DE SE PREFERENCES AND EMPATHY FOR FUTURE SELVES[1]

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1. Introduction

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

This can be understood as a question about the nature and character of your future life, asked from your first person, or subjective, perspective. The nature and character of your conscious, first person, lived experience is a defining constituent of what it is like to be you.[2] Framed this way, knowing the nature of your future lived experience is a way of knowing your future self.[3]

In this paper, I will explore this way of understanding one's self and its implications for understanding life-defining changes in high-stakes contexts.[4] My exploration of this way of understanding one's self will highlight the role of experience in grasping perceptual truths, and the importance of imagination, empathy, and testimony in self-understanding and prediction.

I'll frame the exploration in terms of life-defining, transformative changes, and embed it in contemporary debates about perceptual truth, the *de se*, and temporal experience. Thinking about life-defining changes means thinking about the future, especially about your own future and the futures of others.[5] 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? I'll also explore the way that, when reflecting on our possible future selves, we use modal and temporal prospection to try to imagine and understand these selves, and when we make our choices, to shape ourselves as we evolve.[6]

2. The Subjective Mode of Presentation

The first task is to explore the role of experience in knowing ourselves. The place to start is with what we know about the importance of actually having experiences when learning about the nature of the world. Debates in philosophy

of mind about the knowledge argument have been very important here in teaching us about the difference between knowing through description and knowing through experience.

This difference applies to ways I can know about facts involving me. In particular, I can know the brain states that realize my conscious experience descriptively. For example, I can know them by understanding a complete scientific description of my particular brain structure and activity. But I can also know the brain states that realize my conscious experience subjectively, by actually having the brain states that realize my conscious experience. In the latter sense, I know my brain states through knowing what it is like to have the experiences realized in me by having these brain states.

This difference in the ways I could know my brain states, through description and through experience, is captured by making a distinction between the descriptive mode of presentation and the subjective mode of presentation. It's a distinction which has long been recognized in debates about physicalism.[7]

The philosophical responses to Frank Jackson's example of the scientist Mary seeing red for the first time develop this distinction. In Jackson's example, we consider Mary, who has never seen color, but knows all the brain and associated scientific facts about seeing color. But she has never left her black and white room. When Mary finally decides to leave her room, her first color experience is of something red. It's only when Mary finally sees red that 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 future brain states, is not sufficient for her to know what it is like to see red. She has to actually experience phenomenal redness to know what it's like.

What, exactly, does Mary discover when she leaves her black and white room? Does she discover new physical facts? No. 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. What discovery does she make?

She discovers a new way to understand the physical facts. By assumption, Mary already knows the physical facts under a scientific description, that is, she knows a complete scientific description of the brain states that will 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 discovers a new perceptual truth by having the physical facts presented to her in a new way, that is, through her experience of having the brain states that realize phenomenal redness in her.[8]

On this account, the experience of redness involves 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. The experience is a new way of presenting her with these facts, and gives her new imaginative and representational capacities. These new capacities allow her to discover new truths about herself and the world.

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, the idea—as I interpret it—is to distinguish the descriptive mode of presentation from the subjective mode of presentation, and to argue that we can understand facts in a distinctive and important way when those facts are presented to us under the subjective mode. Note that the subjective mode of presentation is needed to discover the perceptual truth involved. Having the relevant experience is necessary: the truth cannot be given to us merely by knowing the relevant scientific descriptions.[9]

Strictly speaking, I am extending Loar's distinction from the merely phenomenal versus the 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. There is no clean physical or psychological separation between the phenomenal and the nonphenomenal, even if there is a conceptual distinction. Moreover, real people lack access to the complete scientific descriptions that Mary, in the story, draws upon. Thus, the ability to grasp the nature of a real-life event under the subjective mode of presentation can require experience in a broad sense, even if one holds that 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 the ability to grasp a new perceptual truth as endowing us with a new perceptual concept through the experience.[10] Grasping this new concept grounds further conceptual capacities to represent, imagine, and simulate.

So there exists a distinctive way of grasping facts or understanding propositions under the subjective guise that gives us new abilities to imagine and simulate, and this way of presenting and understanding arises via experience (in the ordinary case). Now we can identify the way this can matter to a person's understanding of possibilities involving her future self. Start with the obvious point that an individual's distinctive, first-person grasp on facts isn't confined to facts involving simple perceptual 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 for her 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 simple perceptual truths through the subjective mode of presentation, and we can also learn lived-experience truths (which often involve complex perceptual truths as constitutive parts) through the subjective mode of presentation.

Learning new lived experience truths, as with learning simpler perceptual truths, often goes hand in hand with learning new facts. But such truths could be learned even after we know all the relevant facts. How? Take the facts that constitute my lived conscious experience at a (possibly extended) time t, for example, my lived experience of a painful and emotionally difficult divorce, or of the death of a loved one. Before I have this lived experience at t, I might have all the relevant facts about it presented to me under a description given to me, say, by a psychological or medical expert. Perhaps the description is couched in terms of features of my future brain states, or perhaps the expert describes my future experience in some evocative way. But until I have these facts presented to me under the subjective mode, at t, by having the lived conscious experience itself, there's something I don't know. When I have the experience at time t, I discover experiential truths, that is, I discover how these facts are given to me under the subjective mode of presentation. This is a distinctive way of knowing these facts: knowing them through living the experience they constitute.

3. The First Person Perspective

This way of understanding my lived experience involves the presentation of facts through my 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 person point of view" or "first person perspective".[11] In this section, I'll try to clarify what this involves.

Phrases like the "first person point of view" and the "first person perspective" can be difficult to define even if they are intuitively clear. I will use

these phrases to pick out psychologically centered conscious experiences.[12] The character of such an experience is perspectival, and cognitively centered on the phenomenally subjective self. That is, the first person perspective is presented to us "from the inside", or *from the point of view of a self*.

