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PERSONAL IDENTITY
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On September 13, 1848, Phineas Gage was directing a gang blasting rock on a new railroad line in Vermont. Distracted for a moment by the workers behind him, he was unprepared when the sparks from a tamping rod in a blasting hole ignited a layer of blasting powder. The rod—now a rocket—shot through Gage's face, traveling upwards behind his left eye, through the left side of his brain, and out of the top of his skull. It landed eighty feet away. Gage somehow remained conscious, and he was sitting in a chair talking when the doctor arrived thirty minutes later.

A long and difficult convalescence ensued. But once recovered, Gage struck many as, well, different. Prior to the accident, he had by all accounts been a hard working, quiet, and responsible man, one of the best foremen at his company. After the accident, he was described in the *American Phrenological Journal* as "gross, profane, coarse, and vulgar, to such a degree that his society was intolerable to decent people," and his employers noted that he was so changed that they could not give him his job back. His friends now said he was "no longer Gage"—or so the story goes.[1]

Note the strangeness of this locution, however: He—*Gage*—was *no longer Gage*. How might we make sense of this notion?

Metaphysical investigation into identity typically focuses on how much change a thing can undergo while remaining that very same thing. It is thus concerned both with what makes a thing what it is (its essence), and what preserves that thing across time (its diachronic identity). When applied to persons, then, metaphysical investigation focuses

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[1] See Harlow 1868. It is unclear whether this version of the incident is an accurate historical account or mere myth. See Macmillan 2002. Whether it is history or myth, there are important questions about why this story has been so influential and what narratives of disability it reflects, emboldens, or creates. See, e.g., Tremain 2017: 6-8).

on the persistence conditions of things like us: What makes us what we are, and what preserves our identities across time?

The history of philosophical investigation into personal identity is a history tied tightly to moral—or more broadly *normative*—psychology. This is because what have most often motivated such investigations are several of our *person-related normative concerns*: things we care about that often guide our practical deliberations, concerns that pertain to crucial features of persons and personhood. For example, what might justify someone's being punished now for a past crime? What might make compensating someone now for various past burdens apt? What claims might my retirement-age self have on me to save money now (rather than spending it all on my dream Hyundai)? The justifiability of each of these concerns seems to rest on personal identity: Punishing someone now seems justifiable only if the punished is the same person who performed the past crime; compensating someone for a burden seems apt only if the compensated and burdened persons are the same individual; and a future retiree has a claim on me to save money now only if I will be him.

Our aim in this entry is to articulate the state of the art in the moral psychology of personal identity. We begin by discussing the major philosophical theories of personal identity, including their shortcomings. We then turn to recent psychological work on personal identity and the self, investigations that often illuminate our person-related normative concerns. We conclude by discussing the implications of this psychological work for some contemporary philosophical theories and suggesting fruitful areas for future work on personal identity.

PART I: THE PHILOSOPHY OF PERSONAL IDENTITY

Last night I had pasta for dinner.[2] A natural way to redescribe this is that I-now am one and the same person as last night's pasta-eater. What makes this statement true are the facts of personal identity. What do those facts consist in?

There have been two very general answers: Either (a) those facts consist in more particular facts, e.g., facts about brains, bodies, and interrelated mental and physical events, or (b) they don't. The first view is called *reductionism*, and the second is called *non-reductionism*, following Parfit (1984: 209-17).

This isn't the cleanest way to distinguish the relevant facts, though, and that's because Parfit conflated two distinctions. The first distinguishes views about personal identity that don't require persons to be "separately existing entities" from views that do. Separately existing entities are things like immaterial minds, souls, or Cartesian egos that exist independently of brains, bodies, and mental/physical events. The second distinction is about whether or not the facts about identity can be *reduced* to facts about brains, bodies, and interrelated mental and physical events.

Nearly all theorists of personal identity today consider themselves to be reductionists in the first sense: they think the facts of personal identity are *not* facts about separately existing entities (like souls).[3] However, one might believe that view while nevertheless believing that our identity does require reference to some further fact beyond facts about brains, bodies, and interrelated mental and physical events, e.g., a fact about

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[2]   While we, the authors, are a *we*, we will occasionally illustrate our points by speaking as if we were an I.

[3]   One exception is Richard Swinburne (1973).

our organization or distinctness as *human beings*.[4] Thus, one might be a reductionist in the first sense (by denying that we are separately existing entities) but not in the second sense (by still believing there is a further fact of personal identity) (cf., Parfit 1984: Ch. 11).

Given these two senses, it is perhaps better to redescribe the first sense of "reductionism" as "materialism" or "physicalism" about the object of investigation. One compelling reason for this view's popularity is that immaterial Cartesian egos, if that's what we essentially are, are impossible to trace through space-time. So even if I am an essentially nonphysical entity, there would be no way to *know* that I now am one and the same as last night's pasta eater. Identity of immaterial soul *might* obtain between us, of course; we sometimes lack epistemic access to metaphysical truths. But if this were the right metaphysical theory it should undermine all confidence in our judgments of identity in a way that seems implausible (Perry 1978). We will here focus exclusively, then, on materialist theories of the object of study (persons, human beings, individuals like us), as they at least offer in principle ways of tracking our identity across time.

