

Part-Intrinsicality

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In some sense, survival seems to be an intrinsic matter. Whether or not you survive some event seems to depend on what goes on with *you yourself*—what happens in the environment shouldn't make a difference. Likewise, *being a person at a time* seems intrinsic.

The principle that survival seems intrinsic is one factor which makes *personal fission* puzzles so awkward. Fission scenarios present cases where if survival is an intrinsic matter, it appears that an individual could survive *twice over*.

But it's well known that standard notions of "intrinsicality" won't do to articulate the sense in which survival is intrinsic, since 'personhood' appears to be a maximal property. We formulate a sense in which survival and personhood (and perhaps other maximal properties) may be *almost* intrinsic—a sense that would suffice, for example, to ground fission arguments. It turns out that this notion of almost-intrinsicality allows us to formulate a new version of the problem of the many.

The initial presentation takes place within a perdurantist metaphysics of persistence and persons. But the final section shows how to generalize the discussion: in particular to *endurance* theories of persistence and *constitution* theories of persons.

1 The prima facie fission puzzle

Consider a case of personal *fission*—a case where, to all appearances, *one* person becomes *two*. How exactly to set up an apparent case of fission will depend on what sort of subvening conditions you think underpin personal survival.

To fix ideas, let's work with broadly *psychological* accounts of personal identity. Fission scenarios can be created by considering *teleportation*. A teleportation case is one where a person's psychological states are coded up and wired across to Mars. Call this person Original. Original's body is destroyed on Earth, and a replica constructed on Mars into which her psychological states are downloaded. The person in the replica-body (Successor) has a good claim to be *the same person* as Original, transported a great distance through space. Successor's psychological states exactly replicate those of Original, and her states at the moment of her appearance on Mars are caused in reliable ways by Original's psychological states at the last moment of her existence on Earth. For one who thinks that what constitutes personal identity over time is (causally connected) connection and continuity of psychological states, there is overwhelming pressure to say that Original survives the teleportation experience as Successor.

Notoriously, this leads to 'fission' puzzles. The relations Original stands in to Successor can apparently be reduplicated. On Mars, replica bodies could be created, and Original's psychological states downloaded into each (creating persons Successor₁ and Successor₂). The result: Successor₁ and Successor₂ would each have a strong claim to be Original. *Prima facie*, psychological theories of personal identity commit us to *double survival* in such a double teleportation

case.¹

As many have noted the same kind of *prima facie* case for double survival can be made in the context of other treatments of personal identity. Suppose, for example, that what constitutes personal identity is the material continuity of a functioning brain. Then, parallel to teleportation cases, one can construct cases where half a brain is destroyed, and implanted into a new host body. Like the single-teleportation case, there's pressure on the brain-continuity theorist to regard this as a case of survival. We then consider split-brain cases where two halves of the brain are separated and implanted into new host bodies: a *double implant* case. Again, given that each implanted individual stands in relations to Original matching those in the single-implant case, there's pressure to regard double implant cases as cases of double survival.

Many have thought that there's something disturbing—even *logically* disturbing—about the thought that Original can doubly survive in the double teleportation setting. But if two persons—Successor₁ and Successor₂—preexist the teleportation experience, and if there is only one person—Original—in the vicinity before the teleportation occurs, then it appears that double survival is the only option.²

But if we *deny* that double survival occurs in the double teleportation case, then we're faced with sticky options. Is single teleportation also not a way of surviving? What then becomes of the criterion of personal identity that seemed to tell us that it *was* a way of surviving. Or should we treat single and double teleportation differently—regarding the first as a mode of survival, and the latter as a mode of death? This option too seems hard to swallow. For it seems that the relations between Original and Successor₁, for example, exactly match those between Original and Successor in the single teleportation case. That Original stands in some other relation to another individual—Successor₂—in the double teleportation case seems entirely irrelevant to the question of the identity or non-identity of Original and that individual playing the Successor role.

2 Formulating the fission puzzle

The puzzle that fission cases pose, I think, is best seen as resting on the fact that a number of apparently compelling premises are jointly inconsistent. Each thought-through theory of personal identity has its own suggestion of which premise to deny. We can formulate this as follows (where *a* is the original, single-teleportation case, and *b* is the altered, double-teleportation case):

1. The teleportation events in cases *a* and *b* are duplicates.
2. In case *a*, someone survives the teleportation event.
3. In case *b*, noone survives the teleportation event.
4. “survival is an intrinsic matter”

The argument, very roughly, is this. In *a*, someone survives the teleportation event (premise 2). Any intrinsic feature of an event is possessed by every duplicate of that event. Case *b* contains a duplicate of that event (premise 1). Hence, if supporting-a-surviving person is an

¹Of course, psychological theorists might formulate their views specifically to avoid this result. Cf. the ‘non-branching’ clauses in Parfit (1984).

²The *co-occupancy* response admits that there are two persons who survive teleportation, but says that there are also two persons who pre-existed teleportation, albeit colocated. So we have double survival in one sense (two persons survive) but not in another (there is no individual who survives “twice over”).

intrinsic feature of that event, then the teleportation event in case *b* should support the survival of a person. But that conditional contradicts the combination of premises 3 and 4: that “survival is intrinsic” (i.e. supporting-a-surviving-person would be an intrinsic feature of teleportation events) (premise 4) and noone survives the teleportation event in *b* (premise 3).

We can sort responses to the fission example by the route they choose out of this tetrad. Some might question the possibility of finding truly *duplicate* pairs in these scenarios (denying premise 1). One version of this would be to think that survival is *sui generis* relation obtaining between stages, so that even if teleportation events were *microphysical* duplicates, they are not duplicates *simpliciter*, simply in virtue of their difference as to what persons survive the experience.

Some might think that teleportation is an event we cannot survive (denying premise 2). This was the reaction to parallel cases that Williams (1970) favoured when he introduced them into the contemporary debate. If we fixed upon *teleportation* alone, the reaction is understandable, but as already noted, parallel cases can be cooked up for many different accounts of personal identity.

Some might argue that one can survive the teleportation in case *b*. Since it makes no difference which of the two *b*-teleportations we run the argument on, presumably this means that in case *b* we survive twice over (denying premise 3). Lewis (1976) defends ‘double survival’ on these grounds. Parfit (1984) also offers something like this response, but on the proviso that the relevant sense of ‘survival’ not be taken to imply personal *identity*.

Finally one can deny that survival is an “intrinsic relation”. The most dramatic instance of this is Nozick’s closest-continuant theories of persistence. Parfit (1984) suggests that criterion of personal survival *in the identity-implying sense* should include a ‘no branches’ clause that would have the effect of retaining premises 1-3 but making personal identity an extrinsic relationship. Some are tempted by the view that Original survives the fission case—but that there is *no fact of the matter* whether who she survives as; that it is vague whether Original survives as Successor₁ or rather Successor₂. If this is the right response, it will also be the case that Original is (determinately) *distinct* from one or other of either Successor₁ or Successor₂. Since Original’s relations to each duplicate her relation to Successor in the single-teleportation case, this response too involves giving up premise (4).

