal would come to be alive, perhaps, if it ceased to constitute a human person, but life events continued to happen. This would perhaps happen in the case of a traumatic brain injury.

[158] Baker (2016: 58–61), however, is a constitutionalist who denies that a monkey could survive this sort of operation; she holds that monkeys are identical to animals. Presumably she'd hold the same about gorillas like Koko. This, however, is an optional thesis for the constitutionalist.

metaphysical truth is that your animal is not alive. In this way, they can embrace the ordinary claim. This is similar to a paraphrase that Yang offers; although the large parts of animals are not, strictly speaking alive, Yang (2015: 649) claims that large proper parts of animals are caught up in the life of the animal they are a part of and thus "exhibit" the same life as the animal. Similarly, the constitutionalist can hold that the human animal "exhibits" the same life as the human person; the activities and functions of the animal and its sub-systems contribute toward the human person's life, even if they are not strictly speaking alive.

I have constructed constitutionalist solutions to the thinking animal problem that are parallel to unrestricted animalist solutions to the thinking parts problem. I have argued that, if Yang's unrestricted animalist strategies solve the thinking parts problem, they also solve the thinking animal problem.

4.5. Arguments for Animalism

Blatti (2012: 685) introduces the animal ancestors argument by noting that the thinking animal and thinking parts problems are structurally analogous. For this reason, Blatti (2012: 686) is concerned to "offer [the animal ancestors argument as] a second arrow in the animalist's quiver." However, the animalist arguments seem to make different, incompatible demands on animalists.

To see how, consider the advantage that Olson's biological minimalism enjoys over unrestricted animalism as a solution to animalism's thinking parts problem. Biological minimalism's denial of ABUNDANCE *cannot* be co-opted by constitutionalists;

constitutionalists are committed to the existence of at least one other thing coincident with a human person, viz. the human animal. Thus, they will have to deny either COMPETITOR or CONSERVATISM.

Meanwhile, as I argued in 4.1., use of the animal ancestors argument seems to push animalists toward unrestricted animalism or moderate animalism. But animalists who endorse either moderate or unrestricted animalism will need to solve the thinking parts problem, at least if they want to use the thinking animal problem against constitutionalists *or even accept CONSERVATISM*. These animalists will need to disqualify candidates like brains from thinking. To do this, they could employ Yang's strategies. As we've seen, however, these can be used to solve the thinking animal problem. So, it seems, if animalist use of the thinking animal problem is to be dialectically effective, animalists should either offer some solution other than Yang's or be biological minimalists. But, again, this latter strategy is apparently incompatible with the dialectical effectiveness of the animal ancestors argument.

Because my argument is by cases, I haven't shown that there are no such solutions. I've shown only that a few prominent, potential solutions to animalists' thinking parts problem solve constitutionalists' thinking animal problem. For all I've said, there could be possible solutions by disqualification that constitutionalists cannot co-opt. But, unless animalists produce such a solution, my argument still shows that animalists are not currently in a position to use both the thinking animal problem and the animal ancestors argument against constitutionalists. Additionally, the argument by cases gives at least *some* inductive support for the thesis that moderate and unrestricted

animalism are simply unable to offer a solution to the thinking parts problem that cannot be co-opted by constitutionalists to solve the thinking animal problem. This provides a challenge for unrestricted and moderate animalisms: identify disqualifying properties of the larger proper parts of animals without thereby solving the thinking animal problem for constitutionalists. I am skeptical this challenge can be met.

Chapter 5. Solving the Personite Problem

According to perdurantism, persons persist through time by having *instantaneous proper temporal parts* at every time at which they exist. Let's call person-shaped instantaneous proper temporal parts of persons *person stages*. On standard developments of perdurantism, in addition to persons and person stages, there are fusions of person stages that are proper parts of perduring persons.[159] For instance, you have a part that is a fusion of your person stages from your first birthday to your tenth birthday. This is an example of what Mark Johnston (2016, 2017) calls a *personite*.

Olson (2011), Taylor (2013), and Johnston (2016, 2017) argue that, if personites exist and have moral status, then this undermines many of our prudential and moral practices. This is the personite problem.[160] That personites have moral status is *prima facie* plausible; they seem to be very person-like, apparently differing from us only in things like temporal extent. But such differences presumably aren't morally relevant.

[159] See Lewis 1976, for instance. There are views similar to perdurantism on which persisting objects are temporally extended *spanners*; these are dissimilar from perduring objects in that they have no temporal proper parts. Parsons (2000) develops such a view; see Miller (2009) for discussion of this view, which she calls *terdurantism*.

[160] Olson (2011), Taylor (2013), Johnston (2016, 2017), and Kaiserman (2019) take the personite problem to be a consideration against perdurantism. Kaiserman (2019) offers a solution I discuss in detail in 5.2., below; he takes the problem to support a rival of perdurantism, *exdurantism*. Eklund (forthcoming) discusses the personite problem from the perspective of metaontology; he argues that certain views in metaontology such as *quantifier variance*, the view, roughly, that "our existence concept is just one among many non-coextensive existence concepts, and no existence concept is metaphysically privileged above all others," undermine the effectiveness of a *non-existence reply* to the personite problem. According to such a reply, personites don't exist and we cannot harm them.

Some personites come into existence when we do but cease to exist before us. Many projects that are unpleasant in the short-term but rewarding in the long-term are usually thought to be parts of a well-ordered life. However, if personites have moral status, then difficult processes of self-improvement appear to be deeply *immoral*; many personites will be forced to undergo the short-term unpleasantries, will go out of existence in the interim, and will not be around to enjoy the long-term rewards.

Other personites come into existence after us and reap the rewards or suffer the consequences of our past choices. We might think that some of our actions harm only ourselves, if anyone, and we take more-or-less calculated risks in engaging in them. If I smoke for twenty years and suffer from cancer as a result twenty years later, the personites that come into existence *after I quit* are harmed by my past actions. Punishment seems always to be immoral; many personites will be punished for something they never did. Even reward and praise misfire; many personites will be rewarded for something they never did.

Other personites come into existence after us and pass out of existence before us; these suffer the indignities of both of the other kinds of personites.