Sometimes, in an effort to explicate the ideas involved, the first person point of view is contrasted to the third person point of view. Related ways of describing the contrast oppose a "view from somewhere" to the "view from nowhere".[13] The 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 presents information from the visual perspective of 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 "bird's eye" visual perspective is analogous to the presentation of facts through description in the sense that a descriptive mode of presentation of a fact is a presentation of information that abstracts away from any particular individual. The descriptive mode presents the fact using descriptions or symbols in a way that any competent user of the language can grasp, and in this sense, the descriptive mode is impersonal, like the third person perspective. There might be more than mere analogy here: in certain situations, 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.

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 gives you provides you with a representation of a visually centered perspective.[14]

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 a located visual perspective and other perceptual features of your character's experience allows you to model a subjective, "from the inside" way of knowing who you are and where you are in the game.[15] Not only are you presented with the character's visually located perspective, you use this perspective to act in the game as you control what your character does. In many of these games, as you play, 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, learn, and engage. The first person interactive feature of FPS allows for a distinctive kind of immersion into the world of the game: this immersion creates a subjective mode of presentation of the game and your character.

Virtual reality (VR) immersion also uses technology in order to create a participant's simulation of an immersed, first person perspective. Through visual immersion into a scene and the exploitation of 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). Often there are coordinated joysticks or handheld sensors. As with FPS, the way in which you create your sense of who you are and where you are in the virtual terrain stems from its subjective mode of presentation. Your information about yourself from this perspective is largely experienced as visually first person (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 and VR in this context is that this technology is constructed specifically to create, in the participant, a representation of a first person point of view in a game or a (virtual) world state. The reason why the games and virtual technologies are so immersive is because, by presenting a visually centered perspective using a first person camera angle along with a coordinated bodily sensor, they can generate a first person simulation in the user. That is, they can create a virtual first person perspective or virtual first person point of view in the immersed individual.

The power of this technology consists partly in the way it has identified what's needed for an agent to experience a virtual first person point of view. Virtual immersions work because they capture something deeply recognizable about the way we experience reality, namely, they capture a way that a conscious, sighted individual experiences the world through a first person point of view, using visually centered information.[16]

We can use what we've learned from virtual immersion to reverse-engineer an explication of the first person perspective as a real-world first person 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 person perspective built out of that experience. This is our real-life first person point of view. With this clarification, I will use "first person point of view" and "first person perspective" to pick out our subjective way of understanding the world as a located, *immersed*, conscious experiencer. A first person perspective, then, 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, we can now see that understanding facts about yourself from your first person point of view is a way of understanding them using this sort of subjective mode of presentation. Understanding facts this way involves cognitive centering or immersion, a notion which we can capture through its visual analogue. FPS and VR work by creating immersion 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 world.

A non-immersive type of representation is also possible. Playing computer games can also involve a visual perspective given by various types of impersonal lines of sight ("impersonal" in the sense that it is not represented as the line of sight of your character in the game). Some real-time games and "god games" use a camera angle that simulates this: 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 immersive. These more impersonal perspectives are analogous to an objective perspective taken, we might imagine, by some sort of ideal scientist or a God observing the world of the game.[17]

Games can also provide a way to coordinate between the immersed perspective and various impersonal visual perspectives. When you play, 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 behind) your character. (If you don't play computer games, this impersonal representation is like how you see yourself as a moving dot when you locate yourself "from above" using a map application on your phone.[18]) The map inset simulates a non-immersive perspective on your game character. Your information about your character from the map inset is impersonal in the sense 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] 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.

As with games and maps, so too in everyday life: in the non-virtual part of reality, understanding facts about yourself from this sort of "impersonal" perspective can be very useful. Often, a person will want to combine this kind of representation of themselves with their subjective or first person perspective on themselves in order to engage and act effectively in the real world. (Aficionados of the *de se* literature will see a connection here to debates about self-location. See Paul and Tenenbaum (MS) for more discussion of this.)

As the debate over Jackson's Mary example brings out, use of the subjective mode of presentation can allow us to discover distinctive kinds of experiential truths. Now that we've tied the subjective mode of presentation to the immersed, conscious, first person perspective, we can see how to bring this point together with another philosophical topic, the *de se*.[20]

4. Discovering *de se* Truths

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 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.

It is sometimes important, and sometimes interesting, to discover truths that are self-involving. One way to discover a self-involving truth is for a person to discover a self-involving fact. They might do this by having a particular type of experience. 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.[21] 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 discover this individual-involving fact using the subjective mode of presentation. My discovery of the fact that I am short-sighted occurs via a discovery of a self-involving phenomenal truth, that is, via discovery of a truth about my experienced self.[22]

I'm endorsing a fairly minimalist fact ontology here. That is, I'm assuming that there are no "de se" facts. There are only individual-involving facts.[23] This is analogous to my preferred way to understand the ontology of tense, stemming from classic debates about the metaphysics of time and temporal experience. If we want to avoid a commitment to tensed facts, we can think, generically, about time-involving facts. All of these facts are, strictly speaking, tenseless facts. But we need tense for action and explanation, so we must accommodate it somehow, even if there are no primitive or irreducible tensed facts in the world. The solution is to distinguish between facts and truths about those facts. When I discover or express a tensed truth, such as "the meeting starts now", what I am doing is presenting

a (tenseless) time-involving fact to myself through my temporal experience, and by doing so I discover or express a tensed truth. On this approach, to endorse the psychological importance of tense for action and explanation, 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 I use to grasp the tensed truth. This approach draws on the way that B-theorists such as DH Mellor and many others make room for the psychological importance of tense while denying that there are any irreducibly tensed facts.[24]

Similarly, to endorse the psychological importance of the *de se*, we don't need to endorse the existence of primitive, irreducible, self-involving, perspectival facts. We can hold that so-called *de se* facts are simply individual-involving facts.[25] 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 my experience. To recap: we can use experience to present time-involving (tenseless) facts to ourselves in tensed ways. These are presentations of tensed truths. Similarly, we can use experience to present individual-involving facts to ourselves in *de se* ways.[26] These are presentations of *de se* truths.