There are three leading theories. The first is the *Psychological View*, whose roots are in John Locke. Locke articulated a criterion of identity across time for *persons*, and he was motivated to do so by a distinctive normative concern, namely, moral responsibility: On "the great day" (of divine judgment), "when everyone shall 'receive according to his doings, the secrets of all hearts shall be laid open'" (Locke 1975: 51). What, asks Locke, could justify the presumed eternal sentence (in either direction)? People could deserve punishment or reward for their earthly actions only if they "are the

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[4]   This was the view of Mark Johnston (1987), for instance, and may be the best description of Marya Schechtman's current view, which we discuss below (Schechtman 2014).

same that committed those actions…" (Locke 1975: 51). As he also puts it, "In this personal identity is founded all the right and justice of reward and punishment…" (Locke 1975: 46).

Sameness of person, for Locke, was not a question about the sameness or persistence of a *substance*, either a man (human animal) or a soul. Instead, it was a *relational* question, about what relation might unite different temporal stages of such substances, at different times, into one person. "Person" is a "forensic term," referring to whatever it is to which actions are appropriately attributable for purposes of punishment and reward. It must, therefore, refer to intelligent beings capable of both consciousness and, most crucially, *self*-consciousness. Persons are entities capable of reflecting on themselves as themselves, and so may be conscious of both their current and their past experiences. It is the exercise of this capacity that generates identity with some past experiencer: "[W]hatever has the consciousness of present and past actions, is the same person to whom they both belong" (Locke in Perry 1976: 45).

To have a current consciousness of some past experience is, many have thought, just to have a *memory* of experiencing it. On this view, I am now the same person as some past experiencer just in case, and in virtue of the fact that, I remember his thoughts and experiences. Put in this way, the view is obviously false. It is vulnerable, first, to contradiction: Were an 80-year-old to remember the thoughts and experiences of his 40-year-old self, and were that 40-year-old to have remembered the thoughts and experiences of a ten-year-old, then transitivity demands that the 80-year-old is the same person as the 10-year-old. But suppose the 80-year-old doesn't actually remember any of the thoughts and experiences of the 10-year-old? The theory then yields the contradictory

conclusion that they are also *not* the same person (for this line of attack, see Reid 1975).

Second, and relatedly, it seems obvious that one might forget actions that are nevertheless

attributable to one; that is, one could be identical with someone without remembering all

of his or her experiences (if one had been drunk at the time of the original experience,

say). Finally, it looks like Locke gets the relation between memory and identity the

wrong way round: what makes my memory of some past experience an actual memory

(as opposed to a fake or implanted memory) is just that I am the one who had the

experience I now remember, i.e., genuine memory presupposes personal identity (for this

line of criticism, see Butler 1975, and Perry 1978).

Rebutting each criticism lays the groundwork for the more robust and plausible

Psychological View of personal identity. To respond to the first worry, we need to

distinguish between direct psychological *connections* and overlapping *chains* of direct

psychological connections, which build up what's known as psychological continuity

(Parfit 1984: 222). Only the latter relation could sustain the transitivity and one-to-one

features required of the numerical identity relation. To respond to the second worry, we

need to widen the range of eligible psychological relations preserving identity to include

not just memories, but also beliefs, desires, and goals; intentions fulfilled in action; and

character traits (see, e.g., Parfit 1984: 205-6). To respond to the third worry, we have to

appeal to psychological relations that do not presuppose identity. For example, the

relevant identity-preserving "memory" relations are actually, we can say, *quasi-*

memories, which are simply memories caused by the experiences that are now

remembered (Shoemaker 1970; Parfit 1984: 219-22). And the same treatment could apply

to quasi-intentions, quasi-beliefs, etc. (Parfit 1984: 260-61). What these changes yield, then, is the following criterion:

> **The Psychological View of Personal Identity**: X at t1 is the same person as Y at t2 just in case X is *uniquely psychologically continuous* with Y (see, e.g., Parfit 1984: 207).[5]

How does this theory do with respect to our person-related normative concerns? Pretty well. Indeed, one powerful argument for the theory arises from how well it does in accounting for such concerns. Consider just one example. Suppose my brain was switched with another person's brain. Where would "I" go? (This is a thought experiment drawn from Locke's famous "Prince/Cobbler" case [Locke 1975: 44].) Consider which embodied person would own my house, which one you would still owe a debt to (having borrowed money from me), or which one would be responsible for my actions. The intuitive answers to all of these questions will tend to point us in the direction of the person with my brain, not in virtue of his having my brain, but in virtue of the fact that my brain enables and supports my psychological continuity with him.

Where the Psychological View falters is in accounting for some of the *metaphysical* features of our identity. Eric Olson has put this argument most pointedly. First, the Psychological View strongly implies that who I am essentially is a fairly sophisticated psychological creature, and I persist across time in virtue of the continuity of those features (e.g., memories, intentions, desires/beliefs, and character traits). But

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[5] The uniqueness constraint enables the theory to avoid duplication worries.

requiring that I be a sophisticated psychological creature implausibly implies that I was never a fetus or even a 6-month-old infant and that I could not survive into a demented state or a persistent vegetative state (PVS), as none of these life-stages would have sufficiently sophisticated psychological apparatuses to make us persons (Olson 1997: Ch. 4).

