How Groups Persist

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Abstract: How do groups of people persist through time? Groups can change their members, locations, and structure. In this paper, I present puzzles of persistence applied to social groups. I first argue that four-dimensional theories better explain the context sensitivity of how groups persist. I then exploit two unique features of the social to argue for the stage theory of group persistence in particular. First, fusion and fission cases actually happen to social groups, and so cannot be marginalized as "pathological." Second, it is implausible that groups spatially coincide pre-fission. This means that theories that depend on pre-fission spatial coincidence, such as some endurance theories and the worm (perdurance) theory, cannot explain fission cases. All things considered, the stage theory offers the best explanation of how groups persist.

In 1943, the Pittsburgh Steelers and Philadelphia Eagles each failed to field a sufficient number of players. They combined for the season, forming the "Steagles." The teams separated again the following season. Today, each team counts the Steagles in their record, for example in official sports statistics.[1] Respecting this practice, we seem to be committed to saying that the Eagles and Steelers are both the Steagles.[2] But it cannot be that the Steelers and Eagles are both numerically identical to the Steagles. If they were, then the Steelers would be identical to the Eagles, and they are clearly not. So, we have a familiar puzzle. The following statements cannot all be tenselessly true:

(1) The Steelers are the Steagles.

(2) The Eagles are the Steagles.

(3) The Steelers are not the Eagles.

[1] See, for example, NFL (2018).

[2] The *franchises* did not combine, but teams are not just franchises. For example, the Cleveland Browns remain in Cleveland despite their franchise moving to Baltimore in 1996.

In what follows, I argue that, everything else being equal, the *stage theory* of persistence offers the best solution to this puzzle. According to the stage theory of group persistence, groups like football teams are located at a single time, but persist through time by having temporal counterparts connected by an "I-relation."[3] The stage theory has few defenders, and no one has defended it as an account of how social groups persist in particular.[4] But, as I argue below, two important features of social groups make the stage theory especially plausible as an account of how groups persist. First, the cases of fission and fusion familiar to those who have worked on the metaphysics of personal identity and material constitution *actually happen to social groups*, as in the Steagles case, so they cannot be sidelined as "pathological" (Lewis (1986)). Second, pre-fission coincidence of non-identical objects is not plausible for many social groups because these groups require that special conditions obtain *before* they exist, such as a pronouncement, a vote, or broader social conditions.

After exploring the puzzle in greater depth in Section 1, I present three familiar theories of persistence in Section 2: endurantism, the worm theory (perdurantism), and the stage theory (exdurantism). In Section 3, I argue that cases in which different contexts lead to different persistence conditions show that the worm and stage theories have an advantage over the endurance theory. Then, in Sections 4 and 5, I argue that the stage theory of groups should be preferred to the worm theory. I consider an objection in Section 6.

The arguments of this paper are significant for social ontology for a couple reasons. First, it is significant in itself to establish how groups persist. Second, as I flag below, the arguments generalize to other kinds of social objects. The arguments are also significant for the metaphysics of persistence. In Section 4, I show that a common defense of worm theory does not succeed in the case of the social, and, in Section 5, I provide novel, distinctly metaphysical reasons in favor of the stage theory of groups. These arguments either tip the theoretical scales toward the stage theory of persistence generally, or else show that we need a pluralist account of persistence. Both are significant conclusions.

[3]The term 'I-relation' is due to Lewis (1983). Perry (1972) calls this the 'unity relation'.

[4]Sider (1996, 2001) and Hawley (2001) defend the stage theory as a general theory of persistence. Wahlberg (2014, 2017) presents but does not defend the stage theory of group persistence. Others, like Epstein (2017), mention it in passing but do not endorse it.

1 The Puzzle

Very roughly, social groups ('groups' for short) are things made up of people. This includes teams, bands, committees, racial groups, and gender groups. There are, of course, many interesting differences between groups. Some seem to be defined in terms of their internal structure or by the way they fit into a larger structure, like sports teams or legislatures. Others seem to be defined by a common feature had by all members of the group, like redheads or Geminis.[5] Some are created by intentional processes, like committees. Others seem to result from social structures, like races or genders.

A virtue of the argument that follows is that it does not depend on controversial assumptions about the metaphysics of groups. We need only assume that groups can persist through change, and sometimes split or combine. Consider the following scenario:[6]

Committee Depletion

The philosophy hiring committee is charged with hiring an epistemologist and a metaphysician. A bitter split between empiricists and rationalists leads to a standoff. The dean, an empiricist, intervenes and removes the rationalists from the committee. The dean also limits the committee to hiring one candidate.

