

De se preferences and empathy for future selves¹

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Abstract: I argue that we grasp distinctive, self-involving truths, or *de se* truths, through immersive experience. Drawing on examples involving gameplay and virtual reality, I defend the value of immersive exploration and virtual first personal perspectives, and explore the relation between a virtual first personal perspective and a real world first personal perspective. I then develop the connection between immersive modes of presentation, the *de se*, and transformative experience, and show how our grasp of qualitative truths in experience relates to our grasp of *de se* truths (and tensed truths) in experience. Tying the value of immersive gameplay and augmented reality to the value of gaining an immersive understanding of our future and possible selves, I argue that imaginative immersion in one's future experience is a distinctive, experience-based way to discover *de se* truths. I close my discussion by exploring a case where an epistemic transformation scales up into a personal transformation. In such cases, the discovery of new phenomenal truths can lead to the discovery of new *de se* truths.

When you face a life-defining change, you can ask yourself: *Who will I become?*

This can be understood as a question about who you are and who you will become, asked from your first personal, subjective perspective. As such, it is also a question about the nature and character of your future lived experience, because the nature and character of your conscious, lived experience is a defining constituent of who you are.² Framed this way, knowing your future lived experience is a way of knowing your future self. In this paper, I will explore this way of understanding one's self, with a focus on understanding life-defining changes.³

"Who will I become?" when asked in high-stakes, life-defining contexts, connects the metaphysics of the self to the role of imagination, empathy, testimony, and the *de se* in self-

¹ Thanks to Nilanjan Das, Josh Dever, Martin Glazier, Adam Lerner, Dilip Ninan, Simon Prosser, the St. Andrews metaphysics reading group, and the UNC transformative experience working group for discussion.

² Life-defining choices, as self-involving choices, need not be self-interested in a selfish sense. Life-defining choices don't even need to be self-involving choices. We often think about the futures of others who will be affected by our choices, and about how they will be formed. I will focus on self-involving choices for simplicity, but what I will say in much of this paper applies to the way we think of these choices for others as well as ourselves.

³ In this way, what I am saying has ideas in common with Chang (2015), Korsgaard (2009), and Bratman (1999): you make yourself into who you are partly because of your commitments and your choices. This partly defines who you are. But my focus is on the role of decision theory, new experience, the first person, and cognitive modeling in all of this, not on practical reasoning per se.

understanding and prediction.⁴ The question isn't primarily about personal identity. In the cases of interest, you'll be the same person, in the strict metaphysical sense, whichever self you become. (The ordinary language sense of "same person" equivocates between the notions of "person" and "self".) Rather, it is a question about your first personal future at time t , which defines your future psychological self at t . Having a particular first personal future is having a particular future psychological self, and one's psychological self determines the way it is to be that self.⁵

Thinking about life-defining change means thinking about the past and the future, especially about your own future and the futures of others.⁶ It also means thinking about possible and future selves. Which of my possible selves will become actual? Which ones do I want to make actual? When reflecting on our past and future selves, we often use modal and temporal prospection to understand these selves, and, when making life choices, to define and shape our evolving selves. Who are you now? Whom do you hope to become?

The subjective mode of presentation

The brain states that realize my conscious experience can be known descriptively, for example, I can know them by understanding a complete scientific description of my particular brain structure and activity. My conscious experience can also be known subjectively, that is, I can know it by actually having the brain states that realize my conscious experience. In the latter sense, I understand what it is like to have my current experiences through the experience itself, that is, through actually having the brain states (or, what is equivalent for my purposes here, by having the mental states realized by my brain states).

This difference in the ways I could know my brain states, through description and through experience, stems from a familiar distinction between the descriptive mode of presentation and the subjective mode of presentation. This is a distinction which has long been recognized in debates about physicalism in the philosophy of mind.⁷

Frank Jackson's example of seeing red for the first time illustrates the idea. Mary has never seen color. She has never left her black and white room. When Mary finally decides to leave her room, she sees color for the first time, and her first color experience is of something red. When Mary sees red, she discovers what it is like to see red. Before she left her room, Mary could not have known what this would be like. All the imagining she could do would not be enough for her to know what it was like to see red before she actually saw it. Crucially, knowing all the science about the brain, including all the scientific facts about her own brain and her own future brain states, would also not be sufficient for her to know what it was like to see red. She has to actually experience phenomenal redness to know what it's like.

⁴ Some of these choices can seem momentous. Others seem inconsequential. Some happen over a short period of time. Some happen gradually, perhaps as the result of a series of small choices that compose a temporally extended big choice. My focus is on life-defining, "big" choices that happen over a short period of time and are recognized as such. Their less dramatic cousins, including cumulative choices resulting from extended actions, can be fitted to much of the structure I'll describe.

⁵ I am assuming physicalism here, and am also assuming that one's psychological self at a time is just a physical individual at a time or a timeslice of the relevant persisting physical entity that is the person.

⁶ Chang (2012, 2015) and Korsgaard (2009) discuss these questions. Chang (2012) focuses on how we compare small choices that build up over time, and on how they end up defining one's life. Chang (2015) engages with the issues about epistemic forecasting I am discussing here.

⁷ Jackson (1982).

What, exactly, Mary discovers when she leaves her black and white room forms the basis for disputes about physicalism, and in particular about whether Mary discovers new facts when she leaves her room. But the interest and implications of the debate extend past the knowledge argument. We can grant that physicalism is true, and further that Mary doesn't discover new facts when she leaves her room, while still recognizing that Mary makes an important discovery. Assuming this sort of physicalism, what discovery does she make?

She discovers a new way to understand the physical facts. By assumption, Mary already knew these facts under a scientific description, that is, she knew a complete scientific description of the brain states that would realize her color experience. But when she actually has the experience of phenomenal redness, she discovers a new way to know these facts. Her discovery comes from her new experience, that is, by having those facts (or the propositions that express them) presented to her under the subjective mode of presentation. We can say that she discovered a phenomenal truth through having the physical facts presented to her through her experience of having the brain states that realize phenomenal redness in her.

On this account, the experience of redness is the presentation of the relevant physical facts under the subjective mode. This mode of presentation allows her to understand the facts about her brain states in a new way, and as a result she gains new abilities to imagine and represent. Put more simply, the experience teaches her to understand these facts in a new way, giving her new imaginative and representational capacities.

David Lewis, in particular, argued that experience can endow us with distinctive abilities (Lewis 1990). Brian Loar's seminal contribution was to distinguish phenomenal concepts from theoretical or scientific concepts, and to argue that what Mary discovered was the phenomenal presentation of the physical, scientific facts she already knew (Loar 1990). According to Loar, when she experiences phenomenal redness, Mary represents the physical information to herself under a distinctive mode of phenomenal presentation, a mode of presentation that she discovers through the experience of seeing color for the first time. Lewis's view fits well with this part of Loar's view. On Lewis's view, Mary doesn't get knowledge of new facts or new information when she sees red for the first time, since her experience does not involve the discovery of any information that is not physical information, and Mary already knows all the physical information. Nevertheless, her experience gives her new abilities to represent and imagine the information, or the facts, that she already knew.

In effect, Loar's idea—as I will take it on—is to distinguish the descriptive mode of presentation from the subjective mode of presentation, and to argue that we understand the relevant facts in a distinctive way when those propositions are presented to us under the subjective mode. When these propositions are presented to us under the subjective mode, we grasp a distinctive kind of phenomenal truth. The subjective mode of presentation needed to discover the phenomenal truth can only be given to us by our having the relevant experience. It cannot be given to us merely by knowing the relevant scientific description.⁸

Strictly speaking, I am extending Loar's distinction from the merely phenomenal versus the theoretical/descriptive to the *experiential* versus the descriptive. Loar defends the subjective mode of presentation as the phenomenal mode of presentation, and defends the essential role of phenomenal concepts, in particular those involving sensory phenomenology, for human understanding. However, in real life, experience is a blend of the sensory and nonsensory, probably irreducibly so, and there is no clean separation between the phenomenal and the nonphenomenal. Moreover, real people lack access to the complete

⁸ We can embrace the essentials of the Loar-Lewis idea without accepting controversial Fregean theses about meaning or content, or thinking that the only role of the subjective mode of presentation is to give us access to phenomenal content.

scientific descriptions that Mary, in the story, is able to draw upon. Thus, the ability to grasp the nature of a real-life event under the subjective mode of presentation can require experience in this broader sense, even if the source of the necessity is ultimately based on an essential contribution made by the phenomenal character to the overall nature of the experience. So the needed distinction is one between the subjective or experiential mode of presentation and the descriptive (or scientific-theoretical) mode of presentation. I also endorse Lewis's idea that the subjective mode of presentation can endow us with new epistemic capacities. Roughly, we can think of the experience that gives us a new way of knowing a fact as endowing us with a new perceptual concept through the experience.⁹ This grounds new conceptual capacities to represent, imagine, and cognitively model possible states.