Second, consider what's known as the "too many minds" or "too many thinkers" problem.[6] Suppose I am, as implied by the Psychological View, a person, a creature whose essence is his psychology. I am, one cannot deny, also somehow associated with an animal: When I look in the mirror I see an animal, and when I eat or sleep an animal eats or sleeps. But that animal also thinks. Indeed, as I sit here thinking in my chair, my associated animal is also sitting here thinking in my chair. But if I am not an animal (being instead a purely psychological person), then at this very location in space-time, there actually sit two numerically distinct things who are nevertheless sharing all of their thoughts, thinking exactly the same things: a person and an animal. This is quite absurd. (Olson 2007: 29-30; for discussion, see Blatti 2016).

It seems we cannot deny that there is an animal thinking in my chair. And it seems we cannot deny that I am thinking in my chair. If there aren't two thinkers in my chair, therefore, it looks like I must be that thinking animal. But if what I really am is an animal, facts about my persistence conditions will simply consist in facts about my animal's persistence conditions. This is *animalism*:

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[6] The former label is from Sydney Shoemaker 1999; the latter label is from Parfit 2012: 7. The associated argument has been developed in various forms by Snowdon 1990: 91; Carter 1988; McDowell 1997: 237; and Ayers 1991, vol. 2: 283. It has been popularized and sharpened by Olson 1997: Ch. 5; 2003: 325-30; and 2007: 29-39. See Blatti 2016 for helpful discussion.

> **The Biological View** (aka **animalism**): If X is a person at t1, and Y exists at any other time, then X=Y if and only if Y's biological organism is continuous with X's biological organism (Shoemaker 2016a; drawn from Olson 1997 and DeGrazia 2005).

There are many details here that need to be filled in, but the basic idea is fairly straightforward: I exist and persist just in case (and in virtue of the fact that) my animal organism exists and persists. To deny this cuts against the verdicts of both science and much of common sense (Olson 2007: Ch. 2).[7]

While animalism has a clear metaphysical leg up on the Psychological View, how does it do in accounting for our person-related normative concerns? Not terribly well, at least on first blush. Return to the brain swapping case, for instance: Most people think that the person responsible for my actions and who owns my car is the person with my psychology, not the person with someone else's psychology in my persisting animal organism. Indeed, in deference to compelling intuitions like this, Olson simply divorces the identity of individuals like us (animals) from whatever grounds our person-related normative concerns (what he calls the "same person" relation; Olson 1997: Ch. 3). The latter does seem to consist in psychological relations, he suggests, so it's not tracking our numerical identity (which is only about biological continuity). Yet if we persist in thinking that the metaphysics of personal identity must ground our person-related normative concerns, the metaphysical success of animalism will be achieved only via significant normative cost.

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[7]   There are major exceptions to the claim about common sense, though, especially given that billions of people believe they can survive the deaths of their bodies.

David DeGrazia has attempted to rescue a grounding relation of sorts between animalism and our normative concerns. His claim is that, *in the world as we know it*, biological continuity is at least a *necessary condition* for our person-related normative concerns (DeGrazia 2005: 63). And this is of course true: my biological continuity with some past agent is what enables—in the real world—my responsibility for his actions. But this response fails to provide the right *kind* of explanatory relation between personal identity and normative concerns. That biological continuity enables my responsibility for some past agent's action nevertheless does not illuminate what makes that past agent's action now *mine*; that is, biological continuity doesn't come close to explaining action attributability. Nor does it do much to explain what makes the money I save now belong to a future retired person. And so forth for other person-related normative concerns. Animalism has real trouble providing an illuminating explanation of those concerns (see Shoemaker 2016b for discussion of a variety of possible replies).

This is true even for the cases where animalism shines metaphysically. Suppose your beloved mother went into a PVS. You would surely visit her, cry over her, perhaps talk to her, and so forth. These actions reflect persisting concerns you have for her. But what grounds and illuminates these concerns? It is not simply that the woman in the hospital bed is the same animal as the woman who raised you. Rather, it's that she is *your mother*, the woman to whom you owe your existence, the fellow human with whom you have shared much of your life and whose influence is rife. In other words, our patterns of normative concern are about our ways of life, our sociality, and our interpersonal nature. We don't care about each other (simply) *as animals*; rather, we care about each other (in addition) as fellows in a shared community of human beings structured by numerous

normative concerns. To fully capture the relation between personal identity and these concerns, therefore, our theory of personal identity has to take more seriously than does animalism our *humanity*.

This is the aim of Marya Schechtman's recent theory of personal identity (Schechtman 2014). But her theory can't be put in the criterial terms of the previous two theories, as human beings are a *cluster* of biological, psychological, and social features, some of which may be missing or significantly reduced without undermining identity. Human beings are the unified locus of our person-related normative concerns. What we have, then, is what Shoemaker (2016a) has labeled:

The Anthropological View (aka **humanism**): If X is a human being at t1, and Y is a human being at t2, then X persists as Y (paradigmatically) to the extent that enough of X's defining cluster of biological, psychological, and social features have continued in Y in order for Y to be "an identifiable locus of interaction in person-space" (Schechtman 2014: 167).