This paper will not attempt to arbitrate between the competing sides of this debate. It concerns, rather, is to formulate precisely what all sides can agree on: the inconsistency of (1-4). In particular, I will focus on the notions of ‘duplication’ and ‘intrinsicity’ it configures. Unless we find a reading of (4) on which it is plausibly true, the broad *class* of fission-based arguments for interesting conclusions in personal identity will be obviously flawed. Even those theorists who will ultimately deny (4) have an interest in finding a plausible formulation, in order to articulate and diagnose the discomfort many feel in accepting their accounts.

3 The perdurantist framework

It will help to work at first within the bounds of a definite metaphysics of time and persistence. I choose to work within a *four-dimensionalist, perdurantist* framework of the kind advocated, for example, by Lewis (1986). I shall assume that the past and future (tenselessly) exist, and that what it is for a hunk of matter to persist from *t* to *t'*, is for that thing to have *temporal parts* which are located respectively at *t* and *t'*. I shall also assume unrestricted composition of material things, and arbitrary division of material things into parts.³ Finally, I will assume

³See Simons (1987) for discussion of varieties of mereology in general, and Sider (2001b) for defence of the principles here invoked.

that persons are (suitably complex, interesting) hunks of matter—and further, that at a given time, human persons spatially coincide with those hunks of matter that are (at that time) human animals.⁴ I will turn to the question of how the discussion survives translation into alternative settings at the end of the paper.

Given this background, persisting material things come cheap. For example, in the double teleportation case, there are an array of pre-teleportation person-stages, and also two sets of post-teleportation person-stages. By unrestricted composition, there exists a fusion of the pre-teleportation person-stages and one of the arrays of post-teleportation person-stages. By the perdurantist analysis of persistence, this fusion persists through the teleportation event. The kind of material ontology we are working with allows for all sorts of ‘junk’ hunks of matter—fusions of hind legs of donkeys and slices of the Eiffel tower, for example. The real question is whether any *person* persists through the double teleportation event—and this is a matter on which parties who agree on the distribution of hunks of matter across space-time can disagree.

One advantage of working within this framework is it makes salient a candidate explication of what ‘survival is intrinsic’ might amount to. On the perdurantist way of thinking, for a person-stage *a* to stand in the survival-relation to person-stage *b* is for there to exist a four dimensional continuant—a person—of whom *a* and *b* are maximal temporal stages. As information about survival is carried by facts about which continuants count as persons, the natural way to cash out the thought that “survival is intrinsic” in this setting is as the claim that *being a person* is an intrinsic property of four-dimensional continuants. But to understand exactly what this claim says, and how it fits together with the argument-sketch given earlier, we need to fix on an account of intrinsicity, duplication and their interrelations.

4 Intrinsicity and duplication

Intrinsicity and duplication are intimately related—a fact that is exploited by the fission argument. One might attempt to exploit such connections in an attempt to analyze one notion in terms of the other. I shall first set out some *standard connections* between the notions, and then adapt these connections to characterize notions particularly relevant to the present debate.⁵

Granted a notion of duplication, we can characterize the notion of *intrinsic possession* of a property:

x possesses F intrinsically iff every (possible) duplicate of x is F

Intrinsic possession of properties then relates to intrinsicness simpliciter as follows:

F is intrinsic iff every (possible) x which is F possesses F intrinsically

Consider the property of being *either spherical or sitting beside someone’s aunt*. Arguably, this will be a property possessed intrinsically by spheres. But it is also a property that I can have if I happen to sit down next to someone who is someone’s aunt—but I do not in such circumstances possess the property intrinsically. Thus the disjunctive property just given (as opposed to the simple property *being a sphere*) is not itself intrinsic.

The standard connections might be regarded as a *reduction* of intrinsicness to the more primitive relation of duplication (and possibilist quantification). Lewis (1986) suggests we take

⁴Alternatives are possible even for those in sympathy with identifying persons with hunks of matter. See for example, Hudson (2001), who argues that a human person is a material object located somewhere ‘under the skin’ of the human animal.

⁵See Lewis (1983) for a classical discussion of these connections, and Weatherson (2004) for further references and a survey of various options.

them in this spirit. He further suggests that duplication itself be analyzed in terms of a more primitive notion of *sharing of properties*.⁶ In particular, two objects *A* and *B* are duplicates in the isomorphic-copy sense, iff one can match up the parts of *A* and *B*, so that whenever a part of *A* instantiates a ‘fundamental’ or ‘perfectly natural’ property, or stand in a ‘fundamental’ relation, the corresponding parts of *B* have those properties, and stand in those relations. Lewis thought that the fundamental properties in the actual world would be those described by completed microphysics—and the fundamental relations would be spatio-temporal ones. We can break this down into two steps:

A and *B* are *R*-duplicates iff there is a one-one mapping ϕ from parts of *A* onto parts of *B*, such that for every *n*-adic relation *r* in *R*, parts a_1, \dots, a_n of *A* stand in *r* iff parts $\phi(a_1), \dots, \phi(a_n)$ of *B* stand in *r*

A and *B* are duplicates (*simpliciter*) iff they are *R*-duplicates where *R* is the class of fundamental or perfectly natural properties and relations

Lewis’s ‘isomorphic copy’ characterization of duplication *simpliciter* draws on controversial resources. But for present purposes we needn’t engage with the claim that the one true notion of duplication can be given by focussing on isomorphic copying with respect to some privileged class of ‘fundamental’ properties and relations. The Lewis pattern of explications, from a range of properties *R* to *R*-duplication (via the isomorphic-copy principle) and from *R*-duplication to a relativized notion of *R*-intrinsicity (via a modality or range of possibilities, *M*) is available to make *relativized* notions of intrinsicity available to anyone.

For example, let us simply fix by stipulation that the kind of duplication we’re after is *microphysical* duplication—the isomorphic copying of microphysical properties (and spatio-temporal relations). And let’s fix by stipulation that we’re only interested in *nomically possible* individuals. We can then ask the question: is consciousness (say) an intrinsic property in a *nomological, microphysical* sense? This question can then be understood via relativizations of the standard characterizations: whether there can be a pair of nomologically possible individuals, exactly microphysically alike, such that one is conscious and the other is not? A dualist like Chalmers (1996) might regard this as a substantive question, one on which best theory could go either way. But someone like Chalmers may well regard consciousness as a non-microphysical fundamental property. So if we asked whether consciousness was intrinsic in Lewis’s sense—with intrinsicity based on the notion of isomorphic *fundamental* copies—the answer would be that consciousness was *trivially* intrinsic. On that reading, part of what it is for a pair of objects to be (unrestrictedly) duplicates is for them to either both share or both lack the fundamental property of consciousness.⁷

I think the fission argument is best seen as appealing to a relativized notion of intrinsicity. Consider, for example, what happens to Lewis’s definitions if *personhood* were itself a ‘perfectly natural’ property. Trivially, by the isomorphic-fundamental-copy test, any duplicate of any person would have to be a person. So, by the standard connections, the claim that being a person is an intrinsic property would be trivially true.⁸

⁶In later work with Rae Langton (Langton & Lewis, 1998), Lewis attempted alternative definitions of duplication, on more minimal resources. This brought out a storm of protest (cf. Weatherson (2004) for references). But Lewis never to my knowledge disclaimed the original proposal.