Once we've established that there exists a distinctive way of grasping facts or understanding propositions under the subjective guise, and that this way of presenting and understanding arises via experience (in the ordinary case), we can identify a distinctive way that a person can grasp facts about her lived experience. Start with the obvious point that an individual's distinctive, first-personal grasp on facts isn't confined to facts involving simple experiences such as seeing red. It can include any fact involving experience, including complex lived experiences from that individual's past, current, and future states. The same sort of discovery that a person can make about a simple experience such as what it's like to see red can be made about a more complex experience such as what it is like to live one's life at some time. We can learn phenomenal and perceptual truths through the subjective mode of presentation, and we can also learn lived-experience truths through the subjective mode of presentation.

We can even learn them after we know the relevant facts. How? Take the facts that constitute my lived conscious experience at a time *t*. Before I have this lived experience, I can have these facts presented to me under the descriptive mode, through a description given to me, perhaps by a psychological or medical expert. Perhaps the description is couched in terms of my brain states, or perhaps the expert describes my experience in some more evocative way. But I can also have these facts presented to me under the subjective mode by having the lived conscious experience itself. When I have the experience at time *t*, I discover the experiential truth, as it is given to me under the subjective mode of presentation. I then engage in a distinctive way of knowing that fact, through living the experience it constitutes.

The first personal perspective

The subjective mode of presentation involves the presentation of facts through conscious experience. Ordinarily, a conscious experiencer is an individual with a phenomenally centered conscious perspective, or as I shall sometimes describe it, with a "first personal point of view".¹⁰ Phrases like the "first personal perspective" and the "subjective perspective" can be difficult to define even if they are intuitively clear. As I will use the phrase, it picks out a psychologically or phenomenally centered conscious experience.¹¹ The character of the experience is perspectival, or centered, on the phenomenal self.

⁹ We then focus on perceptual concepts rather than phenomenal concepts, along the lines of Papineau (2002).

¹⁰ Although "perspective" could be interpreted as referring to something visual or a line of sight from a location, it should not be restricted to such an interpretation. A blind person has a perspective even if he lacks sight.

¹¹ See Paul (forthcoming) and Cappelen and Dever (forthcoming) for additional context and discussion of material related to the topics of this section, especially for a discussion of what a first personal perspective might be.

Sometimes, in an effort to explicate the ideas involved, the first personal point of view is contrasted to the third personal point of view. Related ways of describing the contrast oppose a “view from somewhere” to the “view from nowhere”.¹² These descriptive phrases are also used to mark the distinction between the subjective mode of presentation, which makes a fact available directly through (phenomenally centered) conscious experience, and the descriptive mode of presentation.¹³ The descriptive mode is a presentation of a fact in a way that abstracts away from any particular individual and does not depend on experience to communicate the idea. It presents the fact using descriptions or symbols, in a way that any competent user of the language can grasp.

This distinction is imperfectly but usefully captured by an analogy to differences in visual perspective or line of sight. We can have a line of sight that defines a visual perspective from a located individual, which is analogous to the direct presentation of facts through experience or acquaintance. We can also have a more impersonal perspective, a Godlike or bird’s eye view, where the information is presented from a view that is not occupied by any of the individuals on the ground. Rather, the information is presented from above, as though one is viewing the individuals moving around on a map or a terrain. This more impersonal visual perspective is analogous to the presentation of facts through description. Sometimes these aren’t just analogies: in certain situations these differences in types of visual presentation can be exploited to create different modes of presentation for the viewer. An example will help to bring out the point.¹⁴

Many contemporary computer games are “first-person shooter” (FPS) games where you, the agent, have some sort of task to perform. When you play the game, you play as though you were looking out of the eyes of your character. Your line of sight is the one of the character you are playing. You are presented with a three-dimensional viewpoint. Often you are presented as holding a weapon (with “floating arms” emanating forward from your viewpoint into the screen), you “turn your head” to gain a line of sight, and you control the viewpoint and actions of your character. The information the game give you provides you with a representation of a visually centered perspective.

In general, you know where you are and what you are doing as you play your character by being presented with visual and other information associated with the representation of the located perspective of your character, the character whose “boots” you are occupying as you play. This artificial simulation of located visual perspective and other perceptual features of your character’s experience in the game allows you to model a subjective way of knowing who you are and where you are in the game.¹⁵ Not only are you presented with the character’s perspective, you use this perspective to act in the game as you control over your character. In many FPS games, as you play the game you also build out the game world from your character’s point of view. You use your character’s located perspective to develop, through choice and action, further features of the world of the game. In this way you exploit your model of the subjective perspective of that character in order to play. The

¹² Nagel, *The View from Nowhere*. There are several, subtly different, contrasts we can make here. I’m going to elide them in what follows.

¹³ This is also sometimes glossed as the difference between the subjective perspective and the objective perspective. I suspect these are all different but related notions. The locus classicus for discussion of this issue in the philosophy of mind is Nagel’s *View From Nowhere* (Nagel 1986).

¹⁴ Another example: when you use Google maps, you can switch from the perspective from above, “map view”, where you see a moving dot on a map, to “streetview”, where you occupy a first-personal perspective on your location. When you switch perspectives, the app visually represents the experience of falling from above down to the position on the map, blurring your view as you flip perspectives from a third personal view on where you are to a first personal view on where you are.

¹⁵ Which, of course, you grasp from your own first personal perspective.

first personal interactive feature of an FPS allows for a distinctive kind of immersion into the world of the game.

Virtual reality (VR) immersion also uses technology in order to encourage the participant's simulation of an immersed, first personal perspective. Through visually immersing you into a scene and exploiting other features of visual perspective, it gives you the sense of being in a different place or being a different kind of being (for example, through the visual and tactile information you are given, you can occupy the visual perspective of a tiny fly on a table, or of a giant looming above the trees).¹⁶ Often there are coordinated joysticks or handheld sensors. As with an FPS game, the way in which you create your sense of who you are and where you are in the virtual terrain stems from your subjective mode of presentation. Your information about yourself from this perspective is largely experienced as visually first personal (but with some motion detection and response) and comes from simulating or representing the visual perspective and (perhaps) bodily motion of an immersed experiencer. The virtual terrain can be interactive and may allow you to engage with and even construct an evolving, responsive world.

The interest of FPS games and VR in this context is that this technology is constructed specifically to create, in the participant, a representation of a first personal point of view in a game or a (virtual) world state. The reason why the games are so immersive is because, by presenting a visually centered perspective using a first personal camera angle along with a coordinated mouse or joystick, they can generate a simulation of first personal conscious experience in the user. That is, they can create a virtual first personal perspective or virtual first personal point of view in the person using the technology.

The power of these games and related technologies consists partly in the way they have identified what's needed for an agent to experience a virtual first personal point of view. Virtual immersions work because they capture something deeply recognizable about the way we experience reality, namely, they capture a way that conscious, sighted individuals experience the world through their first personal points of view, using visually centered information.¹⁷

We can use this to reverse-engineer an explication of the first personal perspective as a real-world first personal point of view. That is, our rich conscious experience of ourselves and the world around us, centered with respect to our sensory experience and our cognitive orientation gives us a first personal perspective built out of that experience. This is our real-life first personal point of view. With this clarification, I will use "first personal point of view" and "first personal perspective" to pick out our subjective way of understanding the world as a located, *immersed*, conscious experiencer. A first personal perspective is the rich sensory and cognitive perspective of the conscious experiencer as immersed in her world. Tying this to our discussion of modes of presentation, understanding facts about yourself from the first personal point of view is a way of understanding these facts using experience, that is, of understanding them through the mode of subjective presentation. Understanding facts using experience brings with it the asymmetry of immersion, an asymmetry which we can capture through its visual analogue. FPS games and virtual reality machines work by creating this mode of presentation in the user through using a distinctive camera angle, what game engine technology defines as a "first-person camera", to evoke the sense of looking out from the eyes of a character immersed in her game world.

¹⁶ I'm indebted to Neil McDonnell and the Soluis Group for the opportunity to experience virtual reality, including an immersive VR dome and related augmented reality technology.

¹⁷ For related empirical research, see Starmans, C. and P. Bloom. (2012).

A different, non-immersive type of representation in computer games comes from the visual perspective given by various types of impersonal lines of sight (“impersonal” in the sense that it is not represented as a line of sight of a located individual in the game). Some real-time games and “god games” use a camera angle that simulates this kind of line of sight. The camera scans across the terrain, and the yaw and pitch are not controlled by the players. Another type of impersonal perspective can be given by a third-person “follow camera” that’s focused on the player and follows the player throughout the game, taking different viewing angles, often from behind or above. (The character of the view can depend on whether the representation is two dimensional or three dimensional. Also, this sort of camera may be controlled by the player.) Visual perspectives from above, or the visual perspective given from the third-person follow camera, represent a point of view in the game that is not presented as a perspective of a game character. These more impersonal perspectives are analogous to an objective perspective taken, we might imagine, by some sort of ideal scientist impersonally observing the world of the game.

Of course, even when one is surveying all of reality from various third personal perspectives, one is still included in reality. The observer is a constituent of the reality that is impersonally observed, so the impersonal perspective must include itself in the representation in some way, even if regress threatens.