Discovering a *de se* truth through subjective presentation is also connected, in an important way, to the way Mary discovers the truths about 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, and this is how she discovers a perceptual truth about redness. In all of these cases, my discovering that I'm short-sighted, my discovering that the meeting starts now, 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 perceptual truth, my discovering that the meeting starts now is a discovery of a tensed truth, and my discovering that I'm short-sighted is a discovery of a *de se* truth. The connection 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. We can thus unite the treatment of tensed truths, *de se* truths, and perceptual truths under the same general approach.

5. Truths and Facts

While the structure of the presentation of these sorts of truths is (broadly) the same across the different debates, there's an important feature here that needs

to be highlighted. We can see it by comparing the short-sightedness case to the Mary case. According to the usual Mary 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 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 the discovery of perceptual truths is intrinsically interesting. Given the standard physicalist approach (which I fully endorse), in Jackson's Mary example, Mary didn't discover any new facts through her experience.[27]

In contrast, 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 that *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.

It isn't that there is no way to tell the short-sightedness story where I know all the facts ahead of time: if we pretend that vision and brain science is more developed than it really is, we can imagine my knowing all the brain and vision facts ahead of time. In this version of the case, I'd still discover a *de se* truth through my annoying eye-chart experience. The point is that, in many cases of interest, including real life cases, we discover facts as well as truths through experience. And often, the only practical way to discover the relevant facts is through the experience, since our science is incomplete. So while, strictly speaking, discovering *de se* truths can happen without the discovery of self-involving facts, practically speaking, experience is usually the only route to knowing these self-involving facts.

A moment's reflection makes it obvious how common it is to use experience to discover individual-involving facts. For example, you can use it to discover the fact that someone is making a mess. Perhaps more interestingly, you can also discover, through experience, that the mess-maker in question is you. John Perry's classic example illustrates the point.

> 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 also 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 all this because we need to focus clearly on the role of experience in 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 already knows) that he is John Perry. This subjective presentation is just Perry's experience of himself as participating in the mess-making.[28] He recognizes, through his experience of 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 *John Perry is spilling 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 this fact to himself.[29] 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 "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 the discovery of truths about ourselves to be interesting.[30]

This suggests that what's philosophically important about the first-person perspective in these Perry-type discovery cases isn't just something about representing one's worldly location, or center. Location can be important for indexicality. Perspectivality is also philosophically important, but it's the perspectivality of experience, not of content, that we need here. Following our treatment of tense, we can find perspectivality in the way a fact is presented, through conscious experience, as a *de se* truth. We don't need to endorse primitive perspectival facts (or content) to capture this.

In the sugar case, Perry discovers a new fact. But to understand the philo-sophical import of the perspectivity of the case, we need to focus on how it's his experience that does much of the work of the example, since his experience is what carries the immersive perspectivity of the first person point of view.[31] The perspectivity in the case comes from the experience, which involves a grasping of a *de se* truth. To grasp this *de se* truth, Perry has to discover "his own shoes", which is a metaphor for his having the experience of taking a first person per-spective on the relevant, self-involving fact. It's true that having the experience is part of what allows him to discover this fact, but this is an artifact of the example.

Why is this merely an artifact of the example? In the usual version of the story, when Perry has the experience of subjectively presenting this individual-involving fact to himself using his first person point of view, he discovers a new fact. But notice: if, before going into the grocery store, Perry had had a complete description of all the future physical facts (assuming physicalism), when he was in the store, he would merely have discovered a new way to grasp a fact he already knew.

This could still be important, and valuable. Perry's process of discovering the *de se* truth, and his discovering what these facts are like by presenting them to himself through experience, is intrinsically interesting and funny, and contributes to his first person sense of himself. What the story, as it is usually told, shows, is that the discovery of *de se* truths through experience is important. Often the discovery of *de se* truths is important because it allows us to discover important, self-involving facts that for practical reasons we could not have discovered oth-erwise. But, as I'll discuss in the next section, the discovery of *de se* truths can also be important simply because of the contribution it makes to our grip on the truths about ourselves.[32]

6. The *de se* Mode of Presentation

A key element of the Perry story, as it is ordinarily told, involves the discovery of an important, individual-involving fact through experience. But there is more of interest here. In the Perry story, and in many other "discovery" stories in the *de se* literature, the interesting discovery implicitly concerns the discovery 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. The discovery of the *de se* truths or the presentation of these individual-involving facts under the subjective mode of presentation also matters. We care about understanding ourselves as subjects, in the sense that Nagel (1986), in his discussion of the importance of capturing the "internal standpoint" emphasizes.[33] The *de se* stories bring out how much we care about recognizing or understanding *de se* truths in experience.

The terminology I'll use to capture this is "*de se* mode of presentation".[34] 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 *you* in a particular situation. We can think of it as a perspectival mode of presentation for facts, contents, and propositions, a mode of presentation that is particularly salient given the physical facts about human psychology.

The idea is that a significant part of one's understanding of oneself as a subject comes through one's knowledge of *de se* truths. To understand yourself as a subject, you need to experience the perspective *of* yourself in a situation, that is, you need to grasp the first person perspective you have *as* that self, as a conscious experiencer.[35] To do this, you need to understand yourself under the *de se* mode of presentation. The contrast is between having a perspective *on* yourself in a situation and having the perspective *of* yourself in that situation.