There is much to unpack here, and unfortunately we lack space to do so. What we emphasize is how Schechtman seems to be reversing the assumed metaphysical grounding relation between personal identity and our person-related normative concerns. We have, to this point, been taking for granted that, if there is such a grounding relation, it runs from identity to our concerns: What has metaphysical priority is the identity relation, goes the standard thought, and so once we have determined what that is, our

concerns ought to be revised in line with it.[8] However, Schechtman seems to be endorsing the opposite: We start by identifying the right locus of our normative concerns, and then our theory of identity is constructed to track *that object*: Identity across time "just consists in the fact that the person before us now is viewed as, treated as, and acts as the same locus of practical concerns as the [previous] person" (Schechtman 2014: 152). This move guarantees, therefore, that our person-related normative concerns will have a tight—indeed, inexorable—connection to our identity, as the latter simply piggybacks on the former.

Has Schechtman simply changed the subject? After all, the metaphysical question was supposed to be about the nature of things in and of themselves—about their intrinsic and essential features—and not about how those things may be treated by people, treatment which can in some cases be wildly varying. And shouldn't the identity relation as applied to persons be just like the identity relation as applied to all other types of metaphysical objects, being transitive and obtaining one-to-one? Schechtman's view, while being about "identity" in some sense, may not have been the sense we cared about all this time.

There seems something promising about her view nevertheless. But it is vulnerable to two general worries. The first has to do with whether what we care about in specific normative concerns is the entire bundle of features Schechtman takes to be paradigmatically constitutive of human beings. What mattered to Locke was that, if God sentenced someone to eternal torment for my sins on earth, then that tormented person had better be me, where what this amounted to was simply that he remembered my

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8   The *locus classicus* of this sort of methodology is found in Parfit's *Reasons and Persons*, albeit only with respect to what he calls "The Extreme Claim" (Parfit 1984: 307-312).

sinning from the inside (as I do). Whether this feature obtains has nothing to do with how we are viewed by others or whether he's biologically continuous with me; it has simply to do with some kind of internal psychological relation that obtains between him and me as agents. Alternatively, when I am concerned about the pain I continue to undergo in the dentist's chair, I don't care one whit about social treatment or my psychological personhood; rather, what matters now is mere *physical* continuity, i.e., the fact that the physical pain will continue (cf. Williams 1970). Were I to know that I will go into a PVS, I may care only that my loved ones will show up at the hospital and continue to view and treat that person as me, not that my biology has continued or that I will have lost psychological continuity. Finally, when I am looking forward to seeing the Grand Canyon for the first time this weekend, the justification for my anticipation may have nothing to do with biological continuity, social treatment, *or* psychological continuity; rather, all that matters may be that my current first-person perspective will be there, i.e., that my distinctive inner "eye/I" will still be on the scene (see, e.g., Baker 1998).

In other words, some (and perhaps many?) of our person-related normative concerns aren't about Schechtman's *bundle* of features; instead, they are often about just one (or two or even perhaps none) of these features, and it seems instead that we view *different features as grounding different concerns* (see, e.g., Shoemaker 2016b). Psychological continuity of some kind seems to ground some concerns (e.g., responsibility), biological continuity grounds other concerns (e.g., worries about ongoing or future pain), social treatment grounds other concerns (e.g., me in the PVS), and perhaps different features altogether ground yet other concerns (e.g., the bare first-person perspective of anticipation). Why think, then, that there is a *unified* locus of concerns

constituted by the articulated cluster of features, rather than simply different loci of concerns depending on the specific concerns in question?

Schechtman considers this alternative picture, and while she admits its attractions, she ultimately rejects it on the grounds that it "does not ring true to the experience of how we relate to the people who make up our social world" (Schechtman 2014: 83). Especially when considering our intimates, we tend to focus on a unified locus of the wide range of our normative concerns: "The son I feed and clothe and comfort is the same person I chastise for behaving badly to his sister and the same person to whom I try to teach the value of hard work and explain the benefit of making small sacrifices now for larger benefits later…. I do not have a moral son and an animal son and a psychological son—I have a single son who has all of these aspects and is important to me in all of these ways" (Schechtman 2014: 83).

But is this in fact how we view and treat one another, even in close relationships? Schechtman draws heavily on her intuitions about the ways in which she and we allegedly think and do things. But what sort of *evidence* is there for these claims?

Our second worry has to do with whether, even if humanism is correct, the relationships between the different features in the cluster have been accurately portrayed. Schechtman talks about the features—biological, psychological, and social—as if they were equal partners, doing roughly the same amount of work to preserve our identities in paradigm cases. But is this true? Or might one or another of them contribute more than the others in preserving who we really are deep down?

Our two worries are both empirical. They are about what people *actually* think of the concerns and relationships in question. We thus turn in Part II to explore how these

issues have been taken up in insightful ways by much more empirically-minded moral psychologists. In Part III we take stock. In light of the empirical work, we revisit our two worries about Schechtman's account and suggest a broader research agenda for an empirically informed philosophy of personal identity.