⁷Likewise, the partially restricted question: is consciousness *metaphysically* microphysically intrinsic will be quickly answered in the negative by a Chalmersian dualist: my Zombie twin will be a microphysical duplicate of me that is non-conscious. For Chalmers such beings are metaphysically but not nomologically possible. So amongst those we have considered, only the doubly relativized intrinsicity question remains an open question.

⁸In particular, the counterexamples to intrinsicity I will suggest below simply won’t have purchase on this version.

Now compare this to our original argument. Premise (1) asked us to concede that the single and double teleportation cases involved duplicate teleportation events. The intuitive support for that came from the idea that the pattern of basic physical and psychological properties characterizing and relating pre- and post-teleportation person-stages is exactly the same in both cases. But even if the situations are isomorphic copies of one another as regards (micro)physical and psychological patterns, if *personhood* itself must be preserved for the entities to count as exact copies, then until we have decided whether persons survive in each of single and double teleportation cases, we have no grounds for endorsing premise (1).

What seems plausible is that the persisting entities in teleportation and double teleportation cases are *microphysical duplicates*. I don't think we need to go further than this and claims that such entities are duplicates *simpliciter*. Rather, we should strengthen premise (4) so that it becomes non-trivial even for one who thinks that personhood is fundamental. For that, we need claim that personhood is intrinsic in a relativized sense: that personhood is *microphysically intrinsic*, where microphysical intrinsicity is connected, via the analogue of the standard connections, to microphysical duplication. So framed, the argument for the inconsistency of (1)-(4) is valid; and the fourth premise regains its place as the proper locus of philosophical dispute.

I also think that the claim should be that personhood is *nomologically* microphysically intrinsic rather than metaphysically microphysically so. That is, we should only demand that personhood be invariant among nomologically possible duplicates of persons, not any metaphysically possible duplicates. One general reason for this is that we want to consider the strongest argument in the vicinity, and making the claim that personhood is metaphysically (microphysically) intrinsic is needlessly strong.⁹ There are also three specific reasons for favouring the restriction. First: given that phenomenal events *nomologically supervene* on physical ones, restricting attention to nomological duplicates means that we needn't worry about possible 'Zombie twins' of persons who duplicate physical but not phenomenal properties.¹⁰ Second: various 'recombination' accounts of modality would insist, if personhood is and microphysical properties are fundamental, that they be 'freely recombinable'—which might give us a cheap violation of microphysical intrinsicity with modality construed broadly.¹¹ Formulating microphysical intrinsicity in terms of nomological possibility avoids such worries. Finally: Wasserman (2005) argues that personhood might turn out to be extrinsic *in virtue of depending on laws and causal relations* that—on certain Humean views—would always be extrinsic to the entities in question. Restriction to nomological possibilities allows us to set aside such general worries too.

We now have a notion that is suited to play the 'survival is intrinsic' role in our original argument. Our first premise tells us that the entities that the hunks of matter that persist through teleportation in cases *a* and *b* are (microphysical) duplicates. Our final premise tells us that personhood is (nomically, microphysically) intrinsic—so that a pair of (nomically possible) microphysical duplicates are either both persons, or neither is. Given these, the teleportation entities in *a* and *b* cannot differ over whether they are persisting persons—but this difference is exactly what premises 2 and 3 tells us we have. So the argument goes through nicely.

⁹However, we do have to add another tacit premise—that the single and double teleportation cases are nomologically possible. Let us simply suppose that they are.

¹⁰Of course, there are well known concerns about whether the individuation of psychological events can be detached from the *person* those events pertain to, familiar from objections to reductionist psychological accounts of personal identity. *Related concern here.*

¹¹See Dorr (2004) for discussion of recombination principles and the surprising conclusions they may generate. See Williams (2007) for discussion of nomologically structured universals. Of course, one might well think that recombination principles are just implausible when combined with the kind of 'macro-properties' principle here. I won't consider this further here.

5 Maximality and intrinsicity

The thesis that *personhood* is nomologically, microphysically intrinsic is attractive, as is the synchronic analogue: that *being a person at a time* is an intrinsic property of persons at times (in official perdurantist ideology: *being a person-stage* is an intrinsic property).

I think there's something *right* about this off-the-cuff reaction, in both synchronic and diachronic cases. It's no accident that, in normal circumstances, personhood doesn't seem to differ between duplicates, at-a-time or over-time. One well-known intuition-pump for intrinsicity is to imagine away surrounding circumstances from an entity that possesses the allegedly intrinsic property—and see whether the property is retained. A person, extracted from their surroundings, would arguably still be a person. A sitter-next-to-someone's-aunt extracted from their surroundings would palpably fail to retain that property (cf. Merricks (1998) who calls this the 'mark of intrinsicity' (p.61)).

In fact—and before thinking about puzzle cases too hard—the pair of diachronic and synchronic theses are appealing in many analogous cases. I shall focus on biological kinds such as *being an apple* or *being human*. Duplicate the pattern of physical properties in a region exactly occupied by an apple or a human being, and it's surely no coincidence that we expect to find another apple or human.

However, on reflection this claim is unsustainable unless qualified. I begin with some which are (arguably) specific to biological kinds, before moving on to cases which illustrate problems that are common to both biological kinds and *being a person*.

The first worry, which is (apparently) specific to biological kinds is that—post-Kripke—many take *biological lineage* of an apple to be essential to its being of that kind. 'Twin apples', whose biological heritage is very different from apples on earth, may, by the lights of the Kripkeans, no longer count as apples.¹² Despite such counterexamples, I think we should aim to explicate a sense in which applehood is (something like) an intrinsic property even for Kripkeans—this will motivate the revised suggestion explored in the next section.

Our second worry is the following.¹³ Consider an apple, and something that replicates it except that a slice is chopped off. It is nomically possible, I will assume, to find such a diminished apple which is an exact microphysical duplicate of *proper part* of the original (imagine the slicing carried out on a duplicate of the original apple with an incredibly fine knife). The diminished object is still an *apple*. If *being an apple* were a 'microphysically intrinsic' property, then the *proper part of the unsliced apple* of which it is a (microphysical) duplicate would itself be an apple. But now in the unsliced case we have two apples: one a large proper part of the other. And by repeating the example with a range of different slices, we can argue that when seemingly faced with an apparently unitary undiminished apple, we are actually faced with an infinity of apples.

The same argument can be repeated for human animals. Take a human animal; consider a diminished replica (say, which has an empty space where her appendix should be). The diminished replica is itself a human animal—and so if that kind-property were microphysically intrinsic, the proper part of the undiminished original that duplicates the diminished replica

¹²I say this worry does not apply to the case of persons. But Hawley (2005) makes a very interesting case that *fusion* puzzles should be treated differently from fission puzzles, with the former being more amenable to a 'Closest Continuant' account, precisely because of differences in the circumstances of origin. I will set this aside for now, but if it were upheld, I would accommodate in the same way as biological lineages—by including *ceteris paribus* qualifications into the intrinsicity principle governing the sortal (see below).