In this example, it is plausible that the Philosophy Department hiring committee survives losing some of its members and some of its duties. There is no puzzle here, just a smaller committee. But what if the dean instead split the committees, in the style of Derek Parfit's fission puzzle of personal identity (Parfit (1971))?

Committee Fission

As before, the Philosophy Department hiring committee is charged with hiring an epistemologist and a metaphysician, and a bitter split between empiricists and rationalists leads to a standoff. The dean splits the committee into two, allowing the rationalists to hire the metaphysician and the empiricists to hire the epistemologist.

[5] See Copp (1984) and Ritchie (2018). Epstein (2017) questions the utility of this distinction.

[6] The example of a faculty committee is borrowed from Epstein (2017), though Epstein does not discuss the case of a fissioning committee.

Which of the committees is the original? It seems that it must survive as at least one, since the committee survives in Committee Depletion. (How can the presence of an additional committee make a difference to survival?) Given that the committee does survive as at least one of the later committees, and given the symmetry in Committee Fission, it seems that the committee survives as *both* new committees.

Committees can also combine:

Committee Fusion

The empiricists and rationalists cannot get along, and split their hiring duties between two committees. At a later date, a visiting Kantian converts both groups to a higher path, and the committees join to form one hiring committee.

In Committee Fusion, two committees combine. It seems that both survive as the later committee. But, again, this raises a challenge: how can they both be identical to the new committee, but not identical to each other?

As I discuss below, these puzzles are not limited to teams and committees. Many groups split into two or combine into one. And many cases are sufficiently symmetric to motivate their being genuine fission or fusion cases. These puzzles will be familiar to those who have worked on personal identity or material constitution, but notice that there is a twist: they actually happen to social groups.

2 Approaches to the Puzzle

In this section I present the three dominant accounts of how things persist: endurantism, the worm theory (perdurantism), and the stage theory (exdurantism). These theories each offer a solution to the Steagles puzzle, but, as I argue in the following sections, the stage theory best accommodates group-specific considerations. All things being equal, we should prefer the stage theory of group persistence.[7]

In limiting my discussion to these three accounts, I assume that there are no temporary

[7] Wahlberg (2014) also offers an overview of these three accounts of the persistence of social groups, and argues that the worm and stage theory support reductionist accounts of social groups. My argument differs in that I provide two new arguments for the stage theory over the endurance and worm theories.

or "occasional" identities: if $a = b$ at some time t, then at any other time t', if a exists then $a = b$ at t'.[8] I also remain neutral on the best account of time itself, and only focus on the question of how things persist through time.[9]

2.1 Endurantism

Endurantists hold that, very roughly, objects exist wholly at each time at which they exist. The view is often combined with presentism about time, the theory that only the present exists. Together, presentism and endurantism most closely describe the common sense account of objects in time. However, endurantism is also compatible with an eternalist account of time, according to which all times are equally real.[10] For the endurantist, the relation between an object now and the same object in the past is numerical identity; things remain literally identical through time.

As we have seen, in fission and fusion cases numerical identity creates problems. It cannot be that the Steelers=Steagles and the Eagles=Steagles, since Steelers≠Eagles. In response, the endurantist might posit spatial *coincidence*: during the Steagles season, there were really two teams fully spatially overlapping the Steagles.[11] Or in the case of the faculty committees, pre-split there were two fully-overlapping committees. This move allows the endurantist to preserve numerical identity of teams through time.

We can make some sense of spatial coincidence by analogy with the example of a statue made of clay. Some, going back to Wiggins (1968), hold that the statue and the clay are not identical. Instead, the clay constitutes the statue, where constitution is not identity. Robinson (1985) extends this kind of case to amoebae: if amoeba A splits into amoebae B and C at t_1, then B and C spatially overlap during the pre-fission period from t_0 to t_1 (Figure 1).

Robinson seems to hold that pre-fission B and C constitute each other. Applied to the Steagles case, the Steelers and the Eagles would constitute each other for the Steagles season. (Notice the claim is *not* that the Steelers and Eagles both constitute some third

[8] For an extended defense of "occasional identities" as a solution to fission cases, see Gallois (1998).