The demands of morality can be surprising. For instance, suppose that ethical veganism is true. Many folks express surprise or disbelief when told that animal husbandry and use of animal products is morally impermissible. Might the personite problem just tell us about another surprising demand of morality? Perhaps. But the picture does upset our sense of what a moral life looks like far beyond what ethical veganism does. The changes required of us by ethical veganism are comparatively minor

compared to those that the moral status of personites requires. If the personite problem shows what it purports to show, then the moral life looks to be one of unambitious indulgence in easily available, harmless pleasures,[161] difficult projects of self-improvement appear to be morally impermissible,[162] and we must radically reconceptualize practices of reward, punishment, and blame, or do away with them altogether. I propose trying to solve the problem.

Here's a sketch of the chapter. I begin by presenting Johnston's (2016) argument and then turn to a solution offered by Alex Kaiserman (2019); he argues that *exdurantism*, the thesis that objects persist through time by having temporal counterparts at different times, avoids the problem.[163] I argue that it doesn't. Or, rather, it doesn't solve an exdurantist version of the personite problem. The problem seems to rearise in its exdurantist version because Kaiserman's solution doesn't really address the root of the problem: there are many things in the vicinity of human persons that seem to have what's required to be harmed in the ways described above.[164] Developing a suggestion of Johnston's, I show that the problem is connected to versions of the problem of the many. I then develop and defend a solution according to which personites lack psychological properties. Since, I argue, having these properties is required for being harmed in the ways we supposedly harm personites, we do not harm personites in those ways.

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[161] This is Olson's (2011: 262) assessment of where the problem leaves us if we cannot solve it.
[162] Johnston (2016: 206) emphasizes this.
[163] See Hawley 2001 and Sider 2001a for classic presentations and defenses of exdurantism.
[164] A possible response to the problem is to deny that there are any such things as personites. Terdurantism (see fn. 159, above) denies that there are personites, for instance. Such a view would agree that personites don't have moral status *because they don't exist*. For the purposes of this chapter, I set aside solutions that deny that there are personites.

5.1. The Moral Status of Personites

Johnston (2016: 203–4) gives the following argument for personites' having moral status:

(1) [MORAL STATUS] For any world *w* and for all *x*, if *x* is a person in *w* then *x* has a moral status in *w*.
(2) [NO DIFFERENCE] For any actual personite *x*, if *x* as it is in the actual world is exactly similar to a person *y* as it is in some world *w* in all respects intrinsic to their mental and physical lives then there is no difference in the moral status that *y* has in *w* and *x* has in the actual world.
(3) [POSSIBLE DUPLICATES] For all *y*, *x*, *t*, and *t′* where *y* is a person and *x* is one of that person's personites beginning at *t* and ending at *t′*, *x*'s beginning and end in time … corresponds to the beginning and end of a possible person in some world *w*, one who is exactly similar in all respects intrinsic to *x*'s actual mental and physical life.
(4) [Therefore a]ll of a person's personites have a moral status.[165]

Everyone in the debate grants MORAL STATUS and NO DIFFERENCE. Because my interest is in POSSIBLE DUPLICATES, I'll similarly take them for granted. Johnston motivates POSSIBLE DUPLICATES with a thought experiment:

> Imagine the case of Dum and Dee, two identical twins raised in symmetric environments, where they are monitored and modified regularly in order to keep their body- and brain-function, and hence their mental life, as similar as possible. Dum dies in his dream-filled sleep at midnight on New Year's Day 2013, half … an hour before Dee dies in his dream-filled sleep. (Johnston 2016: 200)[166]

According to Johnston, Dum is an intrinsic duplicate—or near enough—of one of Dee's personites, namely the fusion of temporal parts of Dee minus those that exist during the last half-hour of Dee's life. One of Dee's personites, then, has a duplicate that is a person. Although it is unlikely that any of us are duplicates of actual persons' personites, it seems

[165] The numbering and wording of the argument's premises and conclusion are from Johnston 2016: 203–4. I introduce the bracketed names for ease of reference. I have elided the typographical error "in" from POSSIBLE DUPLICATES.
[166] I have elided the typographical error "you-."

plausible that each of our personites stand to a possible person as one of Dee's personites stands to Dum. After all, all that's required is that our lives could have been cut short sometime before now, and that's surely possible.

Other personites come into existence after us and pass out of existence with us. So, for instance, consider HBD, a personite that came into existence during my tenth birthday and persists until the day I die. Is HBD a duplicate of a possible person? It's plausible; perhaps God could have created the world exactly like the actual world, only without the time before my party. That is, the world could have been brought into existence during my party and then go on as it actually does. HBD would be a duplicate of me in that world and would be a person. So, HBD would be a duplicate of a person.

Finally, other personites come into existence after us and pass out of existence before us. A variation on the previous case plausibly delivers duplicates of such personites. Consider my personite that comes into existence at my tenth birthday party and ceases to exist at my sixtieth. If God creates the world during my party, lets it run for 50 years as it actually runs, then annihilates it, the personite will be a duplicate of me in such a world.

5.2. Kaiserman's Solution

Kaiserman (2019) argues that those who accept *exdurantism* can reject POSSIBLE DUPLICATES and deny that personites have a moral status.

While perdurantism identifies persons with fusions of maximally *R*-related[167] person stages, exdurantism holds that persons are *person stages*. Kaiserman exploits this difference in his response to Johnston's argument.

Kaiserman defines 'is a personite of' as follows:

> If *x* is a person, then *y* is a *personite* of *x* iff *y* is a temporally continuous *non*-maximal *R*-interrelated fusion of two or more person-stages, each of which is *R*-related to every instantaneous temporal part of *x*. (Kaiserman 2019: 216)

If I perdure, then the sum of person stages from my very first one to one exactly ten minutes ago is a personite of mine. If I exdure, then that same sum of person stages is also a personite of mine. According to exdurantism, however, persons are person-stages. Kaiserman notes that exdurantists deny POSSIBLE DUPLICATES: no personite is a duplicate of a person because persons are not temporally extended, but personites are. However, this is not enough to avoid the problem.