PART II: THE PSYCHOLOGY OF PERSONAL IDENTITY

In recent years, philosophical debate about personal identity has been accompanied by a growing use of experimental methods. One might imagine several different ways in which experimental study could enrich the philosophy of personal identity. Philosophers of personal identity could draw on experimental scientific research in a similar way to how philosophers of biology look to biological experiments or philosophers of physics build upon experimental physics. That is, philosophers of personal identity might use experimental work to discover relevant empirical facts *about persons*, such as facts about human memory or consciousness.

However, in practice, much of the influential experimental work has a different aim. Rather than using experiments to study persons as objects, experimentalists have studied persons as sources of *judgment* about personal identity. The key empirical discoveries are facts about what ordinary people think about personal identity and facts about the psychological processes underlying those judgments.

This might seem like a strange strategy. What relevance do ordinary people's judgments about personal identity have to *facts* about personal identity? This question warrants far greater discussion than space here allows. But begin by considering some of the most common answers to this question:

- Philosophical *thought experiments* about personal identity posit an intuitive response that is shared among competent language users. Experimental methods can generate results about what such users in fact intuit in such cases.

- Philosophical theories of personal identity assume that there is some evidentiary relationship between the personal identity judgments of competent language users and *facts* about personal identity. Experimental methods can illuminate these facts, or they can challenge our confidence in the relationship between ordinary judgment and facts about identity.

- We can make philosophical progress by better understanding people's *concept(s)* of personal identity. Experimental methods can provide evidence about people's concept(s) of personal identity.

There is of course tremendous variety in how theorists specify and elaborate these answers. For example, intuitions about personal identity might be theorized as reliable truth-trackers, sources of (defeasible) knowledge, sources of prima facie evidence, or something else entirely. Moreover, certain theorists might appeal to some combination of these responses. Some might appeal to thought experiments because they take the shared response among competent language users to reliably track the *truth* about the identity relation, while others might appeal to them because they take the shared response to provide evidence about people's *concept* of personal identity.

For the remainder of the chapter we do not take a stand on these meta-issues. But it is important to keep in view that certain experimental results can have radically

different implications for personal identity theories, depending on one's stand on these issues. As such, we note that some empirical results' philosophical implications might be a matter of debate. This is a theme of the experimental study of personal identity that is representative of our view of experimental philosophy more broadly. In almost all cases, experimental results alone won't "solve" the puzzles of personal identity or displace non-experimental philosophical inquiry. Instead, experiments typically help us make progress on these difficult philosophical questions. Indeed, in many cases experimental results actually help generate *new* philosophical questions.

Turn, then, to some recent experimental discoveries about personal identity. We begin with studies aimed directly at the classic debates in personal identity, such as ones that test whether ordinary judgment accords with the Psychological or Biological view. These studies provide evidence that psychological properties are often seen as more essential to identity than biological (e.g. bodily) properties. A second set of studies considers different psychological properties, testing which of them (e.g. memories vs. morality) are judged most essential to the self. These studies have provided striking evidence that moral properties play an important role in attributions of personal identity. A third set of studies further explores the significance of changes in these properties.. Not only do changes in properties like kindness and cruelty affect identity judgment significantly, but there is also an effect of the particular direction of change: all else equal, changes for the worse are seen as more disruptive to identity than changes for the better. A final set of studies investigates the practical upshots of this work. For example, is there a relationship between judgments of psychological connectedness with a future

self and judgments about the present value of money held by that future self; and do intuitions about personal identity explain intuitions about statutes of limitations?

We begin with the studies focused on classical debates in personal identity. Much of the early influential experimental work on personal identity was about the debate between the Psychological View and the Biological View. Philosophers have offered numerous thought experiments to motivate or support one of these views (for an overview and critique see Gendler 2002). For example, the intuition that "you" would go with your brain (and psychological properties) in our earlier brain-swap case is taken to support the Psychological View. One straightforward experimental application is to test whether shared intuitions to thought experiments like this one are, in fact, shared.

Philosophers also make empirical claims about the psychological processes producing these intuitive judgments. For example, Bernard Williams (1970) suggested that our intuitions in certain thought experiments vary depending on the *framing* of the thought experiment. When we consider brain-transplant cases described in the third-person as happening to someone else, we tend to think that the person goes with the mind/brain. But when people are told to imagine that *their own* distinctive mental characteristics would be destroyed and then replaced, their persisting concern for the pain their bodies would experience in the future supports the Biological View. Williams claimed that the different framing of these thought experiments—which should be irrelevant—differentially affect our intuitions about them. That is, Williams made an empirical prediction: Our intuitions about personal identity are sometimes influenced by psychological processes that are irrelevant to personal identity.

An important paper in experimental personal identity examined this empirical prediction. Nichols & Bruno (2010) tested two versions of Williams' pain case. Both versions describe a procedure in which doctors treat a serious brain infection by shocking the brain, permanently eliminating distinctive mental states (including thoughts, memories, and personality traits). One version was framed in the second person (will *you* feel the pain?), while the second was framed in the third person (will *Jerry* feel the pain?). In both conditions, the majority of participants agree that you/Jerry will feel the pain (75%, 72%). That is, contrary to Williams' empirical prediction, there was no effect of framing on personal identity judgments.

