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PERSONAL IDENTITY AND THE EXTENDED MIND:
A CRITIQUE OF PARFITIAN REDUCTIONISM

A Thesis
Presented to
The Honors Tutorial College
Ohio University

In Partial Fulfillment
of the Requirements for Graduation
from the Honors Tutorial College
with the degree of
Bachelor of Arts in Philosophy

by
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July 2015
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1. Introduction

Few notions seem more intuitive and fundamental to human experience than that of personal identity. Each of us typically feels like one and the same person from moment to moment, year to year, throughout our lives. Even as one’s appearance and personality undergo dramatic change over time, it feels natural to understand this change as happening to the same person. Indeed, this assumption seems to underlie the very basis of comparison. This notion of identity is fundamental to our legal, financial, and medical institutions—to society in general—as well to our notions of blame and remorse, even of love. And yet for centuries philosophers have struggled to explain exactly what underlies it.

No one has examined the subject more exhaustively than Derek Parfit. In a series of papers in the 1970s, Parfit offered a now infamous reductionist account of personal identity, largely as a means to argue for utilitarianism over other more identity-centric moral theories such consequentialism and virtue ethics. No other account of personal identity has been more influential or contentious—or, for that matter, skeptical. For, as we shall see, he ultimately abandons the very notion of personal identity as a “shallow” linguistic fact, focusing instead on psychological “survival” as what matters.

Parfit is not alone in his skepticism. I believe many people nowadays would agree with him that personal identity seems wishy-washy, tenuous at best, never able to hold up to scientific or philosophical scrutiny. If we are all good materialists, unwilling to pin our identities on an immaterial Cartesian soul, then people are just
brains in bodies, right? This is the contemporary zeitgeist. Debates rage over whether any aspect of our mental life truly obtains; Sam Harris’ best seller has even brought philosophical skepticism about free will to the masses. I would argue that Parfit, and many of our contemporaries, are succumbing to a specific form of neo-scientism: one that, in lauding the STEM disciplines, tends to marginalize and devalue the social sciences’ and humanities’ contributions to understanding our world and humanity’s place within it. As a direct result, an important piece of the puzzle has been missing: culture’s contribution to human cognition has been ignored, or at least, largely downplayed.

In Parfit’s case, as ontological reductionism was applied to personal identity theory, the cultural context of personhood was all but ignored. It is the old false-dichotomy of nature-versus-nurture run amok as philosophers (and society at large) become overly enamored of the hard sciences’ (often reductive) successes. As Edwin Hutchins has argued, this blindness to cultural context was especially egregious during the early years of cognitive science—during which Parfit was developing his critique of identity—when Representationalism took culturally mediated processes and shoehorned them into the heads of thinking agents as symbolic representation (Cognition in the Wild 353-370). Perhaps identity was shoved in there, too. Oddly enough, it has been advances in the field of cognitive science that has brought us back around to the importance of culture in creating the context within which cognition—and self identity—can happen.
In this paper I hope to borrow from the burgeoning field of embodied cognition to critique this Parfitian Reductionism, as well as the related account of psychological survival. If the best explanations of human cognition are integrally reliant on dynamic cultural environments, perhaps people are best understood as more than bodies and brains. I believe our recent adoption of smart phone technologies only emphasizes this tendency for cognitive processes to reach beyond the brain, and to take our identity with them. This paper is my attempt to reassert culture’s importance in human personhood. Humans are inherently social creatures, and perhaps our identities fundamentally depend upon the presence of that social scaffolding in a metaphysically important way: to change that social and material culture is to change us. Hence, Parfit and I ultimately agree on the tenuous nature of personal identity. But not on its shallowness. Culture in general, and language in particular, are “deep facts” about human existence.