Note that, in the vicinity of any person, it is plausible that there are many proper parts of persons that are extremely similar to persons: they are the things that have all of the same spatial parts as you, for instance, minus small, insignificant ones, like a single hair. I argue that many of these things will exist for less time than the person they are part of. Call these things *personites**.[168]

Here's an argument for the moral status of personites*, if they exist:

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[167] Let *R* be that relation, whatever it is, that matters to personal identity. A fusion of person stages is *maximally R-related* iff all of its parts overlap person stages and, for any person stage that is a part of it, any person stage that it is *R*-related to is a part of the fusion.

[168] One possible reaction here is to deny that there are personites*. This parallels denials of the existence of personites discussed in fn. 160, above. Again, I set such views aside.

(5) MORAL STATUS For any world *w* and for all *x*, if *x* is a person in *w* then *x* has a moral status in *w*.

(6) NO DIFFERENCE* For any actual personite* *x*, if *x* as it is in the actual world is exactly similar to a person *y* as it is in some world *w* in all respects intrinsic to their mental and physical lives then there is no difference in the moral status that *y* has in *w* and *x* has in the actual world.

(7) POSSIBLE DUPLICATES* For all *y*, *x*, *t*, and *t′* where *y* is a person and *x* is one of that person's personites* persisting from *t* to *t′*, *x*'s persistence from *t* to *t′* corresponds to the beginning and end of a possible person's persistence in some world *w*, one who is exactly similar in all respects intrinsic to *x*'s actual mental and physical life.

(8) Therefore, all of a person's personites* have a moral status.

While it's true that Johnston introduces the problem as a problem for perdurantism, it's intended to be a wider-ranging problem. Here's Johnston:

> [I]t would be mistaken to understand the problem as one that can be solved simply by rejecting [perdurantism]. That is the wrong reaction because the problem can be reproduced in roughly the same form, both within continuity theories of identity over time that are not [perdurantist] and within successivist theories that are not [perdurantist] (including [exdurantism]). (Johnston 2017: 641)[169]

[169] Johnston uses "four-dimensionalism" and "stage theory" to refer, respectively, to perdurantism and exdurantism. I have used the latter in place of the former because I draw a distinction between different views that might pass for four-dimensionalism, including terdurantism. In addition, exdurantism is most famously discussed in Sider's (2001) *Four-Dimensionalism*; "four-dimensionalism" is apparently used somewhat idiosyncratically.

Both arguments have the plausible MORAL STATUS as a premise. NO DIFFERENCE*, meanwhile, is as plausible as NO DIFFERENCE since both just claim that duplicates of persons have moral status.

Exdurantists cannot reject POSSIBLE DUPLICATES* in the same way that they reject POSSIBLE DUPLICATES. To see why, assume exdurantism is true and consider a proper part of your stage with all the same proper parts as you minus the parts of a single hair.[170] Call this object 'Minus'. Minus is apparently extremely person-like: Minus seems to have all the important and interesting intrinsic properties that you have that are sufficient for having moral status, since the absence of the parts of a single hair is presumably not of any importance to whether something has those properties.

These features of Minus make it a plausible candidate for having moral status. Minus will be a candidate just as long as it will have those interesting intrinsic features, i.e. as long as it and its temporal counterparts will have those interesting intrinsic features. It will be the case that Minus has those intrinsic features as long as it will be a part of you. But, when it comes to lack any personite temporal counterpart that will be a part of you, it will be the case that Minus will cease to have those interesting intrinsic features that make it a plausible candidate for moral status. At least typically, you will continue to exist, i.e. you will have a temporal counterpart at that time. So, Minus will persist for less time than you.

[170] Johnston's presentation of the problem appeals to unrestricted mereological composition, the claim that any things have a fusion, to motivate that there are personites. This principle can be used to motivate the existence of large proper parts of persons, i.e. of the personites* that cause problems for Kaiserman's solution, at least assuming that persons have small parts and that persons aren't spatially extended simples.

This relies on a particular picture of personites*' persistence conditions. First, the personite* will persist as long as it has personite* temporal counterparts. Second, it will have those counterparts as long as something roughly like the following is the case: its person's future temporal counterparts have a proper part that fills the same region, and the parts of the counterparts are temporal counterparts of the parts of Minus.

Personites* are odd things, but this second part of the picture seems plausible on analogy with other objects' arbitrary, undetached parts. Consider the middle third of Michelangelo's *David*. What would need to be the case so that, in the future, it will continue to be a part of *David*? The following seems plausible: the statue's future counterparts have a part that fills that region, and that counterpart's parts are temporal counterparts of the middle third's parts now. If *David* loses parts from its middle third, e.g., if future temporal counterparts of *David* are missing a chunk out of their right hip, say, then the middle third will not persist as a part of *David*.

Something similar regularly happens to personites*. Persons undergo amputation, appendectomies (or other -ectomies), shedding of hairs, and chafing. Regular biological processes expel parts of us. In each case, larger or smaller parts of us are detached. *We* (typically) survive these larger or smaller inconveniences, but some of our personites* don't. A personite* that now has, say, a certain hair of mine as a part will not survive losing that single hair.

But we also *gain* parts. Other personites* will come into existence as I grow in height or width or circumference. Regular biological processes also incorporate things into us as parts. Personites* that result from these changes will persist in the manner

described above. After coming to be my personites*, perhaps some will exist as long as I do, but most won't. Human persons' persistence conditions allow them to undergo normal biological processes and change their parts. These are the very same processes that will make Minus cease to have its interesting intrinsic features as its future temporal counterparts' parts become scattered.

Finally, you presumably *could have had* all of the same parts, less the parts of the single hair that is the mereological difference between you and Minus. This means that Minus is exactly similar in all respects intrinsic to a possible person's mental and physical life. Minus is one of your personites* and has moral status.

There's nothing special about Minus; any other large proper part of you minus a different hair, or multiple hairs, or single cells, or … would have served just as well to make the point. Thus, there's a swarm of personites* in your vicinity. Exdurantism denies that any duplicate of a personite is a person. However, duplicates of personites* seem to be, even by exdurantism's lights.

5.3. Problems of the Many

Even if exdurantists can deny POSSIBLE DUPLICATES, what is recognizably the personite problem rearises. Why? Johnston (2016: 216) suggests that the personite problem arises for those views of persons on which "we are 'ontological trash', i.e. that in our close spatial vicinity there are many persisting things all ontological on a par, very similar in their features and such that they come into being and cease to exist at various times." Johnston (2016: 216) gives the following "rough test" of whether we are

ontological trash: "you are ontological trash if … a cross-time version of the problem of the many … arises for you in such a way that you are one of the many."