More importantly for our purposes, when you are immersed in reality, you may also need an impersonal way to represent yourself. Games accommodate this as well. When you play an FPS, your position and orientation is usually captured by a map inset in the frame, where you can see yourself as though you were above (or sometimes slightly behind) your character. The FPS map inset gives you a third personal way (as opposed to a first personal way) in which you know which character you are and where you are on the terrain. Sometimes the map inset gives you a camera angle from above. (If you don’t play computer games, this impersonal representation is somewhat like how you see yourself as a moving dot when you locate yourself using a map application on your phone.¹⁸) The map inset simulates a third personal perspective on your game character, and by watching it you have a distinctive way to represent who you are and where you are. This sense in which you know who you are and where you are by watching the map inset gives you facts about your character, including your character’s location. Your information about your character from the map inset is third personal and impersonal, in that it comes from positional and other descriptive information that all the players can access in order to locate and describe you in the gameworld.¹⁹

As with games and map applications, so too in everyday life: in the non-virtual part of reality, understanding facts about yourself from a third personal point of view is a way of understanding these facts from a sort of “impersonal” perspective. Maps, recorded images, and descriptions of your location and of your other properties are presentations of information about you that are in principle accessible to any competent user of the map, the record, or the language. They give you a way of understanding facts about yourself under a descriptive mode of presentation.

¹⁸ The first personal view, in contrast, is when you drop down to “street view” and see a location as though you were riding on top of the Google car.

¹⁹ (Perry 2011) develops an example: “suppose Clinton misplaced his cell-phone, and decided to call himself on another phone to make his cell phone ring. If he hadn’t memorized his cell-number, he could have looked it up on the staff directory the same way he would have looked up anyone else’s phone number. In these sorts of cases there is no use of normally self-informative methods; we find information about ourselves in the same way we find out information about others. Still, we associate this information with our self-notions.” This is Perry’s “second” type of self-information, as opposed to the “third” type, which is what I am associating with first personal experience.

The *de se* mode of presentation

It can be interesting to discover something about yourself. For this reason, it can be interesting to discover things that are self-involving. *De se* truths and *de se* attitudes are truths and attitudes that are self-involving. I can know, or believe, or imagine something in a *de se* way, such as when I have the *de se* belief that *I am short-sighted* or the *de se* desire that *I'd like some ice cream*. *De se* truths are perfectly analogous to tensed truths, in that I can know, or believe, or imagine something in a tensed way, such as when I have the tensed belief that *The meeting starts now* or the tensed desire that *Change should happen now*. A distinctive feature of such truths is that they are given to us in experience.

One interesting way to discover self-involving truth is for a person to discover that a proposition expressed by a particular sentence has content that involves them. For example, I might discover, after a visit to my ophthalmologist, that I'm short-sighted. My discovery at the ophthalmologist's office involves the discovery of a fact, the fact that *Laurie is short-sighted*, but in a particular, self-involving way. I discover the fact that *Laurie is short-sighted* by discovering the *de se* truth "I am short-sighted" through my experience of having eye charts presented to me at an annoying distance. My experience presents this fact to me, and this, perhaps in conjunction with other facts I know, gives me a particular way of knowing the individual-involving fact that *Laurie is short-sighted*. We can describe this as a discovery of a fact (that Laurie is short-sighted) through a discovery of a *de se* truth involving my annoying eye-chart experience. What will be important in what follows is that I discovered this individual-involving fact using the subjective mode of presentation. My discovery of the fact that I am short-sighted occurred via a discovery of a self-involving phenomenal truth, that is, a truth about my experienced self.²⁰

I'm endorsing a fairly minimalist fact ontology here. I'm assuming that so-called "*de se* facts", if such there be, are reducible to non *de se*, individual-involving facts.²¹ We don't need an ontology of primitive, irreducible, individual-involving facts involving some sort of mysterious "selfness". This is analogous to my preferred way to understand the ontology of tensed facts. If we take tensed facts to be identical to or reducible to tenseless facts, we can think of them, generically, as time-involving facts. When I discover or express a tensed truth, such as "the meeting starts now", what I am doing is presenting a time-involving fact to myself through experience, and by doing so I am discovering or expressing a tensed truth. To endorse the psychological importance of tense, I don't need to endorse the existence of a primitive, irreducible, tensed, perspectival fact. I just need to endorse an important role for the subjective presentation of a time-involving fact to myself in experience, which is the mode of presentation that allows me to grasp the tensed truth.

Similarly, to endorse the psychological importance of the *de se*, I don't need to endorse the existence of primitive, irreducible, self-involving perspectival facts. I can hold

²⁰ We might also describe them as truths about phenomenal selves. I don't take the phrase "phenomenal self" to suggest that what it is like to be a self is merely sensory or merely phenomenological.

²¹ I'm denying that we need special, "perspectival" *de se* facts. The notion of the first personal perspective that I am working with here is an experiential notion built from phenomenally or psychologically centered conscious experience. There is no need for a metaphysically primitive perspectival element. Similarly, I'd deny that we need tensed facts or special location facts in order to accommodate our experiences as of *nowness* or *passage* or *hereness*. Consciousness is what's doing the work here. (See my 2010 for related discussion.) Overall, then, I'm sympathetic to Cappelen and Dever's (2013) arguments against the *de se*, but I want to establish a role for located conscious experience, or what I take to be the first personal perspective.

that so-called *de se* facts are identical to or reducible to non *de se* facts, and think of them, generically, as individual-involving facts.²² When I express a *de se* truth, such as “I am short-sighted” or “I am making a mess”, part of what I am doing is presenting an individual-involving fact about me, to myself, through experience. To recap: we use experience to present time-involving facts to ourselves in tensed ways. These are presentations of tensed truths. Similarly, we can use experiences to present self-involving facts to ourselves in *de se* ways. These are presentations of *de se* truths.²³

This way of discovering a *de se* truth through subjective presentation is similar, in a certain way, to Mary’s discovery of what it is like to see red. Through experience, Mary discovers a new way to know the facts about seeing red, namely, she discovers what it’s like to see red by having a fact about red experience presented to her under the subjective mode. She knew the fact already, under the scientific description, but when she has the experience, she is presented with the fact in another way. She discovers a phenomenal truth about redness. In both of these cases, my discovering that I’m short-sighted and Mary discovering what it’s like to see red, the way that the relevant fact is presented is through conscious experience. In each case, a truth is discovered through the presentation of the fact in experience. Mary’s discovery of what it’s like to see red is a discovery of a phenomenal truth, and my discovering that I’m short-sighted is a discovery of a *de se* truth. The analogy is two-fold: the presentation of the relevant fact is through experience, and each experience involves a discovery. In each case, the individual discovers something—a truth of a particular sort—when the fact is presented to them under the subjective mode.

There’s also a disanalogy. According to the story, Mary already knows the facts about what it will be like to see red under a different mode of presentation, the descriptive mode. (Recall: she knows the facts under the descriptive mode because she knows a complete scientific description of all of the facts about her present and future brain states.) So what Mary discovers through her experience is a new way of knowing facts she already knew. This, of course, is still interesting, because phenomenal truths are intrinsically interesting. But (given the standard physicalist account) Mary didn’t discover any new facts through her experience.

But in the example where I discover I am short-sighted, I discover a new fact along with a new truth. The fact I discover is the individual-involving fact *Laurie is short-sighted*. Before I visited the ophthalmologist, I didn’t know this fact, much less know it under the subjective mode of presentation. I hadn’t had this fact presented to me at all. So in the example where I discovered I was short-sighted, it is true that I had a new kind of experience when I discovered the fact *Laurie is short-sighted*. But in addition to having a new kind of experience, I also discovered the fact itself. So the *de se* truth I discovered involved a (new) way to know a new fact. I didn’t just discover a new way to know an already-known fact.

Experience is a very common way to discover individual-involving facts. For example, you can use it to discover the fact that someone is making a mess. But more interestingly, you can also discover, through experience, that the mess-maker in question is you. John Perry’s classic example illustrates the point.

²² I’m taking a conservative approach to the fact ontology here, because I prefer to be ontologically minimalist if I can. If you think there are good independent reasons to endorse irreducibly perspectival facts, then you should be even more concerned about the need for discovery of the *de se* truths, for those would involve the discovery of *de se* perspectival facts.

²³ I’m indebted to Ross Cameron and Brad Skow for helpful discussion here. Mark Johnston makes a similar distinction between indexicality and experience in his 2010, pp. 192-3, and see Stanley 2011 for related distinctions. See Dyke 2010, Cameron 2015, and Skow 2015 for related discussion of tensed truth and the new B-theory of time.

I once followed a trail of sugar on a supermarket floor, pushing my cart down the aisle on one side of a tall counter and back down the aisle on the other, seeking the shopper with the torn sack to tell him he was making a mess. With each trip around the counter, the trail became thicker. But I seemed unable to catch up. Finally it dawned on me. I was the shopper I was trying to catch... I believed at the outset that the shopper with a torn sack was making a mess. And I was right. But I didn't believe that I was making a mess. That seems to be something I came to believe. (Perry 1979:3)

Perry follows a trail of sugar around the supermarket, knowing that someone is making a mess. He doesn't have a full understanding of the situation until he discovers that he is the one making the mess. More precisely, he discovers the fact that *John Perry is making a mess*. But the example is important because of the way he makes this discovery. He makes this discovery using the subjective mode of presentation, that is, he also discovers, through experience, the *de se* truth that he is making a mess. When he discovers that it is *he* who is making the mess, he does this through recognizing a *de se* truth. That is, as the story is told, he discovers the individual-involving fact through presenting himself with this fact under the subjective mode, the experience of the discovery of the *de se* experiential truth about his involvement in the mess-making.