¹³These phenomenon this worry draws on has come to be called 'maximality'. The ancient puzzle of Dion and Theon seems to centre on an instance of the puzzle (see Burke (1994)). Compare also Geach (1962) (2nd ed.) on Tib and Tibbles. For discussion of maximality, see also Sider (2003) and Merricks (2003). For discussion of the relation between maximality and intrinsicity, see Sider (2001a).

would have itself to be a human animal.

Recall that we assume that persons are material objects (typically) spatially coinciding with human animals.¹⁴ Then the human animal case directly extends to a counterexample to the (nomological, microphysical) intrinsicity of personhood. Let's draw apart the synchronic and diachronic cases. Synchronically, the person-stage just is the human-stage in both the diminished and undiminished cases. And so if personhood-at-a-time were intrinsic, then the proper part of the undiminished person-stage which is a duplicate of the diminished person-stage would have to itself be a person stage. So *at that time* we would have multiple persons where we would have thought there would just be one. And such examples also show that personhood simpliciter (the property of four-dimensional fusions) is not intrinsic in the relevant sense. To illustrate this, we might consider a replica of the entire history of a person *except that their appendix is permanently missing*. The now-familiar dialectic would ensue.

Importantly, there are purely temporal versions of these cases. Consider a person born in the late twentieth century and persisting into the twenty-first. Take a possible case where that person exists up until the year 2000, their life to that point an exact copy of the life of the person in the original scenario; but in the year 2000 they are instantaneously vaporized. The birth-to-2000 continuant is a person in the latter scenario, but is also a microphysical duplicate of the birth-to-2000 proper part of the person who exists in the original scenario. Given microphysical intrinsicity, there must be a person in the original case who went out of existence in the year 2000—whose life is but a proper part of the more extensive person.

Such puzzles have come to be known as *maximality* puzzles. I will suppose that 'biting the bullet' and multiplying apples and persons is not an option. Taking this attitude to *spatial* cases of maximality is bad enough: it would play havoc with ordinary verdicts about how many persons there are in my vicinity; but the idea that billions of short-lived people are perishing every second where I am located is just too much to bear.¹⁵

In the light of maximality, even without appeal to 'lineage-dependence', claiming that applehood or personhood is microphysical intrinsic is unsustainable. One might therefore conclude that the tetralemma that guides our fission cases looks like it has an obviously false premise. This is a highly uncharitable conclusion to reach, given that many have thought that something in the vicinity of the argument should work. We should search for something else that would do the job, something that *captures the sense* in which its survival is an intuitively 'intrinsic matter' and what is right in the off-the-cuff classification of *being human*, and *being an apple*

¹⁴It wouldn't matter for these purposes if persons were entities with human-animals-stages as a *material part*.

I believe that the discussion below could run through if we accepted Hudson's suggestions on the nature of persons (Hudson, 2001). Hudson does not dispute that personhood is a *maximal* property—he just thinks that attaching any old human animal material to a person is not the sort of thing that will expand the person. Only material parts that are relevant to the core characteristics that go towards the criterion of identity of human persons will count as a person. So, rather than formulating the puzzles below in terms of the gain or loss of hands, we would need to talk of the gain or loss of extra material parts of the central nervous system. (At least to get a spatial maximality result—the kind of temporal maximality we will consider does not need alteration).

¹⁵In the former case, one might attempt to sweeten the pill in the spatial cases by trying to formulate an account whereby when faced with a plurality of overlapping persons, we 'count them as one' for this or that purpose. Such a bullet-biting response can take inspiration the response of Lewis (1993) to the 'problem of the many', which similarly endorses multiple, massively overlapping, persons. However, the case here is far more extreme than Lewis's. Lewis's many persons differ from each other only by the odd hair or toenail—each person in a cluster has a high degree of resemblance to the others. But here, some persons will lack hands, arms and legs while others possess them. Paradigmatic attributions of parthood (e.g. 'this hand is a part of me') will be lost unless we somehow ignore most of the persons in my vicinity, or deviously reconstrue such talk. The temporal variants—with persons spatially coinciding with me ending their existence at every moment—have no analogue in the Lewisian example. So I don't see that any of the 'off the shelf' ways of accommodating many persons can offer comfort here.

as intrinsic to their possessors.

6 Ceteris Paribus intrinsicity.

We get one lead on a charitable reconstruction of the argument by focussing on how we might deal with the lineage-dependence a Kripkean holds to be characteristic of biological kinds. The general idea is that in the relevant cases, every time something that is ‘intrinsically qualified’ to be an *F* fails to be an *F*, there must be some specific explanation of *why* it is not an *F*. In particular we start from the following:

Ceteris Paribus, any *x* which is intrinsically qualified to be an *F*, is an *F*

This assumes that, for sortals like ‘person’, ‘human’ or ‘apple’, a suitably informed agent could tell from an *intrinsic description* of a hunk of matter whether it is an *F*. A paradigmatic way of showing that something *is* so intrinsically qualified, is for it to be an a duplicate of something that is in fact an *F*. So from the above we get a formulation of ceteris paribus intrinsicity:

Ceteris Paribus, any possible duplicate of an *F*, is an *F*

Again, the notion of duplication and possibility admits of variation: and for our purposes we will concentrate on the microphysical, nomological version.

Given this, what should we make of lineage-dependence? The worry was that exact (microphysical) copies of apples on Twin Earth might in fact be fruit of a quite different kind, if their lineage differs. Even conceding that the twin fruit are not apples, we may still hold on to the idea that *ceteris paribus*, any (nomologically possible) microphysical duplicate of an apple is an apple. We need only explain why in this particular case, other things are not equal. And we do in this case have a systematic explanation of what is going wrong: ‘other things being equal’ must be construed to include holding fixed relevant aspects of the lineage. But though the principle has been made vague and flexible by including the ceteris paribus clause, it still has teeth. Faced with two duplicate fruit on a table, and given the information that one is an apple, we will be entitled to conclude that the other is in the absence of defeating considerations—if you like, the burden is automatically on the one who would *differentiate* the two fruit to spell out what exactly is blocking the application of our general (albeit hedged) principle. Sometimes, that challenge can be met: pointing to different lineages (and appealing to the lineage-dependence of the notion of an apple) is a principled, systematic explanation of what defeats the inference in the Twin Earth case.

I think this is an attractive response to the lineage concern. The rest of this section asks: can we extend the idea to deal with the maximality puzzle? Consider the problematic cases discussed earlier: the diminished apple that has a duplicate within the undiminished apple. We can again apply our principle: since the proper part of the undiminished apple duplicates the diminished apple, ceteris paribus it will be an apple. If we want to resist the conclusion (and we do) then the burden is on us to explain why *ceteris* aren’t *paribus*.

To parallel the response in the lineage case, we need to appeal to some principled, systematic (and hopefully non-ad hoc) explanation of what goes wrong in the specific case. One option suggests itself:

EXCLUSION

If *x* is a proper part of some kind-sortal *F*, then *x* is thereby disqualified from being an *F*.

Holding fixed the commonsensical fact that the ‘whole apple’ candidate in the undiminished case really is an apple, EXCLUSION gives us an explanation of why the intrinsically qualified apple-candidates embedded within it are not apples.