In this section, I draw some connections between some problems of the many and the personite problem. I argue that these problems of the many support a key assumption of the personite problem, that a response to Johnston's argument for the moral status of personites might not solve the personite problem, and that what might help solve the personite problem is a solution to a version of the mental problem of the many. I couch the discussion in terms of perdurantism and largely leave exdurantism behind for now, but I return to it at the end of the chapter.

5.3.1. The Problem of the Many

Unger's (1980) *problem of the many* arises from what we take ourselves to know about ordinary objects and what they are made out of. Ordinary objects are made out of smaller objects like cells, molecules, atoms, or sub-atomic particles in various arrangements.

For instance, a plastic chair is made out of many plastic molecules collectively arranged in the shape of a chair. Minute differences in the arrangement and number of plastic molecules don't seem to make a difference in whether they make up a plastic chair; a chair could be made out of all but one of the same molecules in almost exactly the same arrangement.

It is plausible that there are many minutely different collections of plastic molecules, the members of which are collectively more-or-less arranged in the shape of a

chair in the vicinity of any plastic chair. So, it seems that there are either many chairs where we thought there was only one, or else there are no chairs there. This is an instance of the problem of the many. The reasoning apparently generalizes to other ordinary objects like cats; tables; and, if they're material, human persons.

One way of motivating the thought that there are personites and that they have moral status relies on the problem of the many. In the vicinity of perduring persons, there are many things that seem to be very similar to human persons. Each, after all, is just a fusion of person stages, and each seems to have what it takes to think and feel and plan and do all the things that persons do:

> All these personites are sums of continuous stages. Accordingly, they are ontologically on a par with the maximal sums of continuous stages that are the persons. Importantly, the personites are not ontologically derivative upon the larger sum that is the person who includes them. Moreover, these personites do not think, feel or aspire in a way that is derivative upon the whole [perduring] person's thoughts, feelings, aspirations and actions. You-up-until-midnight-tonight exhibit a perfectly good source of thought, feeling, aspiration and action. … A personite is in all intrinsic mental and physical respects just like its 'host' person over the period of existence of the personite. (Johnston 2016: 200)

If you have what's required for moral status, it seems your personites do, as well.

Showing that the argument for the moral status of personites is unsound might tell us nothing about the problem of the many reasoning for the moral status of personites. This, I think, is why Kaiserman's solution fails. Suppose that no personite is a duplicate of a possible person, as Kaiserman holds. Even if that were true, it would do little to get at the heart of the matter. What's troubling about the problem is that personites (and personites*) seem to have whatever it is that is required for moral status because they're apparently so similar to persons. Put that way, *who cares* if they are duplicates of

possible persons? Surely there are ways to have whatever it is that is required for moral status *other than* by being a duplicate of a possible person; being extremely person-like seems to suffice. That personites are extremely person-like is precisely what the problem of the many-style reasoning purports to show; showing that Johnston's argument for the moral status of personites is unsound doesn't obviously solve *that* problem.

5.3.2. The Mental Problem of the Many

An entity's having moral status is presumably not a brute fact about it but holds in virtue of other facts about it. I won't take any stand on what's required for moral status.[171] Instead, I point to some plausible necessary conditions that personites will need to meet if they are to be harmed in the ways described.

Here are some ways in which we're said to harm personites. Olson (2010) focuses on the ways in which the interests of personites and those of their persons to minimize personal harm and maximize personal benefit are often in conflict. For example, it is in the interest of my personite that will exist only during happy hour tonight to eat, drink, and be merry, but it is in my interest not to do this given that I have things I must accomplish tomorrow.

Taylor (2013) notes that the desires of personites are often frustrated. Suppose I form the desire to learn a difficult language and undertake to do so.[172] It takes years of grueling study, but I eventually become fluent. Countless personites form the desire to

[171] I intend for the discussion here to be compatible with a variety of views of the grounds of moral status. Cf. Johnston 2016: 202–3.
[172] Olson (2011: 264) and Johnston (2016: 206) both use this example.

learn the language, undertake the difficult course of study, and pass out of existence before their desire is satisfied. If I hadn't formed the desire, none of them would have had their desire frustrated.

Johnston (2016) emphasizes the unpleasant existence of many personites. For instance, were I to run a marathon this weekend, a great number of personites will exist at times only during the marathon; what a miserable existence that must be. Disturbingly, it's one that I foisted on them in pursuit of something that, perhaps, I judge to be worth my short-term sacrifice, but none of those personites will benefit in the long run.

Being capable of having interests in minimizing one's harm and maximizing one's benefit, having desires, and experiencing misery all require psychological capacities. Some of these are fairly complex, like being capable of forming the desire to learn a language, while others are comparatively less complex, like being capable of experiencing pain.

It is because personites apparently have these capacities that it is plausible that they have moral status and can be harmed in the ways described. If personites lacks these capacities, then that would be a significant difference between them and their persons and other, possible persons, and it would solve the personite problem. On this view, personites couldn't be harmed. But the problems of the many challenge us to say how personites could lack these capacities given how otherwise similar they are to their persons. They seem to think and feel and plan, just as we do.

Put this way, the problem now bears a striking resemblance to a particular version of the problem of the many, *the mental problem of the many*.[173] According to this problem, there are many things in the vicinity of a human person that seem to have what it takes to have psychological properties. Each of the many seems to have a functioning brain, for instance. Since the many are so similar to one another and to a bearer of psychological states, if the person is a bearer of psychological states, then it is plausible that each of the many is.[174] The human person is one, so it is plausible that each of the many is. This sort of reasoning can be used to argue for the claim that personites themselves have psychological properties and have the cognitive capacities required to be harmed in the ways described above. This makes them plausible candidates for having moral status.

5.4. Persons, Personites, and Psychological Properties

In this section, I offer a solution to the personite problem and argue that it gives its proponents reason to think that Johnston's argument for personites' having moral status is unsound. I argue that it also gives positive reason to think that personites don't have the sorts of capacities necessary to be harmed in the ways the personite problem

[173] See Unger 1999, 2006; Hudson 2001; and Bynoe and Jones 2013 for discussion and proposed solutions.