I'm emphasizing this because we need to focus clearly on the important role of experience in these discussions of the *de se*. Perry tells us that he discovered that he was the shopper making a mess. But how did he discover this? Perhaps he simply noticed he was the one spilling the sugar by looking down to see his torn sugar sack. Or perhaps he made an inference from seeing an ever-thicker trail of sugar. In either case, he used his visual experience to discover that he was the person making the mess. That is, according to the example, Perry discovers the *de se* truth that he is making a mess though subjectively (experientially) presenting himself with the individual-involving fact that John Perry is making a mess along with the fact that he is John Perry. This subjective presentation is just Perry's experience of himself as participating in the mess-making.²⁴ He recognizes, through his experience of looking down and seeing the trail of sugar he is creating, that he is the one making the mess. We can put it this way: through his experience, Perry presented the fact of *John Perry's spilling of the sugar* to himself.

However we adjudicate the semantics of the *de se*, it should be clear that Perry discovers something important by subjectively presenting "I am making a mess" to himself.²⁵ Again, what does he discover? On my account, he discovers the fact that John Perry is making a mess. But he also discovers something else: *what it is like* to know this complex, individual-involving fact via his particular, rather funny, experience. That is, he discovers the *de se*, self-involving truth of "I am making the mess!" through the subjective presentation of an individual-involving fact about himself to himself. And just like in Mary's case, this discovery was interesting, because having a silly self-discovery experience is interesting (and funny), and in general, we find discovering *de se* truths about ourselves to be intrinsically interesting.

²⁴ A Lewisian might say that Perry discovers, through his experience of the ever-thicker sugar trail, that he should self-ascribe the property of *making a mess*. Or, maybe we should say his act of self-ascribing is the experience that allowed him to discover the right fact. Perhaps it is the act of successfully self-ascribing that is the experience that constitutes the subjective mode of presentation of this fact.

²⁵ I am inclined to think, with Cappelen and Dever (2014), that semantic content does not include first personal content. For me, the important issue involves the first personal or experiential way to entertain a fact using the subjective mode of presentation. I'm not willing to jettison a philosophical role for the first personal perspective, but I am willing to remain neutral about whether there is such a thing as first personal content.

This suggests that what's philosophically important about the first-personal perspective involved in these Perry-type discovery cases isn't just something about representing one's location. Location can be important for indexicality. But the perspectivity of the case is grounded in the way the fact is presented, through conscious experience, as a *de se* truth. In the sugar case, Perry has a distinctive experience that does part of the work of the example, and the experience carries with it the immersive perspectivity of the first personal point of view.²⁶ That is, to grasp the *de se* truth, Perry has to discover "his own shoes", which is a metaphor for his taking up a first personal perspective on the relevant facts.

Relatedly, to capture the interesting first-personal connection between one's understanding of oneself as a subject and one's knowledge of the *de se* truths that I'm after, it isn't enough to have a perspective *on* one's self in that situation. We need to experience the perspective *of* that self in that situation, that is, we need to represent the first personal perspective one has *as* that self, as the conscious experiencer.²⁷

The importance of representing the perspective *of* the subject is mirrored in FPS gameplay. When you play an FPS, playing the game is structured around your virtual first personal perspective. Having a map inset or a bird's eye camera angle isn't enough. What you must do when you play the game is "virtually" self-ascribe or virtually identify with a character and adopt the character's first personal point of view, by perspectively representing its conscious view through virtual visual centering. You couldn't play the game properly if you didn't knowingly occupy the visually centered perspective (or "occupy the boots") of one of the characters in this way. The game wouldn't make sense: you would not have the information presented to you in the way you needed it to be presented. A similar point holds for the importance of immersion in virtual reality. These technologies principally work by giving you an immersive experience. Their main function is to allow you to discover a virtual *de se* mode of presentation through immersing you into a virtual first personal point of view.

Anyone who has had the immersive experience of an FPS or of VR knows that this is their distinctive feature. It's what makes game playing using them so engaging (and so *fun*). Moreover, the sorts of further knowledge and abilities we can gain from immersion into a new first personal point of view are extremely valuable and may not be accessible by other means. (We aren't in Mary the scientist's position, so we can still discover new facts using this mode of presentation, facts we couldn't discover in other ways.) The incredible value of the distinctive types of truths we can know through experience is what virtual reality has managed to harness, especially when it is used to teach people about parts of the real world that they've never actually experienced. In such cases, you experience the virtual representation of reality from within, as a participant. By experiencing this representation of reality as a participant, you learn more about the truths of reality, and you respond differently to the facts about the world as a result. The widespread and general recognition of this is an important reason why interest and investment in virtual reality has exploded.

It isn't just game playing or virtual reality that requires an experientially centered conscious perspective. Real life relies on it as well. Should I discover, through experience, *de se* truths such as "I am making a mess" or tensed truths such as "The meeting starts now", this can help me to understand how I need to act. That is, when I have these facts presented to me

²⁶ For related discussion see Recanati (2007), according to which information about oneself is sometimes acquired through the *internal mode*.

²⁷ This may be the same distinction that Wittgenstein (1958) makes between the self as subject and the self as object. Also see Williams (1970).

under the subjective mode, through my experience, I can then understand them from my centered, conscious perspective. And, as a conscious experiencer, I will act accordingly.²⁸

Put in philosophy of mind terms, a key element of the “discovery” stories from the *de se* literature involves the discovery of individual-involving facts through experience. But in many of these cases, the interesting discovery is of a *de se* truth about oneself: the discovery of *what it’s like* to be that self in that situation. It isn’t just the discovery of individual-involving facts that matters, it’s the discovery of the *de se* truths or the presentation of these individual-involving facts under the subjective mode of presentation that matters. The stories emphasize how important it can be to have self-involving truths presented to us, because they bring out how much we care about recognizing or understanding these *de se* truths in experience. The terminology I’ll use to capture this is “*de se* mode of presentation”.²⁹ The *de se* mode of presentation is simply a species of the subjective mode of presentation. It is the subjective mode of presentation of individual-involving facts. It allows for the discovery of *de se* truths through experience, the discovery of what it’s like to be an individual in a particular situation.

Propection

Why is it philosophically interesting and important to represent what it’s like to be a self in a situation? Why do we find it interesting and important when we discover such representations? *De se* truths are philosophically interesting because they capture a defining feature of how we live our lives. Lived experience is a basic feature of human existence. It may even be the most cognitively fundamental way we have, as human beings, to represent physical reality. It can be important to grasp the first personal perspective of our future selves in order to grasp the nature and quality of our possible future experience and the experience of others. It can help us understand ourselves as enduring selves, and as persisting selves when prospective assessment of one’s enduring perspective gives out.³⁰ It can also help us to assess the value and desirability of different possible future selves, and perhaps help us to understand how we might become one particular future self as opposed to another, especially as we persist through psychological change and make life-changing decisions. Recognizing *de se* truths also seems to play a distinctive role in motivating action. All of these reasons come into play when we think first personally about ourselves.

We’ve explored the distinction between descriptive and subjective modes of presentation, discussed the way the subjective mode of presentation of information about one’s self connects to debates about the *de se*, and defined the first personal perspective as the immersed perspective represented in psychologically centered conscious experience. We’re ready, now, to return to the topic raised at the start of this essay: understanding one’s future self.

My conscious experience, in its most basic form, is just my first personal perspective. More complex sorts of experience, such as self-consciousness in varying degrees, can arise when I represent myself to myself. When I explicitly consider ways to represent facts about

²⁸ Some make even stronger claims about the importance of the mental representation of one’s self for action and understanding. For two very interesting papers in this vein, see Prosser (2015) and Schwenkler (2014). Also see Peacocke (2014).

²⁹ Cappelen and Dever would prefer that we abolish talk of the *de se* altogether, given its controversial and confusing history. But I like the idea of using “*de se* mode of presentation” to pick out the important work done by conscious experience in the presentation of the sensory and cognitive phenomenology of the self, especially since much of the interesting discussion in the *de se* literature stems from the interest of discovering *de se* truths.

³⁰ See Paul (2017).

myself to myself, I can do so under the subjective mode of presentation, through my actual experience and through imagining my experience. Or I can present facts to myself under the descriptive mode of presentation, by understanding descriptions about myself or (given that my dominant sense modality is vision) imaginatively “observing” myself (e.g., using a third personal camera view) perform some action. I’ll class this way of imaginatively observing myself as a way of presenting myself with facts about myself under the descriptive mode.

My future first personal perspective at a time is constituted by my future conscious experience at that time. When we think of our future selves first personally, we imaginatively represent the first personal perspective of our future self at that time. As David Velleman puts it, we “peer up the stream of consciousness” when we try to “prefigure” our future selves at different moments along the stream.³¹ (Of course, thinking about yourself first personally can involve thinking about or recalling your past first personal perspectives as well as reflecting on your future ones.³²) *Prospection* is the act of modeling your future first personal perspective. *Retrospection* is the act of modeling your past first personal perspective. When I prospectively assess my future first personal point of view, I can do so through imaginatively representing or simulating my future conscious experience.