The philosophical importance of the *de se* perspective, that is, the perspectival perspective *of* the subject, is mirrored by its importance in FPS. In FPS, play is structured around the player's virtual first person perspective. Having a map inset or a bird's eye camera angle isn't enough. What you must do when you play is "virtually" self-ascribe or virtually identify with a character and adopt the character's first person point of view, by visually perspectivally representing that 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 sensory experience. Their main function is to allow you to employ a virtual *de se* mode of presentation through immersing you into a virtual first person point of view.

Anyone who has had immersive experience with FPS or VR knows that this is a distinctive feature. It's part of what makes the genres so engaging. Moreover, the sorts of further knowledge and abilities we can gain from immersion into a new first person point of view are extremely valuable and may not be accessible by other means. (We can discover new facts using this mode of presentation, facts we couldn't easily 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 truths about reality, and you respond differently to 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.[36]

It isn't just game playing or virtual reality that requires an experientially centered conscious perspective. Real life relies on it as well. When I discover,

through experience, *de se* truths such as "I am making a mess" or tensed truths such as "The meeting starts now", this helps me to know how I need to act. That is, when I have these facts presented to me under the subjective mode, through my experience, I can then understand them from my psychologically centered, conscious perspective. And, as a conscious experiencer, I will act accordingly.[37] In this way, grasping truths, such as tensed truths or *de se* truths, is important for action, explanation, and self-understanding.

7. Prospective Empathy

We've explored the distinction between descriptive and subjective modes of presentation, defined the first person perspective as the immersed perspective represented in psychologically centered conscious experience, and introduced an account of how having this sort of experience can allow one to discover important *de se* truths. We're ready, now, to return to the topic raised at the start of this essay: understanding one's future self.

When we think of our future selves first personally, we imaginatively represent the first person perspective of our future self at that time. As David Velleman puts it, we "peer up the stream of consciousness" and try to "prefigure" our future selves at different moments along the stream (Velleman 2006: 194–5).[38] *Prospection* is the act of modeling your future perspective.[39] When you prospectively assess your future first person perspective, you can do so through imaginatively representing or simulating your future conscious experience.[40]

If you prospectively represent your future self by imaginatively occupying your future first person point of view, you are imaginatively empathizing with your future self. You attempt to take your current first person point of view and mentally evolve it forward, perhaps discontinuously, into your future first person point of view. In this sense, you prospectively empathize (or, at least, try to empathize) with your future selves in order to better understand them.

Empathy, as I am using it here, here is not merely about affect.[41] That is, it's not just about feeling what your future self will feel. It's also cognitive. To prospectively empathize, you have to understand enough about your future self by understanding enough about the nature and content of that self's first person conscious perspective to know what it will be like to be that self, at least along some relevant dimension. Prospective empathy can be described metaphorically, as in the discussion of FPS gameplay, in terms of "stepping into the shoes" of a future self. You can empathetically imagine having that self's first person point of view, and imagine living the kind of life that future self would live. That is, you can imaginatively occupy that self's psychologically centered conscious perspective, much like you visually occupy the centered perspective.

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 person, experiential character of what it would be like to be you at *t*.[42] You want to know something important about

what it will be like to be you "from the inside" at t, that is, you want to know the salient details of 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 *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 person 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. When you have this kind of empathetic experience, you present facts to yourself under the *de se* mode of presentation, and you use this experience to discover relevant *de se* truths about yourself. Of course, as I noted above, the kind of empathy you want here 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. A merely affective representation could undermine careful judgment. With a more cognitive empathetic connection, 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 person point of view of one's future self. One's first person 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, for those with ordinary vision, it usually will. And the representation does not have to be at a particularly fine level of detail.)

Of course, imagining one's future self doesn't have to be from the first person perspective. That is, prospection is not always empathetic prospection. People take the first person perspective on themselves most naturally under some circumstances and a third person perspective on themselves under others. Speaking personally, when I imagine myself, if I am imagining myself in my immediate future, my representation is much more likely to be from the first person point of view. But as I increase the temporal distance from my current self to the future self I'm representing, I tend naturally to shift towards imaginatively representing my future self from the third person perspective, as though I were observing myself. I shift to a third person perspective because it can be harder to assess my first person perspective as temporal and qualitative distance increases. This is representative of many ordinary human perceivers.[43]

When you prospectively represent yourself third personally, you imagine yourself from the perspective of an observer of your future self. With this type of

prospection, you do not represent yourself from within your centered conscious perspective. You represent a perspective *on* yourself, not the perspective *of* your self. We could class this way of imaginatively observing oneself as another way of presenting oneself with facts under the descriptive mode, since it's a mode of observing oneself that in some sense others could also represent. 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.[44]

8. Prospection and Preferences

Why is prospection useful? It can be useful in many action-explanation-decision contexts. Sometimes we want to prospectively represent our future selves in order to prepare ourselves for what is to happen, for what we will have to endure, or for how we want or hope to act. Importantly for my discussion here, sometimes we want to prospectively represent ourselves *in order to decide how to act*. Often, especially in novel or unfamiliar situations, we want to simulate ourselves in various possible situations in order to determine what we prefer.[45] That is, we prospectively simulate in order to discover our preferences.[46] We often project and model using prospective simulation before making ordinary, self-involving decisions, both large and small. We start by simulating ourselves in the proposed scenario, and then reverse engineer our preferences from our simulated responses. An influential body of work in computational cognitive science attests to the importance of this sort of imaginative, intuitive approach to preference discovery and assessment.[47]

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.