[9] Haslanger (2003) argues that accounts of how objects persist can be separated from accounts of time itself.

[10] See Haslanger (2003) and Sider (2001) for discussion.

[11] The teams likely also *materially* coincide: they share the same matter, in this case people. In what follows I ignore the distinction between material and spatial coincidence.

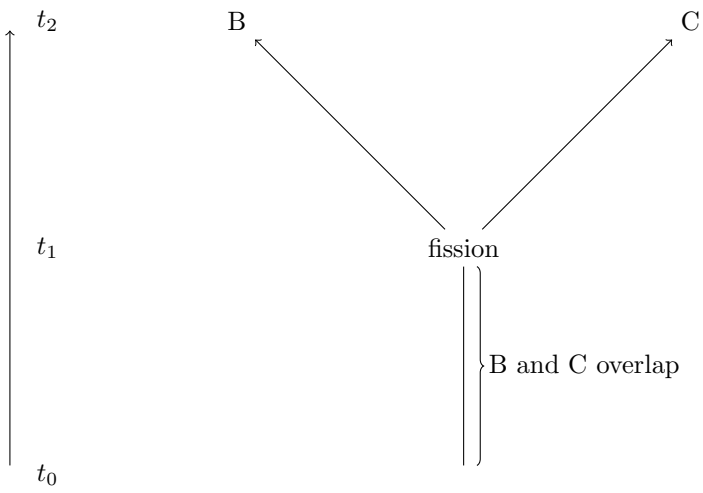

Figure 1: Amoebae Fission

team.) This claim of mutual constitution stretches the intuitive understanding of constitution, of one thing being the material of another thing. First, constitution is usually taken to be asymmetric (Baker (1997) is a canonical example). Second, constitution is often taken to hold only between different kinds. In fact, Wiggins (1968) bans constitution between two things of the same kind.

Without a plausible account of constitution, the endurantist loses some motivation for their account of fission cases. But they are not at a complete loss. By positing spatial coincidence, the endurantist can account for the Steagles and faculty committee cases. In the Steagles case, the Eagles and the Steelers spatially coincide during the Steagles season. Likewise, both faculty committees meet from the beginning, the members unaware that their later split means that there are now two spatially coincident committees.

2.2 The Worm Theory

The idea that physical things can spatially overlap strikes many as strange. In particular, it violates the platitude that no two things can be in the same place at the same time. Four-dimensionalists offer an explanation for overlap.

Four-dimensionalists believe that objects persist through time by having temporal parts at times, much as objects are spatially extended by having spatial parts at various locations. These temporal parts are related by an 'I-relation'. In the case of personal

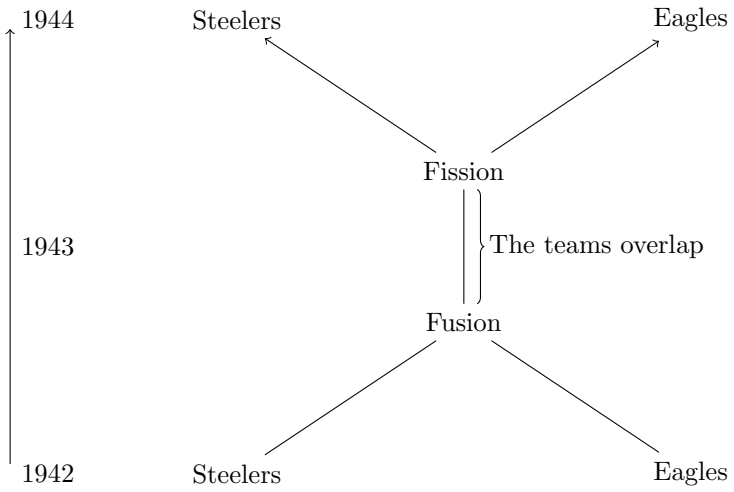

Figure 2: The Steagles According to the Worm Theory

identity, the I-relation might be psychological continuity. The I-relation varies group to group. On the *worm theory*, also known as *perdurantism*, objects are literally extended in time—they are "spacetime worms"—and only exist at times by having parts at that time (Lewis (1983)). A worm theory of groups is explicitly defended by David Copp (Copp (1984)).

The worm theorist explains spatial coincidence in analogy with overlapping roads. Consider two roads that diverge. Where they overlap, the roads coincide by sharing a segment. The roads are not identical because they part ways. "Two" roads that never diverge are really one road, perhaps with more than one name.