People take the first personal perspective on themselves most naturally under some circumstances and a third personal perspective on themselves under others. Speaking personally, my representation of facts about myself in my immediate future, as well as in my immediate past, is much more likely to be first personal. As I increase the temporal distance from my current self to the future or past self I’m representing, I tend naturally to shift towards a third personal representation of myself, simply because it can be harder to assess the first personal perspective over larger temporal and qualitative distances. This is representative of ordinary human perceivers.³³

The way to prospectively represent our future selves is to imaginatively occupy our future points of view. I will describe this as an act of imaginative empathy. We can understand this as involving a kind of cognitive empathy for a future self, because we attempt to take our current first personal point of view and mentally evolve it forward, perhaps discontinuously, into our future first personal point of view. In this sense, we prospectively empathize with our future selves in order to understand them.

Empathy here is not mere affect. It’s not just about feeling what my future self will feel. It’s also cognitive. To empathize, I have to understand enough about my future self by understanding enough about the nature and content of her first personal conscious perspective to know what it will be like to be her, at least along some relevant dimension. The act can be described metaphorically, related to my discussion of FPS gameplay, as “stepping into the shoes” of a future self. We imagine having that self’s first personal point of view, and imagine living the kind of life that future self would live.³⁴ That is, we imaginatively occupy her psychologically centered conscious perspective, much like we visually occupy the centered perspective of our FPS character.

³¹ See Velleman 2006: 194-5.

³² Episodic memory can be first personal, as when I recall a past event as I experienced it then. Episodic memory can also be third personal, where I recall a past event, but I construct a representation where I seem to observe myself engaging in the event. This is a familiar feature of research on memory (Tulving 1972; Tulving 1983).

³³ See Paul 2017 and Ninan 2009 for further discussion of the enduring self. See Pronin and Ross (2006) for empirical work on shifts in perspective one oneself over time.

³⁴ I will use the term “imagine” in a broad sense that is consistent with the way many contemporary psychologists would use the term. So while visual imagination is covered by my use of the term, I am taking “imagining” to be an act that involves cognitive modeling of possible situations, which could include modeling without explicit visual imagery. Imagination, then, allows us to simulate a future first personal point of view. The simulation involved is likely to occur only with the level of detail needed to make the intended projective assessment. (Saxe 2005.)

On this approach, what you are trying to discover about what it will be like to be you at time t is the subjective, first personal, experiential character of what it would be like to be you at t .³⁵ You want to know what it will be like to be you “from the inside” at t , that is, you want to know what it will be like to be you then, including what you’ll care about and what you’ll prefer then. You want to know these *de se* truths about your future selves at those times, just as you know the *de se* truths about your current self, that is, just as you know what it is like to be you now, including what you care about now and what you prefer now.

One way to put the point is that you want to project your current first personal perspective, your perspective as it is now, into your future self (but adjusted given any relevant changes in circumstances and mental states). If you can project in this way, at least along some relevant experiential dimension, you can have the capacity to empathize with your future self. Of course, as I noted above, the kind of empathy you want is the rich, cognitive sort, not mere affective empathy where you simply know how you’ll feel. You want the sort of empathy that you can use to make balanced, careful assessments of your future life. This isn’t merely an affective response to who you’d be. A merely affective response could undermine careful judgment. With a more cognitive type of empathy, you’d understand how you’ll feel but also why you’d feel that way, and you’d also have an epistemically distinctive grip on your overall, psychologically rich, centered perspective.

So prospective empathy (the temporal version) involves the imaginative representation of the first personal point of view of one’s future self. One’s first personal perspective, as I described it above, is constituted by the nature and character of the self’s conscious experience, which also encodes the self’s consciously represented desires, beliefs, and other mental states. (And as I’ve been emphasizing, “perspective” and “point of view” need not be understood visually. The representation of one’s psychologically centered perspective does not even need to involve the representation of visual images, although it usually will. And the representation does not have to be at a particularly fine level of detail.)

What about imaginatively representing your future self from the third personal perspective? This is another way you might think of yourself in the past and in the future. In this situation, you imagine yourself as an observer of your past self or as an observer of your future self. In this type of representation, you do not represent yourself from within your conscious perspective. You represent a perspective *on* yourself, not the perspective *of* your self. Childhood memories can be like this: you might seem to recall yourself as a child playing with a toy on the floor. But your seeming memory is presented from a visual perspective that you never actually occupied as a child. For example, you might see yourself playing on the floor as an adult would, that is, you represent yourself third personally in the way that an adult watching you play on the floor would have observed you.³⁶ Just as you can imaginatively represent your past self third personally, you can imaginatively represent your future self third personally.

We may even be able to characterize a physical difference between imagining yourself from the first personal perspective and imagining yourself from the third personal perspective. Work in neuroimaging suggests that the first personal perspective and the third personal perspective can be distinguished by a distinctive “neural signature” associated with the sort of self-referential neural processing associated with taking an agentially centered, or first personal, perspective.³⁷

³⁵ There is a clear parallel to the discovery that Mary makes when she leaves her black and white room and discovers what seeing red is like. I discuss this in more detail in the next section.

³⁶ See Tulving 1972, 1983. Again, the representation does not need to be visual, although for those of us whose dominant sense modality is vision, this is an especially natural way to think about it.

³⁷ See (Mitchell et al 2011).

Recent work in philosophy of mind and epistemology is starting to appreciate the importance of imaginative assessment for self-involving belief, knowledge, choice, and action. To mention a few important examples: Amy Kind argues that imagining can play a role in justifying our beliefs and can expand our epistemic capacities.³⁸ John Campbell discusses the important role for imaginative empathy when we make decisions for others.³⁹ Timothy Williamson discusses how imagination can play a role in the discovery and justification of knowledge, for example, when a person uses his imagination to form a true belief as to what would happen to him in hypothetical circumstances.⁴⁰ Bence Nanay defends the idea that there is an important role for imagination in representing and comparing different outcomes when an agent is trying to make decisions between possibilities for her future.⁴¹ Christoph Hoerl and Teresa McCormack discuss first personal decision-making involving reasoning about anticipated regret, and Dilip Ninan explores the relationship between imagination and the self.⁴² Empirical work also supports the idea that imaginative perspectival reasoning plays a role in reasoning about ourselves as well as about others.⁴³

We project and model for many ordinary decisions, large and small, assessing possible self-involving states to determine which state and which self we should try to make actual.⁴⁴ For example, when you are considering whether you would rather visit a museum or take a stroll in the park, after you have investigated what exhibits are on offer and read the reviews, you might prospectively represent yourself in the museum, contemplating a series of paintings, in order to assess the desirability of visiting. You might then consult the weather report and consider the time of day, and prospectively represent yourself walking in the park and admiring the spring flowers. You can then assess the appeal of each option to determine your preferences regarding the choice between a visit to the museum and a walk in the park. Similarly, when you are contemplating a renovation to your home, you might imagine living in your house renovated in one way and imaginatively compare it to living in your house renovated in another way in order to choose between different architectural plans. If you are deciding whether to go for a swim or to go for a run, you might reflect upon whether you would find it unbearably hot to run in the afternoon, while finding it refreshingly cool to swim. It might instead be numbingly cold to swim in the morning, while invigorating to run in the cool before the dawn, and so you plan your daily exercise accordingly. These choices involve prospectively representing a *de se* truth involving a future *like this* and prospectively

³⁸ See (Kind 2016). Kind also defends the view that imagining has epistemic significance (Kind *forthcoming*).

³⁹ (Campbell 2015).

⁴⁰ (Williamson 2016).

⁴¹ (Nanay 2016).

⁴² Hoerl and McCormack (2016), Ninan (2016).

⁴³ “[These] combined observations suggest that the core network that supports remembering, prospection, theory of mind and related tasks is not shared by all tasks that require complex problem solving or imagination. Rather, the network seems to be specialized for, and actively engaged by, mental acts that require the projection of oneself into another time, place or perspective. Prospection and related forms of self-projection might enable mental simulations that involve the interactions of people, who have intentions and autonomous mental states, by projecting our own mental states into different vantage points, in an analogous manner to how one projects oneself into the past and future,” (Buckner and Carroll 2006). I am not inclined to interpret prospective and retrospective “simulation” in an overly strong way. See Saxe (2005) for discussion. Also see (De Brigard et al 2015).

⁴⁴ Much psychological research affirms what might have been intuitively obvious, that prospective assessment, when we do it, plays a major role in much of our decision-making. An entire literature in psychology, on what’s called ‘affective forecasting’, is based on how we prospectively assess and value possible events to determine our actions. Much of that work is devoted to showing how terrible we are at accurately assessing our future selves. See, for example, (Gilbert and Wilson 2007).

representing a *de se* truth involving a future *like that*, and then comparing, either implicitly or explicitly, your assessments of the value of these representations.⁴⁵

It's important, as well, that not all perspectives are created equal. In particular, for assessing the quality and character of one's future mental states, assessments drawn from the first personal point of view are superior to assessments drawn from the third personal point of view. Although people often fail to make appropriately first personal assessments of their future selves when they make decisions, accurately imagining yourself experiencing a future event can be the best way to assess its utility.⁴⁶ Put intuitively: if you are asked to perform an unpleasant task, you will make a better assessment of your utility in performing the task if you first personally assess yourself doing that future task rather than assess it under some descriptive mode of presentation.