Unger (1999, 2006) favors substance dualism as a response to the mental problem of the many. Applied to the personite problem, the idea would be that I am a conscious subject that my personites and their sum "promote." Bynoe and Jones (2013) offer a structurally similar solution according to which I—the thing 'promoted" by all of the personites and their sum—am a novel material object, an *experiencer*.

Hudson (2001) develops a solution according to which, roughly, we are multilocated perduring objects; Hudson calls this *partism*. One might think that this could be a solution to the personite problem: each of the many personites *is the same person*. As Hudson develops partism, however, it does not solve the personite problem because it denies that any object has itself as a proper part; personites, however, are proper parts of their persons.

[174] Let a *psychological state* of an object at a time be the set of all of the psychological properties it has at that time.

purports to show. According to the solution I develop here, personites do not have psychological properties. I first introduce some background machinery (5.4.1.) and then provide a preliminary development of the solution (5.4.2.).

5.4.1. Machinery

I assume that properties are at least partly individuated by the characteristic powers they give their bearers.[175] So, for instance, the property *being soluble* gives its bearers the power to dissolve in some solvent or other. Part of what it is to be the property *being soluble* is giving its bearers this power, and any property that *doesn't* give its bearers such a power is not the property *being soluble*.

I assume, also, that psychological properties have powers to cause subsequent properties in their bearers in appropriate circumstances and are caused by previous properties of their bearers in appropriate circumstances; the properties unfold over time in a subject in the normal course of things.[176] At t_1, I form the desire for a drink. At t_2, I maintain that desire and form the belief that there is something to drink in the refrigerator. At t_3, I form the intention to go to the refrigerator to get a drink to quench my thirst. In this example, earlier psychological properties of mine cause psychological and behavioral properties in me at later times.

[175] Much of the machinery is inspired by Sydney Shoemaker's work. This assumption is weaker than Shoemaker's view, however, according to which "what makes a property the property it is, what determines its identity, is its potential for contributing to the causal powers of the things that have it" (1984: 212).

[176] Shoemaker (1984, 1999: 299ff., 2008: 315–6, e.g.) emphasizes this.

I assume, finally, that human persons are things with psychological properties essentially.[177]

5.4.2. Solution

The solution to the personite problem is that personites lack psychological properties. Because of this, POSSIBLE DUPLICATES is false, and personites cannot be harmed in the ways that Olson, Taylor, and Johnston worry.

Consider a certain psychological property. Part of what it is to be that psychological property is for it, in appropriate conditions, to cause its bearer to have certain future psychological properties. Furthermore, in appropriate circumstances, it is caused by previous psychological properties of its bearer. These are among the powers of psychological properties. They cause, and are caused by, other psychological properties of their possessors. They don't cause, and aren't caused by, psychological properties in *someone else*, but only in their bearers. Because of this, a psychological property's causing a subsequent one seems to be sufficient for the persistence of the thing with the causing property. My being thirsty, in tandem with some other psychological properties of mine, cause—who else?—me to go to the refrigerator to look for a drink. When that happens, I persist.

Some personites cease to exist before you. Such a personite presumably has the same (type) psychological property at its final moment as you do at that time if it has

[177] This traces back to Locke, who held that a person is a self, "a thinking intelligent Being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places" (Locke 1690/1975: 335). Baker (1999, 2000, 2002, 2016) and Shoemaker (1984) are among the most well-known contemporary defenders of such a view. For criticism, see Olson 1997, 2007.

psychological properties at all. In such a case, the personite ceases to exist and either (i) the properties it had at its final moment cause subsequent psychological states in some other bearer, or (ii) the properties don't cause any subsequent mental states. (i) is ruled out by the nature of psychological properties.

(ii) requires more comment. At its final moment, the person and personite are seemingly extremely similar to one another. They have the same parts and apparently many similar properties.[178]

Psychological properties don't always cause subsequent psychological states; I will presumably have a *final* psychological state in which I have a number of different psychological properties, but they won't cause subsequent properties. Why don't they cause subsequent sates? Well, *appropriate circumstances* have to obtain to allow the properties to manifest their powers and cause subsequent psychological states. Similarly, for psychological states to be caused, appropriate circumstances must have obtained in the past. When appropriate circumstances obtain and there's no funny business, like God's intervention, say, psychological properties cause, and are caused by, psychological properties of their bearer.

Now, consider the person and the personite at the final moment of the personite's existence. The person is in appropriate circumstances; its psychological states cause subsequent psychological states. The person continues to exist because its psychological states cause subsequent psychological states, the bearer of which is the person. It's hard

[178] There will be some things that have *almost* all of the same parts as you at different times but which persist for less time than you. For instance, consider all of you from your tenth birthday to your twentieth minus, say, your heart. Strictly speaking, this is not a personite because it is not a proper temporal part of you, but it does seem to have everything required to have moral status. I return to these sorts of entities below.

to say what, exactly, the appropriate circumstances include, but they obtain in the case of the person. Perhaps among the appropriate circumstances is the persistence of a functioning cerebrum in such-and-such states. Whatever, exactly, is required, given the similarity between the person and the personite, the personite is presumably also in appropriate circumstances for its final psychological state to cause subsequent states and for it to continue to exist. Nothing seems to happen to disrupt the would-be causal chain and the manifestation of the powers of the properties. The appropriate circumstances apparently obtain. But the personite's final putative psychological state doesn't cause subsequent psychological states in that personite; it doesn't exist afterward. Psychological properties have the power to cause subsequent states in their bearers in appropriate circumstances. The appropriate circumstances apparently obtain since I persist. So, the personite's final state isn't a psychological state, after all.

Now, consider the penultimate psychological state of the personite. If it is a psychological state, it causes subsequent psychological states in its bearer in appropriate circumstances. But, given an argument obviously parallel to the one above, we can see that it doesn't cause a subsequent psychological state, despite the personite's being in otherwise appropriate circumstances because its person is in such circumstances at that time. So, the penultimate state of the personite is not a psychological state. This argument generalizes to all of the personite's putative psychological states and applies to all personites that cease to exist before their persons.[179]

[179] An obvious difference between the person and the personite is that the person, but not the personite, continues to exist. Mightn't this be the relevant difference? On this view, the person, but not the personite, has subsequent psychological states because the former, but not the latter, continues to exist to have those psychological states. So, only the former is in appropriate circumstances.