In the Steagles case, the worm theorist would say that the Steelers and Eagles share temporal parts for the Steagles season (Figure 2). Likewise, the two faculty committees in the faculty fission case share temporal parts pre-fission. So, like the endurantist, the worm theorist posits spatial overlap to account for how the teams combine and then split. Unlike the endurantist, the worm theorist explains overlap as the sharing of a temporal part. This removes much of the mystery of spatial coincidence.

2.3 The Stage Theory

Finally, the *stage theory*, a kind of four-dimensionalism, holds that objects are located at a single time, and persist by having *temporal counterparts* at other times. The stage

theory is analogous to modal counterpart theory. Roughly, modal counterpart theory says that 'I could have been a lawyer' is true just in case I have a counterpart in another possible world that is a lawyer.[12] Similarly, stage theory says that 'I was six feet tall' is true just in case I have a temporal counterpart at some point in the past that is six feet tall. In the modal case, modal terms like 'could' or 'possibly' trigger the counterpart-theoretic interpretation. In the temporal case, tensed terms like 'was' trigger the temporal counterpart-theoretic interpretation. For social groups, the temporal counterpart relation is a group I-relation. Which I-relation gets selected depends on the context.

To illustrate group stage theory, consider again the case of the Steagles (Figure 3). At any time in 1942, the Eagles and Steelers are each a distinct team-stage. At some time in 1943, the series of stages merge into a single stage. By 1944, there are again two stages at each time. There is no overlap of teams during the Steagles season (though there may be other objects overlapping, like four-dimensional fusions of persons, which according to the stage theory are not teams). At any time in 1942, the sentence 'The Steelers will play in 1943' is true, because each Steelers stage in 1942 is I-related to a stage in 1943.

Note that, strictly speaking, a Steelers stage at any time is not identical to a stage at any other time. Suppose that the Steelers get a new player in 1944. If this player looks at a photo of the 1942 Steelers and says, 'I am on that team', then there is a sense in which what he says is false. *That* team only existed then. But that's fine; what is true is that he is on a team that *was* that team. This is because he is on a team, the 1944 Steelers, and this team is I-related to the 1942 Steelers in the photograph.[13]

3 The Semantic Advantage of the I-relation

One important difference between three-dimensionalist theories like endurantism and four-dimensionalist theories like the worm and stage theories is that the latter appeal to an I-relation, rather than identity. For both the worm theorist and stage theorist, the relation that connects temporal parts of groups can vary group to group, even varying

[12] See Lewis (1968, 1986) more on modal counterpart theory.
[13] See Sider (1996), Section IV for further discussion of this issue.

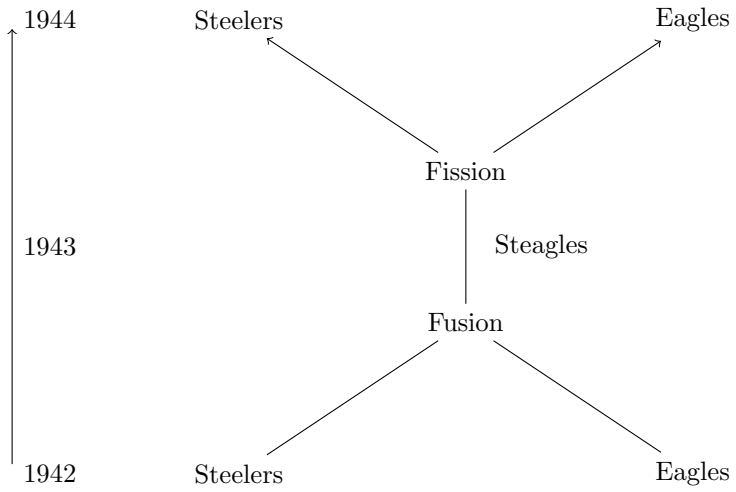

Figure 3: The Steagles According to the Stage Theory

within a single group kind. This provides the four-dimensionalist an explanatory advantage. This explanatory advantage is important when it comes to social groups, because how we treat group persistence seems to vary context to context. Consider the following real-world cases:

Houston Football

In 1997, the Houston Oilers moved to Tennessee. In 1999, their name became the Tennessee Titans. In 2002, the NFL granted a new franchise to Houston, the Houston Texans.