I will also attempt to offer an alternative account of personal identity that is less cynical, more intuitive, and generally more informative of what it is to be human—and the same human over time. This alternative account endeavors to be deterministic with regards to personal identity, no easy feat in the face of Parfit’s various thought experiments. I also hope it to be forward thinking and progressive: both reflective of technology’s current role in our identity as well as open to dramatic changes that may be in our future. Namely, my account contingently accepts the Separability Thesis and the Multiple Realizability Thesis as described by Lawrence Shapiro (167-172). With the power of human culture reinstated, we can have our cake
and eat it too: a pro-science, pro-technology account of personhood that respects the elaborate interplay of human biology and human cultural systems.

In the next chapter I will offer some background about the problem of identity in general, and personal identity in particular. This will set the stage for Parfit. In Chapter 3, I will present his argument against personal identity, as well as his account of psychological survival based on the ontologically reduced Relation R. Here we will introduce a few of his famous thought experiments, some of which will recur throughout the paper. I will also review a few well-defended responses to Parfit, including David Lewis and Mark Johnson. In Chapter 4, I will introduce a handful of relative developments in cognitive science, most of which center around the notion of humans as embodied, embedded agents whose cognition is best understood situated in an interactive environment, including an elaborate cultural context. My summary will focus on two thinkers in particular, Andy Clark and Edwin Hutchins. Chapter 5 will then use these concepts to critique Parfit’s Reductionist account of personal identity: in short, humans are not just bodies and brains.

In Chapter 6, I will offer my competing account of personal identity, PICC: Personal Identity In Cultural Context. I will revisit a few of Parfit’s thought experiments, explaining how my account would handle each of them. I will also attempt to defend my account from some possible objections in Chapter 7. Finally, I will conclude with some thoughts about why the debate about personal identity is relevant and important today, above and beyond protecting the humanities from unchecked scientism.
2. Identity

Personal identity theory has its roots in the problem of change: How can one object experience change and yet remain the same object? The green apple turns red, tastes sweeter. Yet we would generally regard it as the same apple. These concerns led Aristotle to distinguish between accidental and essential properties, the former of which alone can change without changing the object’s identity (Gallois). Unfortunately, the distinction isn’t always obvious. Is the same cucumber later a pickle? The problem ramifies when we involve persons: what are the essential properties of an individual?

At least since Leibniz, identity has been recognized as an equivalence relation, and hence must satisfy three conditions of equivalence in formal systems: reflexivity, symmetricity, and transitivity (Gallois). Consider the relation I. This relation is reflexive if each object in its domain stands in I to itself: \( I(a,a) \) holds. This is trivially true for identity. The relation is symmetric if for every object a that is I-related to b, then b is I-related to a. \( I(a,b) \) implies \( I(b,a) \). Finally, the relation is transitive if the following holds: if a is I-related to b, and b is I-related to c, then a must be I-related to c. \( I(a,b) \) and \( I(b,c) \) imply \( I(a,c) \).

The additional property of uniqueness follows from the above. The problem of change involves diachronic identity: identity across time. Is the cucumber at \( t_1 \) identical to the pickle at \( t_2 \)? It follows from transitivity that Identity must also be unique across time. If the cucumber at \( t_1 \) were identical to the pickle at \( t_2 \), as well as to
a green highlighter at $t_2$, transitivity would imply that the highlighter and the pickle were identical at $t_2$, which would seem to be trivially untrue.

2.1 Qualitative Versus Numerical Identity

It is important at this point to differentiate numerical identity from qualitative identity. The highlighter and the pickle may be qualitatively identical, or exactly similar in shape, texture, color, taste, ability to soak paper in fluorescent green liquid, etc. But they are not numerically identical, or one and the same object. Parfit considers painting a white billiard ball red. The ball is qualitatively different, but still one and the same ball: numerically identical across time. He then extends this to personal identity, considering the sentence, “Since her accident, she is no longer the same person”, which uses both senses of identity (“Not What Matters” 292-293). The numerically same person has become qualitatively different. He then remarks that these types of qualitative changes in personality are the milieu of the psychologist, not philosopher. Does he get this right? As we enter the protean realm of sci-fi—with Parfit as our captain—where replication of bodies (and brains) is in play, Parfit risks making his argument vacuous or tautological by discounting the psychological side of personal identity. Vis-à-vis people, this distinction becomes problematic similarly to Aristotle’s account of essential versus accidental properties.