Some of our personites come into existence after us. Consider a personite of mine that came into existence five minutes ago and its first, putatively psychological state. Presumably it has all of the same (type) beliefs and desires as I have at that time when it comes into existence if it has any psychological properties at all. Part of what it is to be the psychological properties in that psychological state is to be caused by previous properties in the subject in appropriate circumstances. The appropriate circumstances apparently obtain; I existed prior to the personite, my previous psychological properties caused the psychological state I had at the time the personite comes into existence, and the personite and I are very similar when it comes into existence. If it has psychological properties, everything obtains for them to be caused caused by earlier psychological properties. If the personite had psychological properties when it came into existence, they could not have been caused by my psychological properties or the psychological properties of anything else. In appropriate circumstances, such properties are caused by previous properties *of the same subject* who has them. The appropriate circumstances obtain, and the personite doesn't exist prior to its coming into existence to be the subject of those properties. So, that initial state of the personite isn't a psychological state. Subsequent states of it aren't psychological, either, by parallel reasoning. This reasoning applies to the states of all personites that come into existence after their persons.

This cannot be a relevant difference in circumstances. Precisely what we're trying to explain is why the personite's putative final psychological state doesn't cause subsequent psychological states, i.e. why the personite ceases to exist, when the person's psychological states do cause subsequent psychological states.

Every personite either comes into existence after its person or ceases to exist before its person. Some have both features. Given the arguments above, no personite has psychological states.[180]

This gives us a response to Johnston's argument for the moral status of personites. Persons and personites differ in whether they have psychological properties. Persons have psychological properties, but personites lack them. Duplicates cannot differ in these ways. Therefore, no possible person is a duplicate of a personite; POSSIBLE DUPLICATES is false.

In addition, the argument gives us a positive reason for thinking that personites don't satisfy necessary conditions for being harmed in the ways the personite problem purports to show by giving us a response to the mental problem of the many. Personites lack psychological properties because their properties don't have the right sorts of powers to be psychological properties. It appears, then, that the person is special in comparison to

[180] There are some other things that, strictly speaking, aren't personites, but still raise the same sorts of problems. There are those things that are proper parts of you, persist for less time than you, but are not proper temporal parts of you, e.g. all of you minus your right hand from when you came into existence up until your tenth birthday. These are fusions of personites*.

The properties of these also lack appropriate powers to be psychological properties. Some will not persist for as long as you. The above arguments apply to them. Others, perhaps, *will* persist as long as you do, and no longer.

The powers of psychological properties not only have consequences for what will actually happen to it, but also for what would happen in other circumstances. Suppose all of you minus your left hand, i.e. your *left-hand complement*, actually persists for as long as you do; the fusion of its parts would be a fusion of personites* of yours. Were you to lose your left hand, I say that your left-hand complement would cease to exist and you would become smaller. In this case, if I'm right, your left-hand complement wouldn't persist, but you would. So, your left-hand complement's possible final state wouldn't cause subsequent states despite the circumstances being appropriate for this to happen; the bearers of psychological states aren't destroyed by the loss of a hand, and the loss of a hand doesn't seem to affect whether subsequent psychological properties will be caused. I assume that the properties your left-hand complement actually has are the same as it has in the possible world in which it ceases to exist before you do. Its properties shouldn't change from world-to-world depending on what will happen to it at that world. A glass doesn't change from fragile to not depending on whether it will actually break or not. Thus, whatever properties your left-hand complement actually has, they are not psychological properties. For discussion of a similar case, see OBJECTION 4 in 5.5, below.

its personites; only it has psychological properties. If all of this is right, then personites cannot be harmed in the ways that Olson, Taylor, and Johnston worry. This solves the personite problem.

That's a preliminary sketch of the view. In the next section, I respond to objections and develop the view in more detail.

5.5. Objections, Replies, and Additional Developments

OBJECTION 1: Taylor (2013: 1112) argues against a solution to the problem on which personites do not have psychological properties because they have inappropriate persistence conditions:

> [W]hile many critics and advocates of [perdurantism] might agree that minimal [personites] are too short-lived to play the characteristic functional roles of mental states, it is much less obvious that extended [personites] cannot do so. At best, the functionalist argument will only eliminate minimal [personites] and extended [personites] at the minimal end of the extended spectrum as subjects of desire. (2013: 1112)

I have argued that the temporal extent of personites isn't the issue, but it's worth considering this objection to distinguish it from something that it is sometimes confused with.

Consider my personite that came into existence with me and will exist for all but the final second of my life. It appears that Taylor takes the personite to be long-lived enough to have psychological properties, whereas he grants that very short-lived personites lack these properties.[181]

[181] Thomson (1997: 211) expresses incredulity that "point-duration temporal slices of bodies believe things or want things." As I read Taylor, he is granting that this is implausible. However, see Hawley 2001: 64ff.

The obstacle to personites' having psychological properties, I say, is not a matter of their temporal extent. Rather, personites lack psychological properties because their states don't cause, or aren't caused by, psychological states in appropriate circumstances.

OBJECTION 2: How can something's moral status depend on "what happened *after* it ceased to exist?" (Johnston 2016: 201). If I die this afternoon, a personite of mine would be a person and thus have moral status. But how could moral status depend on this?

The idea here is that a personite of mine would come to have moral status were I to persist for less time than I actually do. So, for instance, were I to cease to exist this afternoon, it might seem that my personite that came into existence when I did and actually persists until this afternoon would have moral status. I suggest the perdurantist say that no personite is something that would have been a person had its person have had the same temporal extent as it; persons have psychological properties essentially, and no personite has such properties. But then what happens in the (hopefully) merely possible case where I cease to exist this afternoon?

Apparently, fusions could have had different parts than they actually do.[182] For instance, I could have had a haircut today and thus have had different parts now than I

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for an exdurantist response to Thomson according to which stages can have psychological properties in virtue of standing in appropriate relations to other stages.