However, further experiments show that Williams was on to something. Nichols & Bruno (2010) report additional studies suggesting that intuitions supporting the Biological View may be subject to an experimental demand effect. In the Williams pain case, there is only one person described before the surgery and one person after. This might create an experimenter demand (to the participant) to "tell me that you are going to be tortured tomorrow" (Nichols & Bruno 2010). In subsequent studies, Nichols & Bruno present participants with a more abstract question about personal identity: In order for some person in the future to be *you*, that person doesn't need to have any of your memories. Over 80% of participants disagreed. Moreover, in a separate free response question about what personal identity requires, over 70% of participants noted psychological factors like memory or personality as necessary for persistence. Nichols & Bruno conclude that insofar as our theory of personal identity should be based on shared intuitions, these findings support the Psychological View.

Many other studies provide intuitive evidence for the Psychological View over the Biological View, finding that changes in psychological properties significantly influence judgments of connectedness and personal identity (e.g. Blok, Newman & Rips 2005; Strohminger & Nichols 2014; Tobia 2015; Molouki & Bartels 2017; Weaver & Turri 2018). A natural question arising from these findings is which psychological properties matter the most. Classical psychological theories of personal identity emphasize the significance of memories, but humans have a wide array of other psychological properties, including perceptions, preferences, personality traits, and moral character traits.

A number of studies have shown the striking and surprising significance of moral properties to identity. Newman, Bloom & Knobe (2013) presented a series of experiments that show that people view others as having an essentially "good true self." Participants considered scenarios that described people manifesting various good and bad behaviors (e.g. respecting vs. mistreating employees). Overall, participants reported that a good behavior was more consistent than a bad behavior with who the person was "deep down inside."

Of course, since people sometimes disagree about what is "good," one might wonder whether this effect is a function of the values of the experimental participant. Newman, Bloom & Knobe (2013) tested this possibility by presenting participants with one of two descriptions of "Mark":

[Pro-homosexual feeling, Anti-homosexual belief] Mark is an evangelical

Christian. He believes that homosexuality is morally wrong. In fact, Mark now

leads a seminar in which he coaches homosexuals about techniques they can use to resist their attraction to people of the same-sex. However, Mark himself is attracted to other men. He openly acknowledges this to other people and discusses it as part of his own personal struggle.

[Anti-homosexual feeling, Pro-homosexual belief] Mark is a secular humanist. He believes that homosexuality is perfectly acceptable. In fact, Mark leads a seminar in which he coaches people about techniques they can use to resist their negative feelings about people who are attracted to the same sex. However, Mark himself has a negative feeling about the thought of same-sex couples. He openly acknowledges this to other people and discusses it as part of his own personal struggle.

Participants were asked to indicate what was most consistent with Mark's true self: the belief, feeling, both, or neither. The full pattern of results has interesting complexities, but the key finding is that for the first scenario, only liberal participants identified the *feeling* with Mark's true self, while for the second scenario, only conservative participants identified the *belief* with Mark's true self. This suggests that the "good true self" effect depends on the perceiver's own personal moral beliefs (see also De Freitas, Cikara, Grossman & Schlegel 2017; De Freitas et al. 2017; Newman & Knobe 2018).

Another significant study suggests that moral properties are not only important to the concept of the true self, but they are at the very core of people's judgments of identity. Strohminger & Nichols (2014) presented participants with scenarios describing

pills that would permanently alter only one part of a person's mind, without affecting anything else. Participants considered different types of changes and rated the degree of personal change from 0% ("they're the same person as before") to 100% ("they're completely different now"). Items reflected changes in "*morality*" (e.g. being a jerk; politeness), "*personality*" (e.g. shy; industrious), "*memory*" (e.g. knowledge of math; traumatic memories), "*desires and preferences*" (e.g. wanting to be a doctor; enjoyment of rock music), or "*perceptions*" (e.g. ability to feel pain; ability to smell). Moral change resulted in the greatest reported identity change, followed in order by changes in personality, memories, desires, and perceptions. Strohminger & Nichols report a series of experiments that further support the impact of moral change, and they conclude that moral traits "are considered the most essential part of identity, the self, and the soul" (see also Riis, Simmons & Goodwin 2008; Strohminger & Nichols 2015; Prinz & Nichols 2016; Chen, Urminsky & Bartels 2016; Strohminger, Knobe & Newman 2017; Christy, Kim & Vess 2017).

A third set of studies has further explored the significance of seemingly "positive" and "negative" properties to judgments of personal identity and the (true) self. In some classic personal identity thought experiments, negative changes seem to play a significant role. For example, many thought experiments posit major psychological changes *for the worse*. After Phineas Gage's accident, recall, we are told that the cruel man is "no longer Gage." Would people have similar judgments about an accident that caused a similarly major psychological change, albeit for the *better*?