In this example, the Tennessee Titans and Houston Oilers are treated as the same team. The Oilers moved to Tennessee, and are now called the Titans. The Houston Texans are treated as a new team.[14] This makes sense, since the Houston franchise moved. However, as the following example demonstrates, in other cases the franchise does not determine the location of the team.

Cleveland Football

In 1996, the Cleveland Browns players and coaching staff moved to Baltimore to become the Baltimore Ravens. In 1999, the NFL awarded a franchise to Cleveland, reactivating the Cleveland Browns.

[14]See, e.g., NFL (2018)

Today's Cleveland Browns are treated as the same team as the Cleveland Browns before the move to Baltimore (for example, in team statistics), while the Ravens are treated as having been founded in 1996.[15] The difference between this and the Houston Football case is due to context-specific factors, like the outcry of Cleveland fans when the move was first proposed, and the subsequent choices of the owner of the Browns.

These cases illustrate the context sensitivity of the I-relation. The default I-relation likely tracks the franchise: team A persists to become team B if and only if A and B are the same franchise. But this default can be overridden. In the case of the Cleveland Browns, the persistence of the team comes apart from the franchise (the franchise goes to Baltimore, but the team remains in Cleveland).

This context dependence offers an explanation of the difference between the Houston and Cleveland cases. The teams are of the same kind, and so would typically have the same persistence conditions. But the unusual circumstances around the Cleveland Browns move to Baltimore caused a shift to a different I-relation.

The endurance theorist lacks a natural explanation for this kind of case. One response is to posit a plenitude of social groups that can be referred to by context-sensitive expressions. But, first, it is unclear what the semantic mechanism is of this context-sensitivity. For example, in the cases of Cleveland and Houston, it seems that there is neither vagueness nor ambiguity at work. Second, it is a widely-accepted constraint on the metaphysics of social groups that there be neither too many nor too few (Ritchie (2018) calls this the "Goldilocks Constraint"). Without an independent justification for the existence of a plenitude of groups, the endurantist lacks an explanation for the context sensitivity in specific cases like those above.

It is important to highlight that, unlike strange cases of persistence considered in the literature, puzzle cases actually happen for social groups. Theseus's ship may have never been rebuilt out of its old parts, but the Cleveland Browns really did get "reactivated" in 1999. As I discuss in the next section, Lewis (1986) argues that actual cases should be the focus of an analysis of how objects persist. If so, then the actuality of these cases

[15] See, e.g., NFL (2018).

add to their explanatory weight.

4 Can't Count on Pathology

The previous section argued that the worm and stage theories of social groups have an advantage over endurantism. In this section and the next, we will see that the stage theory has advantages over the worm and endurance theories, again specific to social groups.

A major difference between the theories that posit coincidence and the stage theory concerns counting. For example, how many teams are on the field when the Steagles play the Cardinals? Strictly speaking, that is, counting by numerical identity, the endurantist and worm theorist say *three*. This is because the Steagles are really two overlapping teams, both playing the Cardinals. And how many faculty committees meet, pre-fission? The endurantist and worm theorist say *two*. But this seems wrong. If true, it would violate both the rules of football (play occurs between two teams, not three) and the understanding of the professors at their first meeting (they only intended to convene a single committee meeting, not two). A theory of group persistence ought to capture these plausible common sense beliefs if possible. This is the *problem of counting*.

In response to the problem of counting, the endurantist and worm theorist can claim that we do not always count by identity. Instead, we might count by constitution (Robinson (1985)), or by identity-at-t, where x and y are identical-at-t if and only if x and y share a temporal part at t (Lewis (1983)). But as Sider (1996, 2001) argues, to literally count is to enumerate the numerically distinct things, which seems to require counting by identity. So, it is a theoretical cost to not count by identity.

In this section I will argue that (i) the stage theory does not face this problem and (ii) that one avenue of response to the counting problem is not plausible in the case of social groups. It follows that, insofar as we take the counting problem seriously, the stage theory presents the best solution.

First, the stage theory does not face the counting problem (though it faces a related problem, which I respond to in Section 6 below). According to the stage theorist, at each

moment there are just two teams on the field when the Steagles play another team, not three, since there are just two team stages on the field at each moment. Likewise, at any moment pre-fission, just one faculty committee meets, not two. When counting teams at a time, the stage theorist counts by identity.