Either relying on mere descriptions or imaginatively observing ourselves perform a task seems to encourage us to misidentify how much we will enjoy it. Anyone who has agreed to write a letter of promotion, assess a stack of grant proposals, or perform some other act of service when the deadline is comfortably distant, and who then regretted the commitment as the deadline drew nigh, is familiar with this difference in the way we assess the preferences of our future selves. Agreeing to a task without imagining, first personally, what it would be like to perform it will impede your ability to assess its real value. (A bit of life advice, Dear Reader: before you say "yes" to something, imagine yourself, from your first personal perspective, actually experiencing or performing the task in the moment, in order to grasp the relevant *de se* truths. To assess your future experience, imaginatively put yourself in those shoes now and assess what it would be like to do it. Don't just say "yes" without performing that imaginative task. In other words, don't throw your future self under the bus.⁴⁷)

The point generalizes. When you are making decisions about your future self, prospectively introspecting about your future first personal point of view can be very useful and important in deliberation. When you are deliberating between different acts, and those acts will bring significant changes in your life, you sometimes need to prospectively represent the evolution of your point of view as a response to your action, in order to discover for yourself how you'll respond to the experience. You prospectively represent and assess your response to having a future *like this* versus your having a future *like that*. This assessment of your responses to your possible futures, in turn, allows you to determine the *de se* truths about what it would be like to be you if you were involved in these different acts.

For example, when making choices that will determine your career path, you might reflect on the sort of life you'd lead, given the choice you make. Perhaps you are choosing between a career as a concert pianist versus life as a stay-at-home mother. Or perhaps you are comparing a research position at a university in a country with very different, historical, cultural and linguistic properties from any place you've ever lived, to taking up a teaching-focused position at a highly selective college in your native country. Perhaps you must choose between a life of drudgery and sacrifice in order to support your wife and children, versus abandoning them for a creative yet self-indulgent life as an artist. Part of what's included here, of course, is a representation of information gleaned from testimony and research, as well as a subjective assessment of what you should do, morally and socially. You assess your information and your obligations broadly in this sense, in terms of how you think you should

⁴⁵ Nanay 2016 defends a view with this sort of structure.

⁴⁶ (Mitchell et al 2011). The farther away your future self is from your current self, the more likely you are to regard the self from a third personal perspective. This phenomenon may be related to temporal discounting: as Mitchell et al frame it, the more you are inclined to regard your future self as more like someone else than as a self like your current self, the less well you will evaluate how you'll actually respond when you are in that situation.

⁴⁷ Never say metaphysics can't teach you about what matters in real life.

choose, given, in part, in what you know about the situation under the descriptive mode of presentation. But you also need to employ the *de se* mode of presentation in order to determine how you think you would respond.

In all of these cases, your prospective assessment of your future life, modeled from the first personal perspective of your future self in those circumstances, is a salient feature of how you determine your preferences about which act to perform.⁴⁸ At the very least, such prospection should be a salient feature, given that you want to maximize the returns on your decision. When choosing between careers, choosing between cities, or making tradeoffs like whether to keep your job or stay at home with your newborn, trying to prospectively assess your responses to the different possible situations is part of what you should naturally do when you deliberate about what to do.⁴⁹ The idea isn't merely that you try to assess what life would be like by trying to figure out which properties you'll have. You want to know what *you'll* be like. That is, you want to know the *de se* truths, the truths about who you'll become. Prospectively assessing different life-defining choices is a way of prospectively assessing becoming *this* future self versus becoming *that* future self from the first personal perspective.⁵⁰

Of course, getting this sort of insight into your future first personal perspective can be hard to do. As a result, you often have to shift to a more third personal perspective, especially when representing a possible self that is psychologically distant from your current self.⁵¹ Maybe you can't always grasp the *de se* truths. I might try to anticipate how I'll respond to future events by trying to assess my possible future perspective when I'm immersed in that experience, but be unable to do it.⁵² In that case, I might need to rely on the testimony of scientific experts about how I'll change and who I'll become.

Ideally you'd take both perspectives on your future self, testimonial and prospective, and compare them to come to the fullest possible assessment. But sometimes this isn't possible. Then the impersonal approach, without first personal prospection, is a second best strategy. You rely on knowing the facts through testimony or description alone, and hope that it can act as a good-enough functional substitute for knowing the subjective, first personal, experiential character of what your life will be like at *t*.

⁴⁸ You might also make these kinds of assessments when the external world makes a choice for you, such that you face a life-defining event in our future that will change your life in some dramatic way, simply to try and prepare yourself for what the future will bring.

⁴⁹ Of course we often have to assess the implications for others. I am setting aside this complication for now. The structure of the first-personal prospective reasoning we do for our future selves is distinctive, although a similar sort of reasoning may be necessary when we reason about the future lives of our children or our parents, or others close to us.

⁵⁰ Although for the purposes of the philosophical argument I am describing the imaginative act as though we simply imagine a possible world state from our centered, first personal perspective when we assess and value it, our actual approach is, psychologically speaking, a bit different from this. "People mentally simulate future events, but how do they use those simulations to predict the event's hedonic consequences? As the mere thought of eating a liver popsicle reveals, mental simulations of the future can elicit hedonic reactions in the present. People use their immediate hedonic reactions to simulations as predictors of the hedonic reactions they are likely to have when the events they are simulating actually come about. People do not imagine feeling anxious while having a colonoscopy so much as they imagine a colonoscopy, feel anxious, and then take this anxiety as an indicator of the feelings they can expect to experience during the procedure itself. Simulations allow people to "preview" events and to "prefeel" the pleasures and pains those events will produce." p. 1352. (Gilbert and Wilson 2007). Gilbert and Wilson are concerned to show just how bad we are at forecasting correctly, even when the events concerned are simple and reasonably familiar, or are built from combinations of familiar experiences.

⁵¹ This is often the case when the self is sufficiently temporally or modally distant.

⁵² Mitchell et al (2011) There are some kinds of cases where we aren't very good at doing this sort of forecasting. See Gilbert and Wilson (2007).

It's a second-best strategy for many reasons. In particular, shifting to a third personal perspective or a descriptive mode of presentation can impede your access to the utilities of your future selves, as I discussed above. The problem seems to be that it can be difficult to understand just exactly how you'll feel when you are reflecting on your possible future self, because it can be difficult to assess the nature and character of your future lived experience. This, in turn, makes it difficult to determine what you'll want to do, how you'll want to act, and thus, who you'll want to become. This is clear if we understand part of the decision making process, at least when making certain kinds of life-defining decisions, as involving an assessment of how we'd experience different outcomes as valuable.

There might be another reason for why the first personal perspective plays such an important psychological role in understanding and decisionmaking. Perhaps it keeps us from feeling a kind of psychological alienation from our future (and past) selves. David Velleman suggests this when he argues that:

“The future ‘me’ whose existence matters [to me] is picked out precisely by his owning a point of view into which I am attempting to project my representations of the future, just as a past ‘me’ can be picked out by his having owned the point of view from which I have recovered representations of the past.”⁵³

The suggestion is that an empathetic, first personal grasp on our future selves is what makes them cognitively *ours*. In particular, presenting facts involving our future selves to ourselves under the *de se* mode of presentation makes us understand and care about them in ways we might not otherwise. It can make certain of our future properties more salient than they'd be if we merely have a descriptive presentation of these facts. This seems to affect our judgments. Admittedly, it might *skew* our judgments. That's why the first personal judgment needs to be cognitive, not merely affective, and done with care. That's also why the ideal deliberation involves an assessment of the facts using both the subjective and the descriptive modes of presentation. We want to know which of our future properties will matter to us and why (and just how much they'll matter). Ideally, then, we'd assess the facts under both modes of presentation, subjective and descriptive, given the different types of insights these assessments can generate.

To sum up: the imaginative, empathetic act of recognizing and identifying a future self as my own involves the subjective presentation of my future lived experience, or a representation of my future first personal perspective, to my current self. The subjective presentation occurs via a cognitive or imaginative act where I experience the nature of my future lived experience through imaginatively simulating some salient dimension of it. As I argued above, simulating who I'll become in this first personal way can be thought of as engaging in the *de se* mode of presenting important individual-involving facts (facts about me at some future time *t*) to myself.

My presentation of these facts about my future selves (and *mutatis mutandis* about my past selves) to myself in this way involves an experience, and this experience leads to a distinctive kind of understanding of my future self. This is a kind of understanding that I value and use to structure my life and to interpret my lived experience over time. I've been focusing on doing this for future selves, but the point extends to other kinds of assessments, for example, to my assessments of my merely possible selves, selves that I would not even consider making actual. Imaginatively representing the first personal perspectives and lived experiences of my merely possible selves to my current self, that is, simulating who I could

⁵³ Velleman 2006: 76.

become or who I might have been under different circumstances, also gives me access to *de se* truths. These truths may be useful, in that they give me a deeper understanding of my character and of the kind of person I really am. All of this establishes the importance of the role of the *de se* mode of presentation in action, deliberation, and authentic living.