Its application needs to be qualified however. It may be hard to think of cases where persons contain persons as parts (highly intelligent microorganisms?) but it would be brave to bet against the ingenuity of philosophers in constructing counterexamples. Related cases have been raised in the literature: the Pope’s crown, it is said, is made out of three crowns; their being parts of a crown does not seem to disqualify them from having this status.

One might seek to replace exclusion with something more precise—perhaps only large parts of an *F* are disqualified from being an *F*. However, it is not clear that this will get rid of all the candidates that we would be worried about (consider the short-lived object that is my temporal part from the moment I became a person, and lasts a single year. This is not a large part of me, yet it seems intrinsically qualified to be a person. We need some way of explaining why it does not get to be a person, despite its intrinsic merit). Considerations of relative size just don’t cut it, I think—and indeed, I see no reason to think that there’ll be a *general* story to tell about the various kinds of exceptions to Exclusion that may occur.

The better approach would be simply to hedge the Exclusion principle with yet another *ceteris paribus* clause. The thought would be that Exclusion is the norm, and sufficient once it is pointed out to defeat CP intrinsicity. It itself admits of exceptions—though if one thinks one has an exception one would have to have to explain why, on some specific and principled grounds, Exclusion fails to apply. The picture that is being built up is undeniably messy and less satisfying than one would have hoped—but what reason have we for thinking anything more is possible in this area?

The worry with appealing to *ceteris paribus* intrinsicity (and principles like exclusion) to deal with maximality puzzles is not that they are messy. It is rather that the package we end up does not seem to give the sort of compromise between strength and exceptions needed to back up the fission arguments. In the present context the key question is whether it can play the ‘survival is intrinsic’ role in the fission argument. The scenario was that double-teleportation contained two duplicates of a person that exists in the single-teleportation case. Both the double-teleportation candidates, as duplicates of a person, are intrinsically qualified to be people—so we are entitled to conclude *ceteris paribus* that they are each people.

However, an obvious hostage to fortune is given: that all else is equal. In the case at hand, *Exclusion* is no threat—the two person-candidates are not proper parts of some other person. However, the two candidates do *massively overlap* each other, and contain within them another, rival candidate to be a person—one with a life-history that terminates at the teleportation event. If one favoured a closest-continuant view of personal identity which did not allow for double survival in the double teleportation case, one could simply formulate a new rule that—like Exclusion—allowed for a systematic range of exceptions to *ceteris paribus* intrinsicity, this time in cases of overlap. In the abstract, allowing such a range of exceptions might seem rather ad hoc. But given we’ve *already* appealed to the similarly abstract class of exceptions articulated by Exclusion, it’s hard to accuse one propounding a slightly different mereological-based class of exceptions of ad hocery.

So there’s little dialectical bite to *ceteris paribus* intrinsicity in the central case that concerns us if we allow for the *ceteris-paribus* clause to be defeated by mereological considerations such as Exclusion. Whatever its merits in dispensing with puzzles over extrinsic lineage and the like, some other line through the puzzles of overlap and maximality is needed.

7 Boundary sensitivity

One informal characterization of the trouble with maximal properties is that they display a kind of ‘boundary sensitivity’. On this way of thinking about things, the trouble is that when one duplicates an F , and then tacks on an extra bit of matter, then the tacked-on bit of matter is liable to be part of the only F in the vicinity—and the duplicate of the original is no longer an F . It is tempting therefore to think that the trouble with maximality could be avoided if we alter our duplication-clause to require that ‘no bits be tacked on’. The idea would be that if we duplicate an F *and its immediate spatio-temporal environs*, then the duplicate of the original F will be an F . The diminished apple is indeed an apple; but though it has a duplicate within the undiminished apple, the immediate environs of the two are very different—in the former case there is a discontinuity in material, with air surrounding integrated apple-y stuff; in the latter case the duplicate of the diminished apple is continuous with yet more apple-y stuff. Requiring that the immediate environs be appropriately discontinuous is an element of extrinsicity in *being an apple*—but it is a peculiarly *spatio-temporally local* sort of extrinsicity.

Even before formulating this vague idea in precise terms, a major obstacle confronts it. Maximality is not limited to continuous objects. Sortals that apply to spatially or temporally scattered objects seem to pattern in exactly the same way. Consider our solar system. Even though the inner ring of rocky planets orbiting the sun would seem to have ‘what it takes’, intrinsically, to be a solar system, they fail to qualify for one because of the presence of the gas giants which form a larger, trumping, solar system. But is this really a case where the difficulty is extra matter at the *boundaries* of the sun+rocky planets? It seems not: the problematic extra matter is at a spatial remove (in principle, arbitrarily far away) from the putative candidate solar system.

Likewise, suppose one thinks that a watch can survive disassembly and reassembly. Then whether a particular four-dimensional entity is a watch depends on whether there its final disassembly is or is not succeeded by some later reassembly. Nothing in the intrinsic nature or the immediate spatio-temporal vicinity of the putative watch betrays whether this is the case. Thinking that the problem of maximality is particularly to do with goings-on at the boundary of an object is a misstep.

8 Part-intrinsicity

It is not *extra adjoining matter* that is at the heart of maximality puzzles (as a boundary-sensitive diagnosis would have us believe) but *extra parts*. An amended principle should be *mereologically characterized*, rather than *spatio-temporally*.

Let us say that F is possessed *part-intrinsically* by x if any (possible) duplicate of x will be a (proper or improper) part of an F . And correspondingly:

F is **part-intrinsic** iff any (possible) F possesses F part-intrinsically

The right hand side of this biconditional could also be stated thus: any (possible) F is intrinsically a (proper or improper) part of an F . The right diagnosis of the sense in which survival as persons is an intrinsic matter is, I think, that personhood is part-intrinsic.¹⁶ Likewise

¹⁶Part-intrinsicity may be related to principles endorsed by Harold Noonan (1985) and Mark Johnston (1989). I briefly discuss these in formulating the more general version of this principle at the end of this paper.

It is important to distinguish part-intrinsicity from the claim that *being a part of a person* is an intrinsic property (the latter is the analogue of the suggestions that Hawley (2005) offers as an articulation of ‘survival being intrinsic’). To adapt Hawley’s counterexample to such cases: take a temporally scattered part of a person.

for the synchronic analogue: the reason why (in typical cases) duplicating a person-at-time gives you another person-at-a-time is that person-stagehood is part-intrinsic.¹⁷

This way of dealing with maximality puzzles extends straightforwardly to biological kinds. We will still have to consider lineage-dependence—but given we no longer face worries from maximality, we can add a *ceteris paribus* clause to deal with lineage issues and the like, without having to think of anything in the vicinity of Exclusion being a potential defeater: the sort of exceptions that Exclusion was designed to avoid are simply not exceptions to part-intrinsicity.

Part-intrinsicity retains a lot of what was good about the unqualified intrinsicity principle. Let us try first the ‘marker of intrinsicness’—the loneliness test. Consider a possible situation where all that exists is a duplicate of some person. By part-intrinsicity, one will be able to conclude that person is a (proper or improper) part of a person—and since *ex hypothesi* it is all that exists in that situation, it itself must be the person. Though this ‘lonely duplicate’ case is extreme, we will be able to argue on reasonable grounds in all sorts of other cases that duplicates of a person are themselves people.