[182] It is sometimes claimed, or at least suggested, that fusions have their parts of necessity. Van Inwagen (2006: fn. 1) supplies and discusses several examples of philosophers who seem to hold that wholes have their parts of necessity. Mereology, at least as standardly presented, doesn't say anything about modality, as Caplan and Matheson (2006: 67–8), for example, note; Caplan and Matheson (2006: 67 fn. 22) credit John Hawthorne and Kris McDaniel for discussion on this point. See, also, van Inwagen 2006. Uzquiano (2014)

actually do. I'm a fusion. So, some fusions could have had different parts than they actually do. Or, I could have been born without a left hand. In that case, certain actual parts of me wouldn't exist, viz. the parts of my left hand, but I would still exist. I wouldn't be identical to my left-hand complement, however; in this case, I would be identical to myself, but that proper part of me would not exist. On analogy, in response to Johnston's objection, I say that some actual personites of mine would not have existed in the situation in which my temporal extent is shorter than it actually is. Thus, the status of the personite doesn't depend on what happens after it ceases to exist; I would still have moral status, and it wouldn't have existed in such a circumstance.

OBJECTION 3: If stages and personites don't think, how do persons think? On standard developments of perdurantism, many properties of perduring objects are properties of their stages at different times. For instance, I am seated because my current person stage is seated. Analogously, one might think that I am thinking about personites in virtue of my current stage's thinking about personites. This is Lewis's view, for instance. In the case of temporary coincidence, Lewis (1983: 74) holds that a "shared stage"—a stage that is a proper part of two persons that later undergo fission—"does the thinking for both." More generally, Lewis (1983: 76) holds that a stage "does many of the same things that a person does: it talks and walks and thinks, it has beliefs and desires, it has size and shape and location."

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considers a way of strengthening unrestricted composition to get the result that fusions have their parts of necessity.

On the view developed here, person stages and personites don't think because they lack psychological properties. But, if they *don't* think, then my thinking about personites right now is not a property I have in virtue of their thinking about personites. In virtue of what do I have this property?

We persons think *partly* in virtue of properties of our stages, but the properties had by our stages are not properties like *thinking about personites*. Instead, the properties had by our stages are properties like *having as a part a temporal part of a cerebrum in such-and-such state* (Φ). Persons and their personites have such properties, but, I've argued, personites don't think. How can this be? What are personites missing?

Personites don't have properties that cause appropriate subsequent properties in their bearers in appropriate circumstances, nor do they have appropriate properties caused by previous properties in appropriate circumstances. The causal powers of the properties they do have are different than those of psychological properties. Because of this, although personites can have properties like Φ, they lack psychological properties; having psychological properties requires not only having properties like Φ, but also having properties that cause the right sorts of subsequent states in appropriate circumstances.

Something that has properties like Φ at different times *and* properties that cause appropriate successor properties in appropriate circumstances has psychological properties. It is in virtue of our parts' having properties like Φ *and* in virtue of our states' causing, and being caused by, appropriate states in appropriate circumstances that we have the property *thinking about personites* at a time.

Because stages do not think, we cannot follow Lewis's stage-to-person explanation of persons' possession of psychological properties.[183] Furthermore, given that we *change* our psychological properties over time, these psychological properties will need to be something like relations that persons bear to times. For example, I bear the *thinking about personites* relation to t_1, the *not thinking about personites* relation to t_2, etc.[184]

OBJECTION 4: If stages don't think, then how are we to understand psychological continuity? Johnston holds that it is a requirement on a

> mental or psychological continuity account of personal identity … to be even so much as *expressible* in the [perdurantist] framework [that, i]f shorter-lived person-like things are to stand in relations of mental continuity they must be the bearers of mental states, or at the very least states intrinsically like mental states. (Johnston 2017: 627)

We can treat psychological continuity as a relation that holds in virtue of the relations among persons' psychological properties at different times. So, for instance, person P_1 exists at t_1, and person P_2 exists at t_2. A psychological continuity account of

[183] Lewis (1986: 126 fn. 8) says that his "view makes it fair to think of the desires as belonging in the first instance to my present stage, and derivatively to the persisting sum of many stages."

[184] Lewis (1986: 203–4) argues for perdurantism on the basis of *the problem of temporary intrinsics*. Objects change their *intrinsic properties*, i.e. properties, roughly, that those objects have in virtue of the way they are in themselves. The challenge here is to make sense of how an object can change such properties. The perdurantism developed here, however, fits somewhat awkwardly with this motivation for perdurantism, as it requires saying that psychological properties are *not* intrinsic properties, at least by Lewis's (1986: 203) lights, for they are "disguised relations" to times.

A few things can be said here. First, not *all* apparently intrinsic properties need to be treated this way. Shape, for instance, can continue to be a temporary intrinsic property. Second, I confess to not having any intuition about whether psychological properties are intrinsic properties or not, so I'm willing to let this be a case of spoils to the victor. Third, there are other motivations for perdurantism available to would-be perdurantists; see, for instance, Sider 2001: chapters 4 and 5. Fourth, it's not obvious that treating these features of objects as relations to times really militates against their intrinsicality. On this last point, see Haslanger 1989 and Wasserman 2003.

personal identity will tell us what is required for P_1 and P_2 to be the same person: for psychological continuity accounts, whether P_1 and P_2 are the same person will be a matter of some sort of continued psychological connection from P_1's psychological properties at t_1 to P_2's psychological properties at t_2.

Recall the example of how powers of psychological properties develop over time. At t_1, I form the desire for a drink. At t_2, I maintain that desire and form the belief that there is something to drink in the refrigerator. At t_3, I form the intention to go to the refrigerator to quench my thirst.

This example illustrates instances of *psychological connectedness*, a relation that holds between consecutive psychological states of a person. Psychological states at t_1 cause psychological states at t_2. Psychological states at t_2 cause psychological states at t_3. These causal relations between one psychological state and the next are instances of psychological connectedness. The ancestral of psychological connectedness is *psychological continuity*. Psychological continuity needn't be understood as a relation among stages but can instead be understood as a relation among psychological states of persons.