Imagining the future

Mary's difficulties with knowing what it's like to see red stem from her inability to imaginatively represent or simulate the experience of seeing red before she's ever seen color. This lack of imagination stems, in turn, from her lack of experience. Until she has the experience, she can't perform the imaginative task. Her experience teaches her what it is like to see red, that is, it allows her to grasp a phenomenal truth about red experience. Grasping this truth, in turn, gives her new abilities to imagine, visualize, and assess future states.

There can be an analogous sort of problem with knowing what it'll be like to experience your future. Consider the facts that constitute a kind of experience you haven't had before. You can have these facts presented to you under the descriptive mode, and in this sense know the facts involved in what it will be like for you to have this experience. Perhaps a neuroscientist explains your future brain states, the ones you'll have when you have that experience, in great detail. But, like Mary in her black and white room, until you actually have this kind of lived experience, you don't know what it will be like to have it. If you don't know what it will be like, you cannot (successfully) imaginatively represent what it will be like for you to have this experience before you actually undergo it. In this sense, you can't present it to yourself under the subjective mode. You can't accurately imagine your future first personal perspective and so you cannot grasp the relevant *de se* truths.

An example can press the point. Consider a case where a congenitally blind adult must decide whether to have retinal surgery in order to be able to see. He is a saxophone player, and has built his life around his blindness, choosing a career and a way of living and understanding the world through touch and sound. His soulful music reflects the rich detail that his highly trained auditory capacities give to his lived experience. His dominant sense modality is audition, and thus his way of living in the world is deeply influenced by his blindness: from the way he organizes his day to the way he navigates his environment and understands the world around him, his lived experience is formed by his way of experiencing the world through his senses.

Even though he considers his life as a blind person to be rich and valuable, he desperately wants to be able to see. His wife and his children report how much they enjoy sunrises and rainbows and watching movies together. Everyday society and culture is built around people whose dominant sense modality is vision, and the saxophonist feels like he is missing out on an important kind of human experience and knowledge. He wants to know what the world around him is like from the first personal perspective of someone who can see. The trouble is that he doesn't know what it is like to be sighted, and so he can't simulate his possible future (sighted) self. He thinks he wants to be sighted, but since he can't know what it will be like to have sight, he cannot determine this using imaginative projection. In this situation, he cannot project himself forward to know what it will be like to be sighted. As it happens, his surgeon believes, on the basis of testimony from other formerly blind patients who have had the surgery, that the saxophonist will be significantly less happier as a sighted person. But she agrees to perform the surgery anyway.

The problem for the saxophonist is that there is an epistemic wall created by the transformative nature of the experience involved in the choice, one that blocks the role for his first personal perspective in evaluating and assessing his subjective values and evolving future preferences. This sort of subjective grasp on the facts constituting the events of one's life is precisely what is at issue when one is engaged in life-defining decision-making. Experience of a certain sort can be required for an individual to imagine, represent, and assign value to possible future selves under the subjective mode of presentation, because without the requisite experience, the individual cannot grasp the relevant *de se* truths in order to imagine, represent, and assign values to these future possibilities.

The issue here concerns the relationship between epistemic transformation and personal transformation developed in Paul (2014). There, I argued that certain sorts of epistemic transformations can scale up into personal transformations. The transition from being blind to being sighted is a good example of how such a transformation can work. The epistemic change that comes with discovery of what it is like to see can be so profound that what it is like to be the individual (or what it is like to live the life of that individual) also changes in dramatic ways. Put in terms of the subjective mode of presentation, the epistemic import of an individual's discovery of important phenomenal qualitative truths can scale up into the discovery of important *de se* truths. Discovering what it's like to be sighted amounts to the discovery of a new kind of centered conscious experience, a qualitatively different first personal point of view.

Such a discovery might involve the discovery of new facts. But it might, instead, just be a discovery of a new way to know the same facts. If we assume that our agent is sufficiently informed, via testimony and description, of the value (or utility) for him of possible ways he could live his life or form himself, we can assume that he knows the relevant facts. He may even have access to detailed scientific theories about these facts, that is, about how his brain states will evolve in response to various events. He can certainly use this sort of descriptive information to predict and describe his future brain states.

Still, because this information is framed in descriptive, theoretical terms, it will only give him a third personal perspective on his future self. To know how he will respond to various experiences, and thus to know who he'll become from his first personal perspective, he needs to grasp these facts about his future self under the subjective mode of presentation. The descriptive mode of presentation used by the scientific theories isn't good enough. To grasp the *de se* truths about his future self, that is, to understand these self-involving truths in the first personal way given by the *de se* mode of presentation, he must be able to represent these truths as they would be grasped from his centered perspective as a sighted individual. To grasp them in this way he needs to be able to present them to himself under the subjective mode. However, he cannot do this until he actually becomes sighted, because he lacks the ability to imaginatively represent the change in the requisite way.

Without the ability to grasp his future first personal perspective, the blind saxophonist can't prospectively assess his future first personal point of view. He cannot imaginatively capture or simulate some of the salient features about what it's like to be that future self or what will be like to live as a sighted person. He can't know these *de se* truths, because he doesn't have the experience he needs to use to imaginatively project himself into his future centered conscious experience. In this sense, he doesn't know who he'll become.

Knowing the *de se* truths

Let's go back to Perry and the sugar. When Perry discovers *I am making a mess*, he does this via his experience of seeing the sugar trail emanating from (what he presents to himself in experience as) his location, and by making an inference. He subjectively presents himself to himself as the mess-maker, via his experience of seeing the sugar trail and coordinating this with his experienced location. Before Perry made the discovery, he did not present himself with the *de se* belief "I am making a mess." Put in Lewisian terms, he did not self-ascribe the mess-making property.⁵⁴

When Perry has the experience of subjectively presenting this individual-involving fact to himself using his first personal point of view, it is a discovery of a new fact. But notice: given physicalism, if he had had a complete description of all the physical facts in the universe, he would merely have discovered a new way to grasp a fact he already knew.

This is worth considering in detail. What if Perry had known all the physical facts all along, and so by assumption he knew all the individual-involving facts? In particular, we might imagine that even at t_1 , before Perry observes himself making a mess at t_2 , he has a full and complete description of his future brain states and the facts that they'll include at t_2 . All he would discover at t_2 , then, is the subjective mode of presentation of these facts.

If the story had been told such that he'd known all the physical facts all along, but what he discovers is how these facts are presented to him in experience, it would still be a funny story (after all, John Perry is a funny guy), and the discovery would have been just as fascinating. This suggests that knowing the facts is not the main feature of interest in this story. It's Perry's process of discovering the *de se* truth, his discovering what these facts are like by presenting them to himself through experience, that's the main feature of interest. In the example, Perry discovers something surprising, something that changes the nature of his experience and thus changes the way he is thinking of himself from his centered conscious perspective. It's an example of how a discovery of a *de se* truth is intrinsically interesting, even when it's just about making a mess at a grocery store.⁵⁵

Now consider the saxophonist. Before he has the operation, he doesn't (and can't) know what it will be like to be sighted. He knows that he'll be sighted under the descriptive mode of presentation, so he knows the facts about his future sighted state, but not under the subjective mode of presentation. To say that he doesn't know that he'll be sighted under the subjective mode of presentation is to say that he doesn't know, in a very salient way, what it will be like to be his future (sighted) self. Because he doesn't know what it will be like to be his future self, he cannot subjectively present his future self's first personal point of view to himself.⁵⁶ As a result, he cannot grasp these *de se* truths about his future state. Here, his inability to grasp a phenomenal qualitative truth scales up to an inability to grasp a *de se* truth. As I put it above, we can also understand this as his being unable to imaginatively empathize with his future self.

If we assume that the saxophonist is informed about all the relevant facts before the operation, when the saxophonist gains sight after his operation, he'll make the same kind of discovery as Perry made. He'll discover, from his first personal perspective, a new *de se* truth. On this view, he'll discover the *de se* truth about what it's like to be sighted. He'll discover this

⁵⁴ Lewis 1979.

⁵⁵ This combines the intrinsic interest of experience simpliciter with the interest of knowing new ways of understanding one's self. Even a story about Mary discovering the experience of color is interesting, and the thought of knowing what it might be like to be a bat is also interesting (Nagel 1974). Discovering a distinctive way of knowing something about oneself by having a self-involving experience, then, seems like it would be at least as interesting.

⁵⁶ Note that the subjective presentation is through an experience that is an imagining of an event rather than experience of an event.

de se truth by coming to know the individual-involving facts about being sighted through presenting them to himself in experience. That is, he'll know them through presenting them to himself under the *de se* mode of presentation.

In this way, the blind saxophonist is analogous to Mary, the super-scientist who knows all the physical facts but has never seen red. When Mary leaves her room, she learns these physical facts in a new way through her subjective presentation of them to herself. In our saxophonist case, the saxophonist knows all the facts, including the fact that he will be sighted at t_2 , and, we'll assume, all the brain science facts.⁵⁷ (His surgeon told him about all the facts, and presumably he believes her.) Let's put it this way: he knows all the brain facts as well as the (tenseless) fact that he is sighted at t_2 . When he gains sight at t_2 , he understands these facts in a new way. This understanding comes via his subjective or experiential presentation of it to himself.