After all, Parfit’s account of survival is based on the psychological criterion, the notion that diachronic personal identity results from a chain of psychological connections. Historically this account stems from John Locke’s memory criterion: to be the same person at $t_2$ is to have the right kind of memory connectedness to the
person at $t_1$. This account was eventually generalized to include a more general psychological connectedness involving beliefs, desires, intentions, and memories, largely to avoid the problem of amnesia (Martin and Barresi 37). Parfit hopes to keep his characterization of psychological continuity broad enough to avoid the Psychologist’s morass mentioned above, and hence leans more on phenomenological continuity than the connectedness of various mental states.

2.2 Ship of Theseus

Is Parfit really a closet proponent of a physical criterion? After all, his thought experiments always involve either borrowing an important part of the physical substrate (the brain) or recreating the physical substrate exactly (the replicator/teleporter). The physical criterion appeals to bodily continuity as the basis for personal identity. Perhaps this intuitive notion of identity was abandoned too easily—perhaps based on medically spurious analogies drawn to the Ship of Theseus paradox. This thought experiment, which dates back at least to Plutarch, has the venerated ship that Theseus sailed upon being preserved in Athens throughout the centuries, with each plank and bolt and rigging slowly replaced as needed, until eventually none of the original ship remains. Is it still the same ship? The quandary predicts Parfit’s fission examples if we suppose, as Thomas Hobbes did, that someone has collected the abandoned pieces and constructed a second ship out of them (Gallois). Whether this is a good analogue for the human body, where various cells are never replaced, including cardiac muscle cells and certain cells in the brain-stem,
is a different argument. The critique of Parfit as a physicalist masquerading under a quasi-psychological criterion will also be taken up again later in the paper.

2.3 Bernard Williams

A few more words about personal identity are necessary before we get into Parfit’s argument. All of the accounts discussed in this thesis aim to be naturalistic: no Cartesian egos or immaterial souls are evoked to explain the persistence of personal identity. As we shall see, on my account, it is the cultural-linguistic context that does much of the work in soul-making—in fixing identity—a notion that *anatman* Buddhists have long known.

Finally, Parfit borrows two requirements for personal identity proper from Bernard Williams (“Not What Matters” 139-142):

1. the intrinsic requirement: “Whether a future person will be me must depend only on the intrinsic features of the relation between us. It cannot depend on what happens to other people.

2. the triviality requirement: “Since personal identity has great significance, whether identity holds cannot depend on a trivial fact.”

As we shall see in the next chapter, many of the responses to Parfit (and Williams) abandon the intrinsic requirement, moving personal identity to an extrinsic context. As far as the original account I will offer, I suspect Parfit would accuse me of violating the second requirement, hinging my notion of personal identity on trivial facts such as which Replicant gets the smartphone and access to the facebook account. But that is just his scientism talking: devaluing the contribution of human culture to cognition in general. More on that, of course, later.
3. Parfitian Reductionism

3.1 Reductive Critique of Personal Identity

Ultimately, Parfit wants to dispel our notion of personal identity and replace it with an account of psychological survival. Ideally, the concept of survival captures the essence of psychological continuity without the burden of uniqueness, an essential part of identity as outlined above. The first step is to convince us that personal identity as we know it is illusory. The basic argument goes ("Unimportance" 304-305):

I. Personal Identity over time just consists in physical and/or psychological continuity and/or connectedness

II. There are situations in which we know the facts regarding degrees of physical and/or psychological continuity and/or connectedness but still cannot answer questions of identity

III. Hence Personal Identity is too indeterminate to be a nontrivial (nonlinguistic) fact about reality

Notice his argument is kept broad enough to apply to most every account based on either the physical or the psychological criterion, or a mixture of both. The majority of his effort is spent convincing us of Lemma II. Here he evokes a variety of sci-fi and medical science thought experiments, the most relevant of which we will review below.