Both Lewis and Robinson argue that the cost of not counting by identity is low, since fission doesn't actually happen for people, and is otherwise rare. As Lewis puts it, fission cases are "pathological" (Lewis (1986)). Given that they are pathological, the best theory should get to decide what to say about them; "spoils to the victor." While I do not endorse this response, it should be conceded that this kind of response is plausible in the case of an analysis of our ordinary concepts of person and amoeba. After all, our concept of person didn't take shape in a world in which people split or combine. And while amoebae do fission, they are a marginal case, as most organisms do not reproduce by fission. So, the appeal to pathology is plausible in these cases (though see Sider (1996) for a different response). In the case of groups, however, pathology is irrelevant: fission and fusion are typical. The Steagles case is just one real-life example.[16] But if these cases do happen, and across a wide variety of groups, then they are not pathological, and ought to be taken seriously.

To summarize, the fission and fusion of groups really happens. The endurantist and worm theorist therefore cannot appeal to the rarity or pathology of fission cases to avoid the counting problem when it comes to social groups. Because the stage theorist does not face this problem, the stage theorist has the advantage.

5 Against Pre-Fission Coincidence

In this section I argue that it is not plausible that groups overlap pre-fission. If they do not, then social groups are not mere four-dimensional fusions, as four-dimensional fusions do overlap pre-fission, as described in Section 2.2. I will focus on the case of a faculty

[16] Examples abound in the corporate world. Many mergers are in effect group fusions (e.g., Exxon-Mobil). And corporations often split into two, with each having more or less equal claim to being the original (e.g., Hewlett-Packard's recent split). A prominent example outside the corporate world is when, in 1981, the United States Court of Appeals for the 11th Circuit was split from the 5th Circuit. The pre-1981 5th Circuit precedent is binding for both the 11th and the "new 5th" (see, e.g., Larry Bonner v. City of Prichard, Alabama, et al., 661 F.2d 1206 (11th Cir. 1981)).

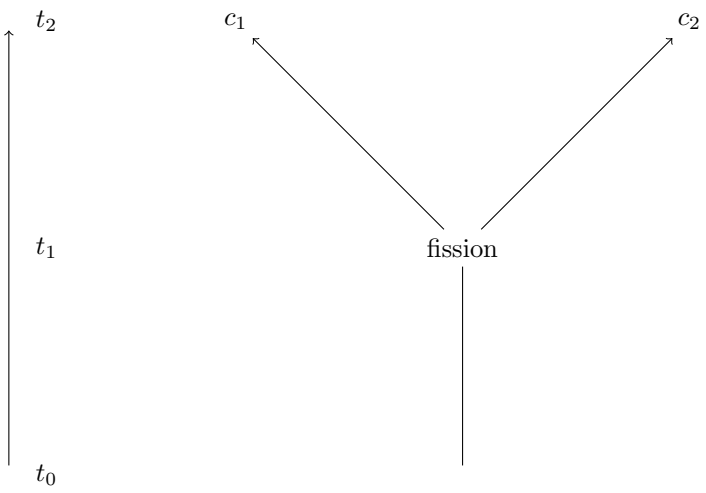

Figure 4: Faculty Fission

committee, but the argument applies broadly to social and institutional objects. Unlike the typical arguments for the stage theory in the literature, the argument I provide is distinctly metaphysical in that the key premise is that groups metaphysically depend on certain facts that do not obtain pre-fission.

Here is a first pass on the argument. Suppose at t_0 the faculty vote to form one hiring committee and at a later time t_1 the faculty vote to split the hiring committee into two committees, c_1 and c_2 (Figure 4). Those that posit spatial coincidence require that c_1 and c_2 exist at t_0. This means that, counting by identity, there are two committees created at t_0. But this is incompatible with the fact that the faculty voted to create *one* committee at t_0. Pre-fission, the appropriate process has not taken place for there to be *two* committees. Certainly *a* process has taken place; the faculty had a vote to create a committee. And there is *a* social structure realized by the committee members, that of a hiring committee. But pre-fission there is neither a vote nor a social structure to support there being *two* committees. So, there is no pre-fission coincidence of committees, and neither the worm theory nor endurance theory can account for the fission puzzle.