We prospect by assessing our simulations of possible self-involving states to determine which state, and, by extension, which self, we should try to make actual.[48] When these choices involve prospectively representing oneself from the first person perspective, that is, when they involve prospectively empathizing with one's possible self, they involve simulations of what scenarios would be like for oneself. As such, they involve prospectively representing oneself in order to discover *de se* truths about oneself. In these examples, we can think of what you are doing as prospectively representing your future self in order to discover a *de se* truth involving a future *like this* and prospectively 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.[49] You are using prospection as a tool to try to discover various *de se* truths about yourself, truths that can be important for decision making, action, and explanation.[50]

In fact, recent research in cognitive science suggests that in many contexts, prospection may be necessary, or at least very important, for discovering one's own preferences. Often, we don't simply assess our preferences directly when confronted with a choice between scenarios we might prefer. Instead, we simulate ourselves in the possible scenarios in order to discover our preferences. We use prospection to learn about our preferences in order to make intuitive judgments and predictions about our self-involving possibilities. See McCoy, Paul, and Ullman (forthcoming) for further discussion of this point and of relevant empirical research.[51]

It's important, as well, that not all prospections are created equal. In particular, for assessing the quality and character of what one's future will be like, prospective assessments drawn from the first person point of view might give us a different kind of information from assessments drawn from the third person point of view. Accurately imagining yourself experiencing a future event may be a better way to assess this sort of subjective utility than imagining yourself from a third person perspective.[52] Put intuitively: if you are asked to perform an unpleasant task, you may make a better assessment of your expected subjective utility, and thus your preferences concerning what your future will be like, if you are able to (accurately) prospectively empathize with your future self rather than merely assessing the situation using a more descriptive mode of presentation.

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 implicitly familiar with this fact about the way we assess the preferences of our future selves. Agreeing to a task without empathetically imagining, from the first personal perspective, what it would be like to perform it, may impede your ability to assess its real cost. (A bit of life advice, Dear Reader: before you say "yes" to something, imagine yourself, from your first person perspective,

actually experiencing or performing the task in the moment, in order to help yourself grasp the relevant *de se* truths about it. To assess your future experience, imaginatively put yourself in those shoes *now* and assess what it would be like to do it *now*. Don't just say "yes" without performing that imaginative task. Don't throw your future self under the bus.[53])

The point generalizes. When you are making decisions about your future self, if you care about what it will be like to be that future self, accurately imagining your future first person point of view may be very useful and important for your deliberations. 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 could 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. When you are deliberating about your choices, you may want to prospectively represent and assess your response to having a future *like this* versus your having a future *like that*.[54] You may want to do this because you want to know the *de se* truths about what it would be like to be you if chose one way rather than another.[55]

That is, if you care about what your future life will be like, in order to determine your preferences, your prospectively empathetic assessment of your future life, modeled from the first person perspective of your future self in those circumstances, can be salient.[56] You can want to know what it will be like to live as that self in those circumstances. That is, you can want to know the *de se* truths, the truths about your (possible) future lived experience. Prospectively assessing different life-defining choices is a way of prospectively assessing these truths, by grasping what would be like to have this future versus having that future.

Ideally, you should take all the perspectives on your future self that you can, in order to gather the most information and to come to the fullest possible assessment. But sometimes this isn't possible. In particular, accurately assessing your future first person perspective can be hard to do. Maybe you can't always grasp the *de se* truths.[57] You might try to anticipate how you'll respond to future events by trying to assess your possible future first person perspective but be unable to do it, especially when representing a possible self that is psychologically distant from your current self.[58] In that case, you might only be able to imagine yourself third personally, if at all. You might even lack these sorts of imaginative capacities, and be forced to rely solely on the testimony of scientific experts about how you'll change and who you'll become.

There might be another reason for why grasping one's future first person perspective can play 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.

The suggestion is that an empathetic, first person 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. This relates to remarks by John McDowell on Gareth Evans: "I can identify myself with a bit of matter [a particular individual] only if I know that bit of matter 'from the inside'."[59] Thinking and caring about our future selves in this way can make certain of our future properties more salient than they'd be if we merely had a descriptive presentation of these facts, or if we merely simulated ourselves from the third person perspective. Grasping our *de se* truths seems to affect our sense of ourselves as ourselves, and through this may affect our judgments.

Admittedly, it might *skew* our judgments. That's why the first person assessment needs to be cognitively empathetic, not merely affectively empathetic, and done with care. That's also why an ideal deliberation likely involves an assessment of the facts using both the subjective and the descriptive modes of presentation. Ideally, when making a high-stakes, life-defining choice, we'd know which of our future properties will matter to us and why (and just how much they'll matter). Ideally, then, we assess the facts under multiple modes of presentation, *de se* and descriptive, to gain all the different types of insights these assessments might generate.

Summing up: the prospectively 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 person perspective, to my current self. The subjective presentation occurs when I imaginatively simulate some salient dimension of my future lived experience. Simulating who I'll become in this first person 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*) using the experience of imagining them, 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: performing an imaginative simulation. This simulation, if accurate, leads to a distinctive kind of understanding of my future self, a kind of understanding that I can value and use to structure and interpret my life, and to discover my preferences in various deliberative contexts. I've been focusing on doing this for future selves, but I might also assess merely possible selves, selves that I would not even consider making actual. Imaginatively representing the first person perspectives and lived experiences of my merely possible selves to my current self, that is, simulating

who I could become or who I might have been under different circumstances, can also give me access to relevant *de se* truths. Knowing these truths can give me a deeper understanding, perhaps even a more authentic 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 choice.