The second step is to convince us that we already have everything we need right in front of us, a sort of rhetorical double-bluff ("What Matters" p.141):

IV. Furthermore, the facts about the degree of physical and/or psychological continuity are a sufficient account of what happens
This is the pith of the reductionist account: persons are just bodies and brains.

Ultimately we will argue that he has forgotten a key facet of human personhood: cultural context. For now, we push on (“What Matters” 136-139):

V. Finally, and most importantly, Relation R (the psychological connectedness and/or continuity above) is what matters most in survival

In this final move, Parfit takes a side in the physical/psychological criteria debate. If he has succeeded, personal identity has been ontologically reduced to psychological survival: people are just bodies and brains; and moreover, only brains to the extent that they are necessary to ensure Relation R.

3.2 Fission

To support Lemma II Parfit offers a wide variety of thought experiments. He admits that most of them involve circumstances that none of us have experienced, hypotheticals beyond our current technological abilities and, maybe, the realm of possibility. Either way, he feels that our reactions to these situations are strong enough to help elucidate our true feelings about personal identity (“What Matters 116). We will concentrate largely on the so-called Fission case, (alternatively referred to as Teleportation without Deletion, Reduplication, etc). This is one of various cases where one identity believable splits into many others. Although a few other hypotheticals will be mentioned, the Fission case poses the most difficulty for the account of personal identity I wish to offer.

Parfit begins with teleportation. A futuristic scanner here on earth bathes you in green light, simultaneously destroying and recording the exact state of every one of
your cells. This complete map of you is then transmitted to a replicator (also futuristic) on Mars that will create exactly your body (and concomitant brain). He then asks if it is you that wakes up on Mars. Most of us, familiar with a common trope in sci-fi, say yes: Teleportation thusly described is just a really neat way of traveling. This intuition, Parfit argues, is enough to undermine the most basic formulation of the physical criterion: there is no longer physical continuity (although connectedness might be arguable) between us on Earth and us on Mars (118). But the psychological continuity/connectedness remains.

Parfit then asks us to consider if the scanner failed to destroy your Earthly body as it was scanned and transmitted to Mars. Now there are effectively two people with equal claim to being you (118). Both equally share your memories and thoughts and desires, etc., right up to stepping into the scanner. Both have the same psychological connectedness and continuity with the original you. In his original formulation the Earthly you (now the Branch Line) is doomed to die off within a few days of being scanned, while the Mars you (now the main line) lives on happily (117). But this same hypothetical could be imagined where both—or infinitely many—replicas are created, all with equivalent psychological connectedness and claim on personhood. Seeing as uniqueness is a fundamental aspect of Identity, this poses a problem for the psychological criterion for identity.

Parfit’s solution is to concentrate on what we know: the level of psychological continuity and connectedness between Earth You and Mars You (and all other potential Replicas You). This is his Relation R (140). Moreover, he argues the
survival of any persons with this Relation after stepping into the scanner is what would matter most to the original Earth you (136-9).

Parfit also develops a version of Fission based (loosely) on medical science (122). Some patients (usually with intractable epilepsy) have been known to survive a so-called split-brain surgery (complete callosotomy), where their corpus callosum is severed, effectively separating the right and left hemispheres of their brain. Parfit thus imagines a situation where each of these two independently functioning hemispheres are removed from one identical triplet and then placed into the (recently de-brained) bodies of the two other identical triplets (127-8). Here we have a form of the Fission argument that has more traction with a certain strain of the physical criterion, namely that identity follows the material brain. Both formulations of Fission have the same upshot for the account I hope to develop here.