In order to sharpen this argument, we need to separate out a few different concerns. First, institutional facts, like the existence of a committee, depend on certain intentional events occurring or social facts obtaining. Options include conventions (Hume (1740), Lewis (1969)); rules or norms (Hart (1961), Thomasson (2016)); institutional facts (Searle

(1995, 2010)), or collective attitudes that result in the conferral of a social status (Ásta (2013, 2018)). These facts or events, like votes and pronouncements, are necessary conditions on the existence of institutional kinds, like many social groups. In the case of the committee fissioning, pre-fission the faculty only voted to create one committee. So, there is only one committee pre-fission, not two, despite there being two overlapping four-dimensional fusions.[17]

A second concern relates to social structures. The structural approach to the metaphysics of social groups is widely recognized as applying to at least some groups, and can be seen most explicitly in the recent literature in Ritchie (2013, 2018), who defines social groups as social structures realized by people. Now, the structural approach to social groups does not say much about how groups persist. What it does say is that for a group A to be a different group than group B, it must be that group A has different members than B, or group A and B differ structurally, e.g., with respect to societal norms or powers. But, pre-fission, the "two" committees have all the same members and realize the same structure. So, again, there is just one committee pre-fission, despite there being two overlapping four-dimensional fusions.

The worm theorist is not entirely at a loss here. They could, for example, endorse Ritchie's claim that groups are realizations of social structures, but then amend Ritchie's account to say that groups are realizations of *four-dimensional* social structures, that is, social structures that are defined as networks of social relations across time, and so are realized by collections of people that span different times. This account can explain why there are two groups pre-fission: because there are two social structures realized, one for each branch in Figure 4. The challenge for the worm theorist is to make plausible this four-dimensional picture of social structures, and in particular that there are in fact two social structures realized at t_0 by the faculty members on the hiring committee.

Finally, there is a pressing worry that pre-fission coincidence commits us to a kind of circular explanation. Grounding is a lot like causation.[18] Just as the world "unfolds"

[17] See also Wahlberg (2019), who sketches an argument that future institutional facts cannot ground present social facts at risk of violating principles of physics.

[18] See, for example, Bennett (2017); Schaffer (2016); Wilson (2018).

forward causally, it ought to unfold forward in grounding.[19] In fact, if we allow the backwards-grounding posited by the worm and endurance theorists, it seems that we will be trapped in circles of explanation.[20] For example, in the committee case just described, we have a committee voting to split into two. On the worm and endurance theories, there are two overlapping committees pre-fission, and both voted to split. But then we have the following circular explanation: the two committees voted to split, and that is why there are two committees.

Granted, it may be that the vote at t_1 *causes* there to be two committees, while the fission *grounds* the existence of the two committees before t_1. Assuming, however, that (i) grounding and causation are both a kind of generative, explanatory relation, and (ii) this kind of explanation cannot run in circles, this circularity ought to be avoided (Viggiano (2019); see also Lange (2013)). Further, the *prima facie* problematic source of this circularity is that the fission of committees backwards-grounds the existence of both committees pre-fission, not that votes can create committees. The stage theory does not posit this backwards-grounding, and so avoids this problem.

In response, the defender of pre-fission coincidence may argue that we do not count by identity in these cases, but instead identity-at-t or by constitution. But, first, as I argued in Section 4, there is a theoretical cost to not counting by identity, and this cost cannot be chalked up to "spoils to the victor" in the case of social groups. Second, metaphysics doesn't respond to how *we* count. If there are in fact two committees at t_0, then the faculty created two committees at t_0, even if we tend to count them as one.

A second response is to point out that the worm and endurance theories considered above already accept that future facts play a role in determining what is now the case. The fact that there are two amoebae overlapping pre-fission is grounded in facts after the fission event. So why can't the worm theorist say the same thing about the committee? The difference is that social objects, unlike amoebae, often depend on the obtaining of certain institutional facts for their existence. Above, I cashed this out in two ways: in

[19] A plausible exception is mere Cambridge change.

[20] See Viggiano (2019), who presents a detailed argument for how backwards-grounding creates explanatory challenges in the case of the moral.

terms of an explicit act, like a pronouncement, and in terms of a social structure being realized at a time. Presumably the existence of an amoeba depends on neither kind of thing.[21] So, in the case of the amoeba fissioning, there is no barrier of the kind described above blocking the pre-fission coincidence of amoebae.

To summarize, social objects, and in particular groups, have certain necessary conditions on their existence. These necessary conditions vary from a vote to a complicated social structure. Absent these conditions, it is not plausible that the groups exist. But, if they do not, then neither the worm theory nor endurantist theory we have considered can offer a solution to fission cases, and we ought to adopt the stage theory.