More can be said about psychological continuity. Psychological continuity, on this view, consists in the generation of psychological states in the bearer in appropriate circumstances:

> When mental states play their functional roles they generate successor states in the same subject, which in playing *their* functional roles produce what are successor states for them, and so on. This generates a series of mental states and accompanying behavior that is characterized by the fact that it consists in the playing out of the functional roles of the states involved in it. This will include the generation of memories, with the

> result that the series exhibits memory continuity. It will include the preservation of beliefs, desires, preferences, character traits, etc., it being part of the functional role of such states that ceteris paribus they are self-perpetuating. … In short, the series will exhibit all of the sorts of psychological connectedness and continuity that have been thought to constitute the persistence of mental subjects. (Shoemaker 2008: 316, emphasis in original)

The idea here is that psychological continuity is the regular way that psychological states tend to cause, and be caused by, other psychological states in their bearers in appropriate circumstances. These psychological states are not states of stages or of personites, but of persons; stages and personites do not have psychological states.

OBJECTION 5: This view is a *reductionist view* about personal identity. Such views hold that facts about personal identity obtain in virtue of facts *not* about persons, but about other entities, e.g. brains, bodies, beliefs, etc.[185] According to the view developed here, facts about personal identity obtain in virtue of persons' psychological properties causing subsequent psychological properties. This is what psychological continuity consists in.

Reductionist psychological views hold that there's some degree of connectedness between persons at different times that is required for those persons to be the same person.[186] Not just any amount of connectedness will do, however. For instance, suppose my current set of psychological properties, in tandem with getting hit in the head, causes a radically different set of psychological properties at the next moment. There's some

[185] See Parfit 1984: 210–11, especially, for discussion.
[186] The literature here is huge. Locke (1690/1975: 335ff.), of course, held such a view. Important for the purposes of this chapter are Shoemaker 1984 and Parfit 1984.

causal connection between one set of psychological properties and the next, but perhaps it isn't enough or of the right sort; the sets are radically different, after all, and this certainly isn't the way that a psychology typically develops over time or how the development is typically caused. Perhaps I don't survive this.

Let's call the special relations of connectedness and continuity described in reply to the previous objection D_0 and R_0, respectively. In the head injury case, let's suppose that D_0 doesn't hold between the set of pre-injury psychological properties and the set of post-injury psychological properties, so the persons at these times aren't psychologically continuous, i.e. they don't stand in the ancestral of D_0, R_0.

But what degree of connectedness is required for persistence? No matter what degree reductionists settle on, Johnston (2016: 220) thinks, it is "arbitrary":

> By arbitrariness I do not mean to focus on the imposition of a sharp-cut-off point on a continuous, or near continuous, phenomenon. … By emphasizing the arbitrariness of any specific account of 'enough', I mean to highlight its *lack of ontological distinction* relative to alternative specific accounts of 'enough'. (Johnston 2016: 220, emphasis in original)

Consider, for instance, what we might call a more demanding degree of connectedness, D_1; suppose it requires fewer, more gradual change in subsequent sets of psychological properties. Let R_1 be the ancestral of D_1. Johnston would regard R_1 as an alternative notion of psychological continuity; it is more demanding than R_0, so that things that are R_0-continuous can persist through changes that things that are R_1-continuous cannot.

The objection has two parts. First, there appears to be nothing *ontologically special* about the particular degree of connectedness, D_0, that's said to be necessary for psychological persistence. Instead, there appear to be different, more-or-less demanding

degrees of connectedness and continuity. Because of this, there seems to be no way to single out D_0 or R_0 for special treatment as being *the* relation of psychological continuity that matters for persistence.

Second, if there are all of these different psychological persistence conditions, there seems to be lots of similar things in our vicinity, united by different degrees of psychological continuity. If there are personites, the states of which are so related, then these personites will have psychological properties, and the solution I've offered will fail.

Note that being so related *requires* having such properties, as these stricter relations of psychological continuity are to hold among entities' psychological states at different times. I argue that R_0 is special in the sense that it, and it alone, is *the* relation of psychological continuity; there are no personites with psychological states that are related by the other relations. R_1 and the other relations are supposed to be relations of *psychological* continuity that hold among psychological states of personites; for the states of personites to be so related, the states that are so related must be psychological states. Suppose that there is a personite of mine that has R_1 as its persistence conditions; that it persists from my first moment through all but my last; and that it has psychological states. Consider the personite's psychological states at its final moment. (These would be the same (type) psychological states I have at my penultimate moment.) Since I survive the personite's final moment, the putatively psychological states of the personite are in appropriate circumstances to cause subsequent states if they're psychological states. But they don't. So, they cannot be psychological states. A parallel argument shows that the personite's penultimate, putatively psychological state is not a psychological state, either.

Additional parallel arguments show that none of the personite's putatively psychological states are psychological states. Finally, obviously parallel arguments show that those personites of ours that come into existence after us cannot be united by other relations of psychological continuity.

We can now see that these supposedly alternative relations of psychological continuity are not relations of *psychological* continuity at all. If they are to be relations of psychological continuity, they must hold among the psychological states of things. However, states that are so related are not psychological states. R_0 is ontologically special, and nothing is related by alternative "psychological" continuity relations.

5.6. Separating Out Ontological Trash

Recall that Johnston (2016: 216) suggests that the personite problem arises for those views on which "we are 'ontological trash'." This suggestion has been borne out by the detour through some problems of the many. The personite problem arises because there seem to be so many things in our vicinity that seem to have what's necessary to be harmed in certain ways. There appears to be nothing ontologically special about us in comparison to our personites.

Johnston (2016: 200) maintains that our personites have psychological properties: "You-up-until-midnight-tonight exhibit a perfectly good source of thought, feeling, aspiration and action. … A personite is in all intrinsic mental and physical respects just like its 'host' person over the period of existence of the personite." I have argued that this is false.

We are not ontological trash. We are distinguished from our personites by our having psychological properties and their lacking them. Personites lack psychological properties because their states do not cause, or are not caused by, appropriate psychological states in appropriate circumstances. Because personites lack psychological properties, no personite is an intrinsic duplicate of a possible person. Therefore, POSSIBLE DUPLICATES is false and Johnston's argument for the moral status of personites is unsound.

Furthermore, this is a difference that plausibly matters for moral status. It not only gives us a way to avoid Johnston's argument, but it shows u how to resist the problem of the many reasoning. We can solve the personite problem. Because having psychological properties is required for being capable of being harmed in the ways that the personite problem threatens to show that personites are harmed, there is no reason to think that personites are harmed in the ways that Olson, Taylor, and Johnston worry.

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