Once he grasps the experiential truths associated with being able to see, this epistemic expansion scales up into a personal transformation.⁵⁸ When he has the experience of being sighted at t_2 , this gives him a new way to understand what it is like to be sighted, and this also changes what he is like as a person. Given the Lewisian thesis that experience can give agents new abilities, his new abilities carry with them a change in what it is like to be him, and thus they allow him to grasp new *de se* truths.

There are interesting questions that I'm not adjudicating here: is a *de se* truth just a certain species of qualitative truth, or perhaps just a summing of qualitative truths? Or is it a more complex sort of truth? If it is more complex, what sort of structure does it require, and what is the role of self-consciousness in this structure? It's not clear. The discovery of a qualitative truth through experience and the discovery of a self-involving truth through experience may be discoveries of different kinds of truths. Perhaps they are even different kinds of discoveries, even if we make both kinds of discovery through experience.

What I am focusing on here is how grasping one truth leads to grasping the other. Perhaps this is purely causal: the massive qualitative change involved in becoming sighted causes a change in the nature and character of one's first personal perspective, and this is sufficient to explain the source of the *de se* discovery. Or perhaps the *de se* truth is a scaled-up or somehow more comprehensive and structured kind of qualitative truth. Nither option affects my main points. My first main point is that, in cases of transformative experience, one discovery can lead to the other. My second main point is that knowing these *de se*, self-involving truths can be *important*.

It's important in the ways we've discussed: namely, it gives the saxophonist a new and valuable way to understand who he has become. He now understands the phenomenal way he is self-involved in the facts located at the times after the operation. It also gives him new abilities. Before the operation, he could not first personally represent his centered perspective as a sighted individual at t_2 . As a result, he lacked the ability to assess, for himself, the subjective value of his life as a sighted person. He could not determine, for himself, the value of being sighted at t_2 . (His only option was to rely on testimony from others about his subjective value at t_2 .) After the operation, he occupied a first personal perspective that gave him the ability to understand what it was like to be sighted. As a result he knew, from his centered, consciously experienced perspective, the subjective value of what it is like for him to be sighted.

⁵⁷ (Alternatively, we could assume the saxophonist knows the complete physical description of his future brain states. Then he would merely discover an old fact but he'd grasp it in a new way.)

⁵⁸ For more on epistemic expansions, see Carr 2015.

I have been discussing the issues around the *de se* by focusing on the *de se* mode of presentation of individual involving facts. In this way, I have avoided any commitment to perspectival or self-involving facts, much like I'm inclined to avoid a commitment to primitive mental or phenomenal facts. There is no need to accept dualism in order to hold that Mary learns a new way to understand the physical facts. Thus there is no need to deny physicalism to grant that an individual can be epistemically transformed by a new experience. There is also no need to accept an expansive ontology of facts, such as tensed facts, self-facts, or other sorts of primitive perspectival facts in order to hold that the saxophonist learns a new way to understand individual-involving facts. There is thus no need to embrace perspectival facts to grant that an individual can be personally transformed by a new experience.⁵⁹

De se preferences

I have been arguing that, in a situation where you are regarding a future version of yourself or a possible version of yourself, if you can get the right testimony, you can know the facts under a descriptive or third personal mode of presentation. But just knowing the facts this way isn't the only way to know them. Knowing them through experience, under the *de se* mode of presentation, is another important way to know these facts. In this final section of the paper, I will connect this point to knowledge of one's future preferences.

Much of the literature about the *de se* concerns questions about how we grasp and understand self-involving facts about ourselves, where the context is implicitly about the current time. When we grasp such facts about ourselves at the current time, we usually understand them under a descriptive mode of presentation as well as under the subjective mode of presentation, or one leads very naturally and immediately to the other. But when we consider facts about past, future, or merely possible selves, our ways of knowing *de se* truths can come apart from other ways of knowing individual-involving facts. In contexts where there is modal or temporal separation between the current or actual individual that is doing the grasping, and the future or possible individual that is a constituent of the relevant possible or future fact, the difference between knowing the relevant individual-involving facts under the descriptive mode and under the subjective mode can be uncovered.⁶⁰ The saxophonist example brings this out clearly.

These differences in ways of knowing individual-involving facts can be exploited for deliberation, assessment, and action. If you can deliberate by introspectively simulating and assessing your different possible lived experiences, where these possibilities concern your future experiences and future life, you can assess and compare, in different situations, what your future life could be like *for you*.⁶¹ You can know what it *will be like*, or what it *could be like* to be you in that situation. This allows you to assess and compare these different *de se* truths in your deliberations.

Knowing the facts this way isn't the same as merely knowing the individual-involving facts about yourself at a time from a third personal perspective on what your life will be like (or could be like). Knowing what it is like to be that individual (at that time, in that state, at that world), that is, knowing those facts under the subjective mode of presentation, gives you access to your *de se* preferences. Through knowing the right *de se* truths, you gain abilities to

⁵⁹ Cappelen and Dever (forthcoming) make this point very clearly.

⁶⁰ I take it as read that the physical individual-involving facts at a time that realize the psychological states of current, future, and possible selves are understood as facts involving a physical individual-at-a-time (world) or a timeslice (counterpart) of a physical individual.

⁶¹ And, of course, what my choices could mean for what the future lives of others could be like.

imagine, represent, visualize, and assign value to your future or merely possible selves. The facts of human psychology are also relevant here. The *de se* way of knowing the individual-involving facts that I use to represent my future and possible selves can also affect my motivation and other psychological states involved in bringing about outcomes, much like my grasping tensed truths such as “thank goodness that’s over” or “the meeting starts now” affects how I deliberate and act.

That is, when I am facing a life-defining change, especially one involving a choice where each choice involves a tradeoff or a sacrifice, ideally, I want to be able to assess what my future life could be like *for me* (and probably for others). I want to model what it is like to occupy the point of view of my future possible self, the self that would be the product of the choice I could make now, in order to grasp what life as that self would be like. What I am trying to do when I prospectively assess different possible selves is to subjectively present the possible individual-involving facts to myself. I am trying to present the relevant facts to myself under the *de se* mode of presentation in order to grasp and represent the relevant *de se* truths, that is, the nature and character of my possible future conscious perspectives. That is, I want to know my preferences *de se*.

A developed prospective assessment about what my future life would be like is ultimately about what it will be like to be me in those future circumstances. I want to make such an assessment in order to choose the future I most want to have, to help me determine and choose to become who I most want to become. In the terminology of the *de se*, I want to present the relevant facts to myself under the *de se* mode of presentation so that I can grasp the relevant *de se* truths and form *de se* preferences in accordance with these. To represent these *de se* truths to myself, I must be able empathize with my future or possible self by imaginatively grasping salient features of the experience of being that self.⁶²

Putting this together, a distinctive way for me to understand what it’s like to be me (and in particular, what it will be like to be me at some future time *t*) requires me to present the relevant facts to myself under the *de se* mode of presentation. My ability to grasp my future self, that is, my ability to understand the way that this future self *will be me* (at *t*), requires me to grasp these facts through experience—where the experience in question includes the experience of imaginatively occupying the possible first personal perspective (the psychologically centered experience). The way I present these facts to myself under the subjective *de se* mode of presentation is through an imaginative simulation of my future first personal point of view as my future point of view. I simulate, using imaginative empathy, my future self.

This is how I gain the distinctive kind of understanding needed to know, in the first personal sense that I have identified above, who I could become. It’s the same sort of distinctive understanding that Perry grasped when he subjectively presented to himself that he was the mess maker. In each case, there is a self-involving discovery made through experience. In each case, the self-involving discovery is a discovery of a phenomenally distinctive way—a *de se* way—of presenting individual-involving facts to oneself through experience.

Engaging in an imaginatively empathetic simulation of my future self is a kind of experience that allows me to use the subjective mode of presentation to discover the *de se* truths about myself. This is important if we desire to have the kind of self-understanding that comes through grasping our *de se* preferences. It’s also important for making decisions about which future self to bring into existence. In life-defining decision contexts, I hope to decide among my possible future selves by occupying and then evaluating their possible points of

⁶² See Paul (*forthcoming*). Also see Hoerl and McCormack (2016) for more discussion.

view, and using this information to choose which of them I'd most like to make actual. By using the *de se* mode of presentation, I can discover the *de se* truths I need to know in order to choose wisely, that is, in order to choose in accordance with my *de se* preferences.

We can close with another way that first-personal computer games and virtual reality echo life. In virtual reality, you gain a perspective on a part of the world (real or constructed) by virtually participating in it. Mere descriptions of these realities wouldn't give you anything like the same understanding of the world. In an FPS, you can build out your own personal game world as you play, where the best way to build out the game is to play from the first personal perspective of your character. As you play, you build out the game, and win or lose accordingly. Without a first personal perspective on your game character—if all you have is a map inset—you can't play the game nearly as well. Immersive experience is the game-changer.

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