It is important to emphasize what I have not argued. First, I have not argued for any particular account of what stages are, and so have not relied on a particular account of what groups are. They may be sets, fusions, realizations of structures, or *sui generis*. I have also not argued that groups can *never* coincide. It may be possible to vote to form two committees comprised of the same people, for example, thereby forming two overlapping groups.[22] I have only argued against theories that entail that two or more groups coincide pre-fission. Besides endurance theories, this includes theories that identify groups with four-dimensional fusions, as well as four-dimensional set-theoretic theories that identify groups with sets of group members across time.[23] The stage theory is the only account considered that avoids this commitment.

6 Objection: Revenge of the Counting Problem

One of the major objections to stage theory is that it gets counting wrong when we timelessly count how many objects there are. For example, if people are stages and we ask, 'How many people have been US President?', then the answer will be far more than forty-five. Likewise for the case of groups: if you ask how many teams played in the game, the answer may be literally an infinite number, since, assuming time is continuous,

[21] Though see Sutton (2012). If Sutton is correct that all things falling under natural kinds depend on conventions for their existence, then the argument of this section applies much more broadly.

[22] See (Epstein, 2015, 146–149) for discussion, and Hawley (2017) for good reason to believe there are not two overlapping committees after all.

[23] Effingham (2010) defends a set-theoretic account. Although he does not discuss fission cases, he would seem to be committed to pre-fission coincidence as well.

there were an infinite number of instantaneous stages on the field.

In response to this objection, Sider (1996) concedes that in these cases we are counting the spacetime worms, or segments of these worms, not the stages. For Sider, this is a semantic, not metaphysical, concession. He is happy to recognize the existence of spacetime worms—he just doesn't think that we ordinarily refer to them.[24]

The group stage theorist can say something similar. When we count how many faculty committees have ever existed at our university, we count the spacetime worms of committees, not committee stages. But here is the important point: the group stage theorist cannot admit that these 4-dimensional fusions are in fact committees. Only the stages are committees. If the 4-dimensional fusions were in fact committees, then there would be two overlapping faculty committees pre-fission. But, as I argued in the previous section, future fission cannot ground the existence of additional groups now. So, the group stage theorist should say that when we count groups that existed in the past, we count the spacetime worms, but these worms are not in fact groups.[25]

Notice the difference between the stage theorist saying that we sometimes count four-dimensional fusions instead of stages and the worm theorist saying that we sometimes count using identity-at-t. In order for the worm theorist to appeal to identity-at-t, it must be that each of the post-fission groups has a temporal part pre-fission, which entails that each existed pre-fission. But, as I argued above, it is implausible that groups always coincide pre-fission. The stage theorist, on the other hand, does not face the analogous problem because the stage theorist has no analogous commitment to fusions being groups. Just because we sometimes count by aggregates, or "quotient" groups with respect to time, does not entail that on our final analysis we should consider these aggregates groups.

7 Conclusion

I have argued that social groups are momentary stages and persist through time by having temporal counterparts. The argument appealed to two notable features of social groups:

[24] Though Sider later rejects unrestricted composition, e.g., Sider (2013).

[25] If we reject unrestricted composition, then the group stage theorist can say we timelessly count by sets or pluralities of groups.

their frequent fissioning, and that they cannot be guaranteed to coincided pre-fission. The latter feature can be generalized to social objects generally, and so supports a general stage theory of the social.

A more general lesson can be drawn once we recognize that social objects are a lot like natural objects. Both are (typically) made of matter, make a difference in causal explanations, and persist through time. Perhaps both depend on human conventions.[26] Further, the theoretical contest between worm theory and stage theory is close; every argument ought to be weighed carefully. Together, these considerations lend some support to generalizing the argument for a stage theory of social groups to a stage theory of all objects. And, even if we reject the stage theory of persistence of ordinary objects and people, we still have a significant conclusion, namely persistence pluralism: social groups persist by having stages, unlike other objects. This opens to door to other domain-specific theories of persistence.

Finally, I hope that this paper demonstrates the fruitfulness of the connection between metaphysics and social philosophy. As demonstrated in Sections 4 and 5, considerations specific to the social world impact the metaphysics of persistence. Metaphysicians studying persistence and social ontologists can and should learn from each other.[27]

[26]Sutton (2012) argues at all composite objects depend on conventions.

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