A third set of studies tests whether there is an effect of the particular direction of change: are changes for the worse seen as more disruptive to the self than changes for the

better? To test this question, Tobia (2015) presented participants with two versions of the Phineas Gage story. In the traditional story, Phineas was "replaced" with a worse person after the accident. Some participants received a vignette depicting such a deterioration:

["Deterioration"] Phineas is extremely kind; he really enjoys helping people. He is also employed as a railroad worker. One day at work, a railroad explosion causes a large iron spike to fly out and into his head, and he is immediately taken for emergency surgery. The doctors manage to remove the iron spike and their patient is fortunate to survive. However, in some ways this man after the accident is remarkably different from Phineas before the accident. Phineas before the accident was extremely kind and enjoyed helping people, but the man after the accident is now extremely cruel; he even enjoys harming people.

But other participants received a reverse case, in which Phineas is replaced by an *improved* person:

["Improvement"] Phineas is extremely cruel; he really enjoys harming people. He is also employed as a railroad worker. One day at work, a railroad explosion causes a large iron spike to fly out and into his head, and he is immediately taken for emergency surgery. The doctors manage to remove the iron spike and their patient is fortunate to survive. However, in some ways this man after the accident is remarkably different from Phineas before the accident. Phineas before the

accident was extremely cruel and enjoyed harming people, but the man after the
accident is now extremely kind; he even enjoys helping people.

Participants in the "Improvement" condition agreed more strongly on a 7-point scale (M = 3.26) that Phineas was the same person (Deterioration M = 2.61) (Tobia 2015; see also Tobia 2016; and Earp, Skorburg, Everett & Savalescu 2018 (about addiction)).

The improvement/deterioration effect also arises in Parfit's (1984: 327-28) *Nineteenth Century Russian* case. In the original case, a remarkably charitable young Russian Nobleman intends to give all of his wealth away in old age, but his selfish older continuer prefers instead to keep it. There is a natural sense, suggests Parfit, in which the older man is no longer to be regarded as the same person as the younger man. However, in a "reverse Russian Nobleman" case, in which the young man is selfish and the old man is charitable, participants are more inclined to judge that the old man *is* still the same person (Tobia 2015).

Importantly, while this asymmetry is strongest for changes in moral/social characteristics like kindness and cruelty, it also arises for other types of change. Molouki & Bartels (2017) presented participants with different kinds of changes (morality, personality, preferences, experiences, or memories) in one of three directions: improving, worsening, or ambiguous (e.g. personality will "change"). For all types of properties, improving is seen as preserving continuity more so than worsening—and also more so than "changing." The effect was again most pronounced for changes in morality (followed by changes in personality, preferences, experiences, then memories).

A final set of experimental studies has explicitly focused on the relationship between personal identity and person-related normative concerns. For example, Mott (2018) tested whether people's intuitions about statutes of limitation (e.g. in criminal law) are explained by intuitions about psychological connectedness over time. Across a series of experimental studies, Mott found that both legal and moral statutes of limitation are intuitive. Moreover, participants' judgments about psychological connectedness played a significant role in explaining the intuitiveness of statutes of limitation and punishment.

An impressive research program in this final area comes from scholars studying the relationship between judgments about the self and judgments about intertemporal discounting, savings behavior, and future goals. For example, Bartels and Rips (2010) show that perceived psychological connectedness plays a role in explaining discounting (e.g. why someone might report preferring $100 today to $500 in ten years). Participants prefer benefits to occur before large changes in connectedness, but prefer costs to occur after large changes (see also Bartels et al. 2013; Bartels & Urminsky 2011; Ersner-Herschfield et al. 2009a; 2009b; Peetz & Wilson 2008; 2009; Urminsky 2017).[9]

These practical concerns (e.g. statutes of limitation, future goals) present important philosophical and empirical issues. Some modern philosophical accounts engage deeply with this research, providing empirically grounded accounts of identity and practical concerns (e.g. Sullivan 2017). But much more remains to be said about each of these topics.

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[9] Our focus is on *judgments* about practical concerns, but an additional set of studies is worth noting here. Several studies have examined the relationship between the concept of the true self and actual practical outcomes. For example, De Freitas & Cikara (2018) found that thinking about the true self reduces intergroup bias. Schlegel and colleagues (Schlegel & Hicks 2011; Schlegel, Hicks & King 2011; Schlegel et al. 2009) have identified benefits to perceived accessibility of true self-knowledge (see also Bench et al. 2015).

PART III: FUTURE DIRECTIONS

In this final section we take stock and consider the relationship between the philosophy and psychology of personal identity. First, we revisit our two empirical worries for Schechtman's view in the new light of all this recent empirical work, and as a way of modeling one way to bring together the psychology and the philosophy. And second, we suggest some broad directions for future philosophical and psychological research about personal identity.

Recall Schechtman's Anthropological View: If X is a human being at t1, and Y is a human being at t2, then X persists as Y (paradigmatically) to the extent that enough of X's defining cluster of biological, psychological, and social features have continued in Y in order for Y to be "an identifiable locus of interaction in person-space" (Schechtman 2014: 167). We identified two empirical questions. First, we wondered what evidence there might be (other than Schechtman's intuitions) for whether people view the person-related normative concerns as sufficiently unified for them to pick out a single *locus* of interaction in person-space. Second, we wondered whether some features of this locus might actually be more important to people's identities than others, despite what Schechtman suggests.