On the other hand, part-intrinsicity won’t get us into the sort of trouble we faced with the unqualified intrinsicity principle—for all we are able to conclude from the presence of a duplicate of diminished apple within our undiminished apple, is that that duplicate must be *part* of an apple. But that is no news—for it is uncontroversially part of undiminished apple. Likewise for the duplicate of the person-segment from birth to the year 2000—isolated it would be a person, but from that we simply conclude that it is in the actual case part of a person, which is no trouble at all.

Lastly, the part-intrinsicity of personhood is ideally suited to play the ‘intrinsicity of survival’ role in the fission arguments. A person survives teleportation in case *a*, and we assume that case *b* contains a pair of duplicates of this person. By the putative part-intrinsicity of personhood, each duplicate must be at least a part of a person. But that means they can only *fail* to be persons if they are proper parts of some more extensive person. But this already guarantees that in each case, a person will survive the teleportation experience—conflicting with premise (3) for the inconsistency we wanted. Of all the candidate explications for what plays the role, part-intrinsicity looks best suited.

9 The problem of the many

To recap. The fission puzzle seems like a *paradox*—it seems that whichever way we go, we give up something valuable. In particular, there seems to be something very intuitive that closest-continuant theories of persons give up. There’s some sense in which our common conception of survival is as an intrinsic matter—but it was proving difficult to find a formulation of that that wasn’t trivially violated. I’ve been arguing that the right articulation of our intuitions here is that we think that personhood is part-intrinsic.

However, I want to now draw out strong consequences from the supposed part-intrinsicity

Consider a case where we have a duplicate of that part; and now ‘fill in the gaps’ with histories that include perishing and birth of new persons. In the latter case, the duplicate of the part of the person is actually a succession of parts of different people—hence not itself part of a person at all. This is a counterexample to the intrinsicity of part-personhood, but no counterexample to the part-intrinsicity of personhood.

¹⁷In fact, I think that under not implausible assumptions, we can argue that the part-intrinsicity of personhood would entail the part-intrinsicity of person stage-hood. Suppose that a person-stage, isolated from its person-stage successors and antecedents, would itself count as a person. Then any duplicate of that person-stage would be at least part of a person, by part-intrinsicity of personhood. But—given it is a stage—it must be part of a person-stage. Thus we have an argument for the part-intrinsicity of person-stagehood from the part-intrinsicity of personhood.

of personhood. As with the simple intrinsicity principle, the intended conclusion will be that it commits us to a plurality of persons where one would have thought there is but one. But whereas I argued in that earlier case the plurality was utterly unacceptable and without precedent in the literature, in the current case our conclusions are strong, but *not* without precedent. Indeed, they are the conclusions that several have urged on independent grounds.¹⁸ So we will be faced with a real choice: we can hold onto our characterization of a sense in which ‘survival is intrinsic’, at the cost of multiplying persons in a strange but limited way; or we can go back to the drawing board.

Let us consider, therefore, Unger’s problem of the many. Earlier, we traded on the notion of entities which were ‘intrinsically qualified’ to be an persons—handless proper parts of me, for example. The problem of the many similarly focuses on candidates that are intrinsically qualified to be persons, but where in the earlier case the candidates, despite being intrinsically qualified, are intuitively clearly *not persons*, in the problem of the many we focus on candidates which aren’t clearly non-persons.

Consider, for example, a hair that is only loosely attached to my scalp. Is that hair part of me? Or is it just too detached? Either answer seems fairly reasonable. So consider the fusion of me and that hair; and the entity located here but which results from mereologically subtracting that hair from me. Call these entities P^+ and P^- . For all we know, either operation of fusion or subtraction may be redundant—either could be me. But whatever the truth of the matter is (assuming there is a truth of the matter to be had) both are really very good candidates to be me.

If (contrary to fact) P^+ and P^- were the *only* good candidates to be me, we would have what I will call a nested problem of the many. For by the construction of the case, P^+ is the fusion of P^- with a hair—and so the latter is a proper part of the former. The candidates are ‘nested’ inside a unique maximal candidate—in this case P^+ . In general, for a given problem of the many, and a delimited set of candidates, we can ask whether the fusion of all the candidates is itself a candidate—whether there is a unique mereologically maximal candidate. Where there is, we have a nested problem of the many.

We can’t know *a priori* (at least without considerable further argument) that every case of the problem of the many is a nested problem of the many. Suppose I have two hairs on the verge of falling out— h_1 and h_2 . Then we can consider two candidates for being the person hereabouts— P_1 which includes h_1 as a part but not h_2 ; and P_2 for which the reverse is true. If (again contrary to fact) P_1 and P_2 were the only candidates to be the person hereabouts, we would have a problem of the many of a distinctively different structure from nested cases. For here, though P_1 and P_2 massively overlap, neither is part of the other. They are distinct and ‘co-maximal’ within the space of candidates, in each case there is no other person-candidate mereologically more extensive than they. A case like this, with multiple maximal candidates I shall call a ‘petal’ type problem of the many.

Are the realistic problems of the many we face of the nested or petal type? Equivalently, if we fuse all the relevant person-candidates, do we get another person-candidate or not? I don’t know any easy way to answer this. But I do think that the petal-type problem of the many is the more challenging phenomenon. The reason is that in the nested-type problem of the many, there is always the option of arguing that there is unique best candidate to *be* the person—the unique maximal person-candidate in which all others are nested. If we opt for this line, then all the smaller candidates will be relevantly like all the other entities that are part of a person that are intrinsically qualified to be people but, embedded within some more extensive person, are not. If we are happy with such conclusions for maximality reasons, it is hard to see what our puzzle remains when we opt for this line on the problem of the many. Let us for now assume

¹⁸Unger (1980), Lewis (1993) and Williams (2006)

that this is the right line to take (I return to it later).

Petal-type problems of the many resist this diagnosis. For ex hypothesi, in these cases there are multiple co-maximal candidates. So even if we discarded all but the maximal candidates, we'd still be faced with the question: which of these is the person?

I will argue that our part-intrinsicity principle allows us to argue that the correct answer to a petal-type problem of the many is: all of the maximal candidates are persons.

Take any one of the co-maximal candidates M . And let D be an isolated duplicate of M (i.e. a duplicate of M , but with all the various differences between M and other co-maximal candidates removed from the location). Then D is intrinsically qualified to be a person, and by construction, if there are other person-candidates around, they are nested within it. So the case of D is a nested problem of the many. And (we decided above) the unique maximal candidate will be the person.

Since D is a person, any duplicate of it must be a (proper or improper) part of a person. M is one such duplicate. So M is a (proper or improper) part of a person. But ex hypothesi, M was a *maximal* candidate to be a person—there are no mereologically more extensive candidates to be a person around. Since M is not a proper part of a person, it must be an improper part of one—i.e. M itself must be a person.

However M was an arbitrarily chosen co-maximal person candidate in our petal-type problem of the many. So, running the reasoning several times, each co-maximal candidate will be a person. And thus, we have the problematic Lewis result: many persons where common sense tells us there is only one. QED.