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 examples: Peter Railton 2017 discusses and defends the importance of prospection for moral learning. Amy Kind, 2016 & forthcoming, argues that imagining can play a role in justifying our beliefs and can expand our epistemic capacities.[60] John Campbell 2015 discusses the important role for imaginative empathy when we make decisions for others.[61] Timothy Williamson 2016 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, and Magdelena Balcerak Jackson 2017 has also recently argued that imagination provides us with justification.[62] Bence Nanay 2016 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.[63] Christoph Hoerl and Teresa McCormack 2016 discuss first person decision-making involving reasoning about anticipated regret, and Dilip Ninan 2016 explores the relationship between imagination and the self.[64] Empirical work also supports the idea that imaginative perspectival reasoning plays a role in reasoning about ourselves as well as about others.[65]

9. Failures of Imagination

Mary's difficulties with knowing what it's like to see red stem from her inability to imaginatively simulate the experience of seeing red before she's left her black and white room. This lack of imagination stems 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.

You can face an analogous sort of problem with imagining your future. Consider the facts that constitute a new type of experience, a kind of experience you haven't had before. You can have these facts described to you, 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 simulate 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 simulate your future first person perspective and so you cannot grasp the relevant *de se* truths.

An example will illustrate. 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 person 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 ordinary vision, 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 he faces an epistemic wall created by the transformative nature of the experience involved in the choice, one that prevents him from simulating his future self. The wall blocks his ability to evaluate and assess his subjective values and evolving future preferences from a first person perspective. 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 may not be able to grasp the relevant *de se* truths in order to imagine, represent, and assign values to these future possibilities. This sort of grasp on the truths about one's future life can be precisely what is at issue when one is engaged in life-defining decision-making (Paul 2014).

The type of challenge the saxophonist faces depends on just how much knowledge he has. We can imagine two possible situations the saxophonist could be in. In the first situation, he doesn't know all the facts about his future, sighted self, and so he is strongly inhibited in his ability to imaginatively simulate or

prospectively assess his future states. What it is like for him to be sighted will allow him to discover further facts about his future. Until he knows what it will be like for him to be sighted, he can't fully assess its consequences.

In the second situation, his surgeon tells him all the facts about his future, sighted self. A more realistic (but still not very realistic) version of the second situation would involve the surgeon telling the saxophonist about the likelihoods of all the various facts that could obtain for people like him. In this situation, perhaps the saxophonist can simulate a likely version of his future, sighted self in some way that does not involve simulating what it is like to be sighted. We can describe the saxophonist, in this situation, as weakly inhibited in his ability to prospectively assess his preferences. He is merely inhibited in his ability to imagine his response to becoming sighted from his first person perspective.[66]

Even weak inhibition, though, can cause serious problems. Velleman's insight is relevant here: even weak inhibition may negatively affect the saxophonist's beliefs or motivations. Without the ability to present the relevant facts to himself under the *de se* mode of presentation, especially if the surgeon's advice conflicts with the saxophonist's initial desires and beliefs, the saxophonist may not be able to believe or properly appreciate what his surgeon is telling him.

The problem for the saxophonist is that discovering what it's like to be sighted amounts to the discovery of a new kind of centered conscious experience: it amounts to discovering a qualitatively different first person point of view. This 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) can change in dramatic ways. Put in terms of the subjective mode of presentation, an individual's discovery of important perceptual or qualitative truths can scale up into a discovery of important *de se* truths, which can lead in turn to the discovery of new and important (or core) *de se* preferences.

Such a discovery might stem from the discovery of new facts. This is the usual, real-life case. But we can even hold that this could happen in science-fiction type cases like Jackson's Mary case, where all the facts are known, but the individual discovers a new way to know the same facts. If we assume that our saxophonist is somehow fully informed, via testimony and description, of the numerical utilities for all the possible ways he could live his life or form himself, we can assume that he knows the relevant likelihoods about the facts. He can certainly use this sort of descriptive information to imagine, predict and describe his future brain states.

Still, because this information is framed only in descriptive, theoretical terms, it will not give him a first person perspective on his future self. So he doesn't

know all the *de se* truths. Before the saxophonist has his operation, he doesn't (and can't) know what it will be like to be sighted. In the strongest (but least realistic) version of the case, he knows all the facts about his future sighted state, just not under the subjective mode of presentation. In a more realistic case, he will discover individual-involving facts as well as *de se* truths by becoming sighted. But in either version, 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. To understand, from his first person perspective, who he'll become, he needs to grasp these facts about his future self under the subjective mode of presentation. He must be able to represent these truths as they would be grasped from his centered perspective as a sighted individual. Without the ability to grasp these features of his future first person perspective, the blind saxophonist can't imaginatively capture or simulate some of the salient truths about what it will be like for him to live as a sighted person.

As a result, he cannot grasp relevant *de se* truths about his future state. Because he doesn't know what it will be like to be his future self, he cannot subjectively present his future self's first person point of view to himself.[67] He can't know the relevant *de se* truths, because he doesn't have the experience he needs to have to imaginatively project himself into that future centered conscious experience. Here, the inability to grasp perceptual truths scales up to an inability to grasp *de se* truths. But again, in either case, whether all the facts are known or whether some facts will be discovered, before he undergoes the operation, the saxophonist doesn't know the relevant *de se* truths about who he'll become. He is unable to imaginatively empathize with his future self.

10. Transformative Experience and the *de se*

Once the saxophonist becomes sighted and grasps the experiential truths associated with being able to see, his epistemic space expands (he learns some truths), and this epistemic expansion scales up into a personal transformation.[68] Given the Lewisian thesis that experience can give agents new abilities, his new perceptual abilities carry with them a change in what it is like to be him, allowing him to grasp new *de se* truths. As we might put it, when he has the experience of being sighted at t2, he discovers the perceptual and *de se* truths of what it is like to be sighted, which changes what he cares about. The experience *transforms* him.[69]

There are different ways in which grasping an experiential or perceptual truth can lead to grasping a *de se* truth. Some ways are purely causal: for example, the massive qualitative change involved in becoming sighted causes a change in the nature and character of one's first person perspective, leading to the discovery of the relevant *de se* truths. Or perhaps the *de se* truth is just a scaled-up, more comprehensive and structured kind of perceptual truth. Or perhaps it's a mix of

the two. All of this is grist for my mill. In cases of transformative experience, one kind of discovery leads to the other. And this is important, because discovering *de se*, self-involving truths can be important.