With respect to the first question, the empirical work suggests that while people view a few normative concerns as grounded in biological continuity (e.g. Nichols & Bruno 2010), they view most as grounded in moral and social continuity (e.g. Strohminger & Nichols 2015; Tobia 2016). This may be taken as a partial victory for the Anthropological View over the Biological View, but it is also one shared with the Psychological View. Nevertheless, there is some empirical support in the literature for

Schechtman's intuitions that there is a unified locus of normative concerns (Schechtman 2014: 83). While some experimental studies suggest that our identity intuitions sometimes fracture and track multiple and differently-grounded relations (e.g. Tierney et al. 2014), in most cases we are indeed tracking a unified locus, albeit with many different psychological features.

But this leads to the second worry. Perhaps the largest empirical challenge for Schechtman is capturing the repeated and widespread results in the psychological literature that in fact people view some properties as much more essential to our identities than others. By far the most significant features, according to ordinary judgment, are psychological properties, specifically moral (or more broadly social) traits (Newman, Bloom & Knobe 2013; Strohminger & Nichols 2014; Tobia 2015). Indeed, a number of experiments indicate that people are less willing to attribute identity to a merely biologically identifiable locus of interaction if it has significantly changed psychologically. So even if Schechtman is right that persons are clusters of features, it's not yet clear that she has identified the right cluster or the right weighting of properties within the cluster, at least insofar as ordinary intuitions about identity are concerned.

In closing, we suggest three aims for future researchers in this field. The first is to achieve greater conceptual clarity in experimental philosophy of identity, a task especially well suited to philosophers. Psychologists and experimental philosophers have made impressive discoveries about personal identity, psychological connectedness, the self, the "true self," and related practical concerns. But these are distinct notions! In some cases, it is unclear to which notion experimental participants are responding. Does a participants' agreement that someone is "no longer the same person" convey agreement

with a proposition about personal identity, qualitative similarity, connectedness, the self, or something else? There is important philosophical work to be done in interpreting these experimental results and understanding the relationship between these various notions and concepts.

For example, consider how many of the experimental studies purport to study ordinary judgments of personal identity. Strohminger & Nichols (2014) understand their results as showing that "moral traits are considered more important to *personal identity* than any other part of the mind" (emphasis added). However, it is arguable that the experimental materials convey a question about something besides personal (i.e. numerical or quantitative) identity. In one experiment, participants respond on a scale from 0% "They're the same person as before" to 100% "They're completely different now." A very natural way to understand that scale is in terms of qualitative similarity, or some form of (psychological or other) connectedness, *not* numerical identity.

Other philosophers have tried to construct measures that more explicitly convey the distinctive concept of numerical identity. In his Phineas Gage studies, for instance, Tobia's (2015) prompt went as follows:

Art and Bart disagree over what happened in this story. Art thinks that Phineas before the accident and the man after the accident are different in some respects but are still the same person. To Art, it seems like one person (Phineas) experienced some changes. Bart disagrees. He thinks that after the accident, the original man named Phineas does not exist anymore; the man after the accident is a different person. To Bart, it seems like one person died (Phineas before the

accident), and it is really a different person entirely that exists after the accident (the man after the accident).

Many have noted this conceptual issue in experiments about personal identity (e.g. Tobia 2015; Tobia 2016; Berniunas & Dranseika 2016; Dranseika 2017; Dranseika, Dagys & Berniunas 2017; Molouki & Bartels 2017; Starmans & Bloom 2018). The concern has been widely voiced, so now the most useful contribution would be a constructive one: How should experimentalists probe judgment of personal (i.e. numerical) identity? And, of course, a broader non-experimental question remains: What is the relation between notions like the self, the "true self," personal identity, qualitative similarity, connectedness, the essence of a person, and other person-related concepts?

Our second suggestion is that researchers continue to explore the relationship between personal identity and the identity relations of other things. We have focused in this chapter on the identities of human persons, not books, chairs, chimpanzees, or organizations. But experimental studies have found important similarities between judgments of personal identity and the identity of other entities. For example, De Freitas et al. (2017) found that the direction of change effect extends to entities like bands, conferences, and science papers (see also Blok & Newman 2006; Rips 2011; Rose & Schaffer 2017; Rose, Tobia & Schaffer 2018). The relationship between persons and other entities calls for much further inquiry—both in terms of the metaphysics (Is personal identity like other identity relations?) and the psychology (Do people use similar psychological processes to evaluate personal and other identities?).

Our final suggestion is to further develop the connection between personal identity and normative concerns. In particular, a number of studies have shown the relevance of moral properties to attributions of "the same person," the "true self," and psychological connectedness. While some studies have shown that these moral changes also affect practical judgments, a large question remains about how many practical concerns are influenced by these changes.

Indeed, what is striking about the psychological studies is just how closely people seem to tie their assessments of personal identity to normative concerns, a result quite resonant with Schechtman's account. If that's right, then perhaps experimenters shouldn't aim to track some abstract notion of numerical identity and should instead focus their energies on tracking people's conception of an identifiable locus of interaction and normative concern. On this pursuit, what would be most needed is further study of why we judge someone to be an identifiable locus of interaction and whether this varies for different normative concerns.

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