Interestingly, a crucial point in this argument is the appeal to the *resolution* of the nested problem of the many advocated earlier—that where we have a unique maximal candidate, it gets to be the person. Without this, we couldn't assume that isolated D is a person, and so couldn't get the appeal to part-intrinsicity going.

It's worth thinking, therefore, about what sort of direct arguments we could give for this resolution to nested cases.

I argued earlier that there's no avoiding something like *ceteris paribus* intrinsicity if we want an account that covers, not just the sense in which *being a person* is an intrinsic matter, but also that *being an apple* was too. Recall therefore the initial thought behind *ceteris paribus* intrinsicity. The idea wasn't directly that a duplicate of a person was, *ceteris paribus*, a person. It was that, *ceteris paribus*, *anything* intrinsically qualified to be a person was a person. Being a duplicate of a person was just one easy way of demonstrating one's intrinsic qualifications for the job. However, the very setup of the problem of the many requires that the various person-candidates be intrinsically qualified in the relevant sense—that is what makes the puzzle seem initially pressing.

This thought still seems compelling in the present setting. Of course, we would now look to switch from *ceteris paribus* intrinsicity to *ceteris paribus* part-intrinsicity. Correspondingly, the idea would be that anything intrinsically qualified to be a person must (*ceteris paribus*) be a (proper or improper) part of a person.

Now consider a nested problem of the many. All the person-candidates are intrinsically qualified to be persons. Now either (a) exactly one of the candidates is a person; or (b) more than one of the candidates is a person (we'll set aside the nihilist option that there are no people at all). If (b) is chosen we already have a 'many-persons' resolution to the problem of the many—this time in the nested case. If (a) is the right response, then there is a uniquely good candidate to be that unique person—the maximal candidate in which all others are nested. If the maximal candidate is a person, then *all the candidates* are parts of a person, and so the claims of all the intrinsically qualified candidates to be parts of people are met. This is the *only* choice that won't lead to demands for some specific explanation of why the claims of some

person-candidate to be part of person (a role for which it is intrinsically qualified) are turned down.

Faced with the option between keeping the principle exceptionless, and diagnosing an exception to the principle (explicable only by appeal to rather ad hoc principles) it seems clear that we should opt for the former.¹⁹

10 Generalized part-intrinsicality

Let us turn now to the question of to what extent the proposals above depend on the perdurantist setting, and the particular materialist metaphysics of persons (and other ordinary objects) that we have been presupposing to this point. I say: not to any great extent.

I will concentrate first on formulating a version that will apply to endurantist theories of persistence (hopefully this should illustrate the general kind of transformations that should be applicable to other treatments as well).²⁰

Katherine Hawley articulates the rough idea that I will follow in formulating my favoured version of a neutral proposal: “if two regions match with respect to what’s going on within them,

¹⁹Of course, we could attempt to run a similar kind of argument directly in the petal-type case. But there the choices aren’t simply between keeping the principle exceptionless and admitting rather unmotivated principles for exceptions; but rather, according with the principle *in a way that leads to the Lewisian many persons result* and admitting a range of exceptions. Dialectically, this is far less persuasive than in the nested-case where both common sense and an exceptionless principle could (apparently) be saved simultaneously. So the argument directly from the *part-intrinsicality* of personhood is non-redundant.

²⁰My proposal will be close to two extant proposals for capturing the intrinsicality of persistence. Both focus on certain ‘neutral’ entities in terms of which to formulate the principle, which is the strategy I will adopt below. The first is Harold Noonan’s version of the “only x and y principle” (1985); the second Mark Johnston’s principle *B** from his “Fission and the facts” (1989).

For Noonan, the role of characterizing when two events are *exact copies* or *duplicates* is played by the notion of two events being identical by the ‘Cambridge criterion’. Thus Noonan:

If two events are parts of the history of a single entity of a kind in one situation, they must also be parts of the history of a single entity of the kind in any second situation in which, as judged by the Cambridge criterion, both they, and all the events that are parts of the history of the entity in the first situation, remain present (Noonan, 1985, p.83)

It would take some speculative reconstruction, though, to turn this into an exact analogue of the part-intrinsicality principle. Here are some of the issues that arise: (i) the principle Noonan appeals to is weaker than part-intrinsicality, in that it focuses only on pairs of events. Thus if a life history contains three events *A, B, C*, and those events occur in another possible situation, nothing in Noonan’s principle guarantees that there is a single person (rather than three overlapping ones) that persists through these events. (ii) as stated, it would appear that we only need hold fixed the intrinsic character of the events of the life history to get another creature. But surely we need also to preserve the relations between these events—the events that make up my life, scattered thinly through a million years of time—would not guarantee the existence of a person. (iii) I’d prefer not to have to appeal to events and event-identity in formulating our general principle. Despite these worries, I think Noonan’s proposal is very much in the spirit of what I will propose.

Mark Johnston offers the following principle in his discussion of fission cases:

If in one possible world *w* a process *p* secures the survival of a person *x* then in any world *w'* in which *p* occurs and is intrinsically exactly as it is in *w*, in that world *w'* *p* secures the survival of *x*. (Johnston, 1992, p.381)

This raises similar interpretative issues (Johnston is well aware its ‘securing’ is vague: he thinks that we will need to add extra principles to give it content). Again, there may be ways of elaborating this that makes it close to part-intrinsicality (though there are notable differences—especially the doubly *de re* way (on both persons and processes) in which it is formulated).

they also match with respect to facts about the persistence of objects within them” (Hawley, 2005, p.xx).

Let us grant a notion of “microphysical match” between regions. Two regions will be microphysical matches of each other if the pattern of instantiation of microphysical properties is the same in each region. We shall also help ourselves to the notion of the exact space-time location of an object—every kind of theorist should be able to construct some analogue of this notion (for example, endurantists can think of this as the sum (or set) of the spatial regions occupied by the enduring objects over times).

The analogue I suggest to part-intrinsicality of personhood is the *part-intrinsicality of exact location of persons*—that if *R* is the exact location of a person, any (nomologically possible) region that *exactly matches R* will be a (proper or improper) part of the exact location of a person.²¹

This version of part-intrinsicality can serve as the basis for a rerun of our entire debate. For example, in the fission argument we will formulate premise (1) as the principle that the scattered region in which pre-fission and post-fission teleportation stages are located in cases 1 and 2, are exact microphysical matches. By appeal to the above articulation of ‘survival as intrinsic’, we can then argue that since in the single teleportation case the region is the exact location for a person, in the double teleportation case it must be a (proper or improper) subregion of the exact location of a surviving person.

The principle avoids maximality worries (of both temporal and spatial varieties) in the same way as the part-intrinsicality of personhood does in the perdurantist setting. It is also subject to reworked version of the problem of the many. For whether or not we start by assuming that we have a plentitude of enduring ‘person candidates’, we can consider a plentitude of space-time regions which, so far as concerns the pattern of microphysical properties they contain, are intrinsically qualified to be the sum of the location of a person over their history. Again, their are nested and petal-type versions to consider. Again, in the nested case, there is reason to take the maximal such region to be the unique best candidate (any other proposal would face the question: what stops this region intrinsically qualified to host a person, being at least part of the location of a person?). And in the petal-type case, we can consider any co-maximal region *M*, take an isolated duplicate *D*, and argue that since *D* must be the exact location of a person, *M*, which exactly matches it, must be at least part of the location of a person. Thus each of our co-maximal candidates can be argued to be at least part of the location swept out by an enduring person over time; and since they are not nested, the only conclusion left is that there are many enduring people.