It's important in the ways we've discussed: for example, by becoming sighted, the saxophonist discovers a new and valuable way to understand himself. He now understands the phenomenal way he is self-involved in the facts located at the times after the operation. This understanding gives him new abilities. Before the operation, he could not first personally represent his centered perspective as a sighted individual at t2. As a result, he lacked the ability to assess, for himself, the subjective, first person nature of his life as a sighted person. As I prefer to put it, he could not determine, for himself, the subjective value of being sighted at t2. (His only option was to rely on testimony from others.) After the operation, he occupies a first person perspective that gives him the ability to understand what it is like to be sighted. As a result he knows, from his centered, consciously experienced perspective, the subjective value of what it is like for him to be sighted, and this will affect his life in various ways.

I have been focusing on developing this in terms of using an important mode of presentation, the *de se* mode of presentation, to understand self-involving facts. In this way, I have avoided any commitment to primitive perspectival facts, much like I'm inclined to avoid a commitment to primitive mental or phenomenal facts, or to primitive tensed facts. There is no need to deny physicalism in order to hold that Mary learns a new way to understand the physical facts. There is no need to think that somehow the truths involved in transformation are somehow unimportant and "merely phenomenal". As I've emphasized, experience does not need to be interpreted as mere phenomenology, and making perceptual discoveries can be extremely important for making other kinds of discoveries. And there is also no need to accept an expansive ontology of facts, such as tensed facts or primitive perspectival facts, in order to hold that the saxophonist learns important new *de se* truths. We do not need to think that phenomenology is all that matters, or reject physicalism, or embrace primitive, perspectival facts, to grant that an individual can be epistemically and personally transformed by a new experience.[70]

11. *De Se* Preferences

In a situation where you are trying to imagine your possible future self, if you can get the right testimony, you can know the facts. But just knowing the facts might not be enough. As I've been arguing, knowing the facts through experience, under the *de se* mode of presentation, is an important way to know them, and may have implications for what you care about and how you act. Moreover, sometimes you don't know all the facts, and you might need experience in order to discover them. In either case, experience can be needed for the discovery of *de se* truths. This can be essential for knowing one's *de se* preferences.

The basic point is that grasping *de se* truths, just like grasping tensed truths, can be important 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*.[71] You can discover your preferences by simulating what it *will be like*, or what it *could be like* to be you in different situations. The simulations allow you to discover, assess and compare different *de se* truths about your future as you deliberate, and by doing so you discover your *de se* preferences about how to act. Using the *de se* mode of presentation, you discover the *de se* truths, and any additional facts, that you need to know in order to discover your *de se* preferences.

Cases of transformative experience are cases where there is an experience gap between the current or actual individual that is doing the grasping and the future or possible individual that is a constituent of the relevant future or possible facts. As the saxophonist example shows, transformative changes highlight how our ways of knowing *de se* truths can come apart from our ways of knowing individual-involving facts, and pose a deliberative challenge.[72] In cases of transformative experience and change, the simulation you need to perform in order to reason about your future self may be epistemically impossible for you. Like the saxophonist, you might find yourself up against an epistemic wall, where you simply have to have the experience itself in order to discover the relevant *de se* truths.

The lesson of transformative experience is that, even in real life, immersive experience can be a game-changer.

Notes

1. Thanks to Kati Balog, 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. As such, the nature of your lived experience is a defining constituent of who you are. Note that the question concerns the nature of the self, rather than the nature of 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".) On my view, your first personal future at time *t* (partly) constitutes your future self at *t*. I am also assuming physicalism here, and 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.
3. 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 for ourselves.

4. 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.

5. 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. See McCoy, Paul, and Ullman (2018) for more discussion of prospection and related empirical findings.

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. McCoy, Paul, and Ullman (in press) develop an approach that blends the cognitive science of intuitive judgments with the metaphysics of counterfactuals and explores some of the empirical dimensions of transformative choices.

7. Jackson (1982), Loar (1990), Lewis (1990).

8. Viz., Papineau (2002). We might consider such truths as a species of knowledge-wh that involves knowing certain propositions 'in the right way'. See Stanley and Williamson (2001), Stanley (2011), and Stoljar (2016).

9. 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.

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

11. 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: the perspective is cognitive. A blind person has a cognitive perspective even if he lacks sight.

12. 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 person perspective might be.

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

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-person 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 person" view on where you are to a "first person" view on where you are.

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

16. For related empirical research, see Starmans, C. and P. Bloom. (2012).
17. Of course, even when one is surveying all of reality from various third person 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.
18. The first person 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), p. 92, 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 person experience.
20. Others have made this connection, with more or less development: see Nagel (1986) and Stalnaker (2008).
21. I'm using "fact" language here, but we can also characterize this as discovering a proposition expressed by a particular sentence has content that involves them.
22. 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.
23. I'm denying that we need special, "perspectival" *de se* facts or primitively perspectival content. The notion of the first person perspective that I am working with here is an experiential notion built from perceptually or psychologically centered conscious experience. There is no need for a metaphysically primitive perspectival element in addition to this. 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 need for perspectival content, but I want to establish a role for located conscious experience, or what I take to be the first person perspective.
24. Mellor (1998). I'm indebted to Ross Cameron, Brad Skow, and Jason Turner 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 Paul (2010), Heather Dyke (2010), Ross Cameron (2015), and Brad Skow (2015) for related discussion of tensed truth and the new B-theory of time.
25. That is, non-*de se* facts. 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 interested in the discovery of the *de se* truths, for these could involve the discovery of *de se* perspectival facts.
26. See Recanati (2015) for interesting and related discussion of how the mind might represent de se truths in terms of mental files. I think the types of de se truths I am after here, truths about ourselves "from the inside" that we discover through

experience, correspond to the kind of "epistemically rewarding" relations one can stand in to oneself that Recanati's approach is designed to capture. Also see Prosser (2012).

27. That is, she did not discover any irreducible phenomenal facts. Stalnaker (2009) also discusses the connection between the Mary case and self-locating attitudes, but raises worries that this could require one to accept phenomenal facts (or "the hypothesis of phenomenal information"). However, there are substantial differences in the underlying frameworks we are using to understand these issues, and these differences allow me to avoid any such commitment. (For example, Stalnaker takes acquaintance-based approaches to involve a type of strong essentialism that I'd reject, and he frames his discussion of self-locating attitudes in terms of centered worlds and perspectival content.)

28. 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. (Lewis 1979.) 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. Those who endorse de se or perspectival content should hold that we can need experience to discover this content.

29. I am inclined to think that semantic content does not need to include perspectival content. For me, the important issue involves the distinctive experiential way we can entertain and discover facts. So, while I'm not in agreement with Cappelen and Dever (2014) that we should jettison a philosophical role for the first person perspective, I am sympathetic to many of their arguments against the need for perspectival content.

30. There is much more that is interesting here that I lack the space to discuss. Some of the interesting issues about self-location and self-awareness are discussed in Paul and Tenenbaum, "Reverse-engineering the self", draft MS.

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

32. 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.

33. Especially in chapter IV.

34. 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.

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

36. As Katalin Balog has emphasized to me in discussion, actually playing a computer game can take you (mentally) away from your own subjective perspective. My point here is that we can understand the nature of the first person perspective

by looking at computer games and VR, not that we always improve our grasp on our own first person perspective using games and VR (although perhaps we could use the technology to learn about *other* first person perspectives).

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

38. Of course, thinking about yourself temporally can involve thinking about or recalling your past perspectives as well as reflecting on your future ones. *Retrospection* is the act of modeling your past. Episodic memory can involve a first person perspective, as when I recall a past event as I experienced it then. It can also involve a third person perspective, e.g., 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).

39. Moltmann (2011) gives a fascinating account of the semantics of detached self-reference and generalizing detached self-reference that fits well with the idea of prospective assessment.

40. I am not inclined to interpret prospective and retrospective "simulation" in an overly strong way here, and 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 allows us to simulate a future first person point of view, where the simulation involved is likely to occur only with the level of detail needed to make the intended projective assessment. See Saxe (2005) and McCoy, Paul, and Ullman (forthcoming, 2018) for discussion.

41. Thus, I am taking it to be "thicker" than, e.g., Prinz (2011) does.

42. 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.

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

44. 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. There might also be a physical difference between imagining yourself from the first person perspective and imagining yourself from the third person perspective. Work in neuroimaging suggests that the first person perspective and the third person 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 person, perspective. See Mitchell et al (2011).

45. This isn't the only way to choose. In some contexts, we might choose an act based on what we've preferred in the past, or through having some sort of direct access to our preferences.

46. "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 also discuss 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.

47. See McCoy, Paul, and Ullman (2018).
48. Much psychological research affirms what might have be 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).
49. Nanay (2016) defends a view with this sort of structure.
50. There are interesting and deep connections here to the approach taken by Stanley and Williamson (2001) and Stanley (2011), who argue for the importance of knowing a proposition under a practical mode of presentation or "in the right way". I think that there may be a nice argument from their position for the idea that you can want or need to know the relevant self-involving facts under a practical mode of presentation when making a big life choice. Relatedly, Michael Tye (2009; 2011) has argued that direct acquaintance with attending to the way something feels is a way of fleshing out "what it's like" knowledge.
51. McCoy et al. (2018) give an account of the cognitive science that supports the view that we often reason in this way, and present data from an empirical exploration of prospective reasoning and learning in transformative decision contexts. Also see Railton 2017 for a defense and discussion of the importance of prospective reasoning, especially moral prospection, and Saxe (2009) for the related point of how we need to simulate to discover the preferences of other people.
52. (Mitchell et al 2011). For many people, the greater the temporal distance between your future self and your current self, the more likely you are to regard your future self from a third person perspective. This phenomenon may be related to temporal discounting.
53. Never say metaphysics can't be a guide to real life.
54. 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.
55. McCoy, Paul, and Ullman (2018).
56. Of course, we may also have to assess the implications for others. I am setting aside this complication for now. The structure of the first-person 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.

57. This is often the case when the self is sufficiently temporally or modally distant.
58. Mitchell et al (2011) There are lots of kinds of cases where we aren't very good at doing this sort of forecasting. See Gilbert and Wilson (2007).
59. Appendix to Evans (2002).
60. See (Kind 2016). Kind also defends the view that imagining has epistemic significance (Kind *forthcoming*).
61. (Campbell 2015).
62. (Williamson 2016).
63. (Nanay 2016).
64. Hoerl and McCormack (2016), Ninan (2016).
65. "[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). Also see (De Brigard et al 2015).
66. This may also mean he is inhibited from imagining himself third personally in many salient ways, for example, perhaps he can't fully imagine "observing" himself as sighted either.
67. Note that the subjective presentation is through an experience that is an imagining of an event rather than experience of an event.
68. For more on epistemic expansions, see Carr (2015).
69. There are interesting questions that I'm not adjudicating here: is a *de se* truth just a certain species of qualitative truth? 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 *de se*, or self-involving, truth through experience may be discoveries of different kinds of truths. Perhaps they are even different kinds of discoveries.
70. Cappelen and Dever (forthcoming) make this point very clearly.
71. And, of course, what your choices could mean for what the future lives of others could be like.
72. 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.

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