Our discussion can be rerun in terms that an endurantist might find favour with, but what of the particular materialist metaphysics of persons? I outlined an account whereby persons were ‘hunks of matter’—albeit particularly interesting and complex ones. I also supposed that hunks of matter were plentitudinous in certain mereologically specific senses: any subregion of the location of a thing contains a part of that hunk of matter; and for any plurality of hunks of matter there is a ‘fusion’ which contains them as parts.

Our original presentation of the fission puzzles relied heavily on this metaphysics. For

²¹Hawley (2005) offers an alternative general reconstruction of the intrinsicality idea, in terms—in effect—of requiring that *being part of the location of a person* be intrinsic. She offers criticisms of this suggestion and some suggested ways of finessing them. Ultimately, she thinks they will not work. I think the part-intrinsicality proposal, and its generalized version, offers a better route through this territory.

Overall Hawley argues that rather than look for recherche construals of “survival is identity”, we should look for other resources that would conflict with ‘closest continuant’ theories of persistence, and which would in general conflict with premises (1-3). Her favoured suggestion is that objects which satisfied (1-3) would have to be ‘modally unnatural’—and that we have good grounds to disbelieve in the existence of such entities. There is no space to examine this interesting idea here.

example, the principles meant that we could consider the fusion of pre and post fission person-stages, and ask questions about whether that specific hunk of matter was or was not a person. But we have already seen how to reformulate these arguments without presupposing persisting objects (or rather, we have seen how to make space-time regions do duty for these objects in the arguments).

Another point at which the ontology of persons is invoked, however, is when dealing with the problem of the many. For originally, we *posed* the puzzle as a case where there are a multitude of good candidates (hunks of matter) each of which was intrinsically qualified to be a person. Even in the version we've just sketched in connection with our new principle, I presupposed the existence of a multitude of *enduring* objects which were intrinsically qualified to be persons.

But some theorists will deny these assumptions. Though hunks of matter may *constitute* an (perhaps enduring) person, persons themselves are things which are categorically distinct from the constituting hunks. In the version advocated by Johnston (1992) the problem of the many is diagnosed as resulting from vagueness over which hunk of matter it is that constitutes the one person in the vicinity.

But the form of argument is robust: even in this setting we can pose the puzzle. In that particular setting, we might regard the upshot of the part-intrinsicity idea in the following way: that *being part of a hunk of matter that constitutes a person* is a property that is possessed intrinsically by any hunk of matter that constitutes a person. Or, in a still more general formulation: *being part of the exact location of the hunk of matter that constitutes a person* is a property that is possessed intrinsically by any region that is the location of a hunk of matter that constitutes a person.²² We can again run the now-familiar arguments. For example, when we have a nest of candidates to be the person-constitutor, we will be able to argue that the maximal candidate will be the unique hunk of matter that constitutes the person. And when there is a petal-type array of candidates to be the person-constitutor, we will be in a position to argue, not directly for many persons, but for many distinct *person constituting* lumps of matter.

If we preserve the natural thought that distinct lumps of matter (at a time) cannot constitute one and the same person, then we have here the many-persons conclusion once again. There is, in fact, a final fall-back option open to the constitution-theorist that is not obviously available to the perdurance theorist: they could regard the constitution relation (holding between hunks of matter and persons) as *many-one*. That was not the account that Johnston wanted—but it seems a formal option open to such theorists. It would raise hard questions about the physical properties of persons: what would be the location of the person? Does it coincide with the locations of any of the constitutors? Does the person instead have many locations (even at a single time)? Similar questions can be asked about the person's mass, shape, charge, and so forth. I leave the development of this position to those friends of constitution theory who may find it appealing.²³

²²There will both synchronic and diachronic versions of these principle. Diachronically, we might want to talk of series of hunks of matter over time, or perhaps histories or processes as the constitutors. This will very much depend on the details of the particular metaphysics advocated by the proponent of constitution-theory.

²³There is actually a perdurance view that is surprisingly close to this: the "partism" of Hudson (2001). Hudson holds that material things have parts only *relative to space-time regions*. So where others would see a problem of the many, Hudson suggests there is a single individual who has each of the candidates as parts *relative to the respective regions they occupy*.

11 Conclusion

So long as we remain focused on the puzzles of maximality and the groundings of the fission argument, part-intrinsicity is, in my view, by far and away the leading contender for articulating the sense in which survival and personhood-at-a-time are intrinsic matters. Supplemented by appropriate hedges, it also gives us a unified and general account of a defensible sense in which persistence as a *K*, and *K*hood-at-a-time, might be “an intrinsic matter”. I developed the thesis (and traced its implications) in the first instance for a particular perdurantist metaphysic; but we have seen that the principles and puzzles are robust, surviving translation into prominent rival settings.

Part-intrinsicity can be argued to have consequences that for most will be unwelcome. But three factors mitigate the impact of this result. The first is that this particular case there are ‘off-the-shelf’ responses to ameliorate the impact of allowing that there are many, overlapping persons (or apples, or humans) in petal-type problem of the many situations. Lewis (1993) argues that we can mitigate the costs by outlining an *interpretation* of discourse about ordinary objects that would make commonsensical judgements come out *true*, even if, speaking ‘strictly and literally’ we admit that any person-involving situations will involve huge numbers of massively-overlapping people.²⁴ To illustrate, the Lewisian reading of ‘there is exactly one person in the room’ would be ‘there is at least one person in the room; and every other person in the room massively overlaps that individual’. Such strategies are far more defensible as a response to the problem of the many, than against our initial maximality puzzle. So even if we were forced by part-intrinsicity to this position, advances have been made.

The other two factors that mitigate the costs of part-intrinsicity concern deniable premises in our argument *other than* part-intrinsicity. Firstly: we needed to assume that *petal*-type instances of the problem of the many are avoidable. But absent a *positive* case for this, we might simply deny that such cases emerge. Secondly: our case rested on the particular response to nest-type problems of the many. While seeming initially attractive and well-motivated, it doesn’t follow directly from the problem of the many, or even *ceteris paribus* part-intrinsicity.²⁵

Part-intrinsicity constrains our response to the problem of the many in interesting ways. This I take, in the end, to be an advantage of thinking of matters in these terms. As with the fission cases, it articulates a reason *why* these puzzles are indeed puzzling. Ultimately, whether motivated by fission puzzles or the problem of the many, we might choose to say that there’s *no* relevant sense in which survival or personhood is intrinsic. But that is no objection to part-intrinsicity being the formal articulation of the principles that got us worrying about the cases in the first place.

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²⁴See Williams (2006) for a different kind of argument for Lewis’s ‘many’ solution.

²⁵We argued for it on the basis of a principle that was supposed to underlie *ceteris paribus* part-intrinsicity—that anything that is intrinsically qualified to be a person is *ceteris paribus* part of a person.

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