3.3 Causality

It is important to note an ongoing debate over what degree of causal relation is necessary between the mental states of Fissioners and their progeny to qualify as properly connected via the psychological criterion. In Parfit’s standard Fission case, a high bar is set: a perfectly reliable Teleporter scans, transmits, and replicates his body atom for atom (“What Matters” 115). Although this is not the normal cause of physical continuity, it is as close as you can get. Must the bar be set so high? We could easily imagine a less reliable cause still resulting in the proper connectedness/continuity from time to time. Perhaps a red-light/green-light setup on the receiving end lets us know the success of the transmission.
In a position known as psychological sequentialism, Scott Campbell asks us to consider a case in which there is no causal connection between Earth Derek and Mars Derek (381-2). Perhaps the scanner on earth only transmits the pertinent information about his body, then the Mars scanner randomly generates a set of psychological states for Mars Derek. As it happens, through a coincidence of astronomical mathematically improbability, the brain recreated on Mars exactly matches that of the Earth Derek who first stepped into the teleporter pod. Campbell asserts that this person, whom he calls Random, would have strong enough similarity to meet the psychological criterion, and hence to be considered an instance of R-related survival (384-96). Campbell evokes Williams’ triviality requirement against any attempt to claim superiority of causally connected psychological states over identical but merely sequential states (382).

As I have characterized Parfit’s position thus far, he could easily loosen his implied restrictions on causality in the psychological criterion without in any way dampening the force of his reductionist argument against identity, nor his case for survival as what is most important. Indeed, sequentialism seems to cause the most problem for any account that relies on semantic externalism. Because the account I wish to offer in Chapter 6 is externalist in a broader sense, I will revisit this issue then.

3.4 Fusion

Parfit also explores another variety of thought experiments that I would refer to as identity Fusion: two different persons with the same claim on one body. The patient post-callosotomy is one potential case of Fusion, for as Parfit argues, there is
some evidence that such patients have two distinct streams-of-consciousness, one in each of the disconnected brain hemispheres (“What Matters” 123). This potential breaks the one-to-one mapping of identity, but from the other direction.

Similarly, Parfit has offered a thought experiment that has come to be known as the combined spectrum (“Unimportance” 298). Here he imagines the scanner not teleporting your body but replacing varying degrees of it with new cells that are not exactly similar. On the near end of the spectrum of possibilities, no cells are replaced and it is clearly still you. On the far end, all cells are replaced, and it is clearly some other person, (he says Greta Garbo). He argues there must be indeterminate cases in between. Again, his Relation R is enough to tell us all we want to know regarding survival. We know the details of what was replaced; it is only a failure of language beyond that (298-9). I will have more to say about this later in defending my proposed account of identity.

In the meantime, it is worth looking at some responses to Parfit, in order to better situate his account of survival. Furthermore, my own account of personal identity will borrow heavily from all three responses described below.

3.4 David Lewis, Perdurantism

David Lewis attempts to preserve our notion of personal identity from Parfit’s assault by espousing a four-dimensionalist account of personhood (Lewis 145). Here persons are best understood as four-dimensional objects extended over time, but composed of a series of momentary person-stages. A person is the sum of her momentary person-stages (Lewis 149). These person stages are all related in the
appropriate way according to a version of the psychological criterion. This allows him to resolve the fission case by skirting the transitivity requirement in a rather ingenious way. The fission case is not a thought experiment where one person splits into two, but an example where two separate persons previously shared a series of coincident person-stages. Hence, although the resultant two persons are, in a qualified sense, numerically identical to the same pre-fission person (each of their person-stage summations include that person-stage), they are not numerically identical to each other at any time \( t \) after the split (Lewis 150-1).

3.5 Extrinsic/Best Candidate Theories

Another popular response has been to deny the Intrinsic Requirement that Parfit borrowed from Williams: to shift personal identity to an extrinsic relation (Martin and Barresi 2). Hence, personal identity no longer relies solely on the features of the relationship (physical, psychological, or otherwise) between the two considered entities. It can also depend on the relationship between those entities and everything/everyone else. It cannot be enough that your Mars-replicant has the proper intrinsic relationship with Earth-you; we must consider whether any other person, (i.e. Jupiter-replicant) has the same relationship. Robert Nozick’s closest continuer account falls into this category (Nozick 96). Some versions evoke a more obvious cop-out clause and have come to be known as Best Candidate solutions. The clause specifies that if multiple entities survive the fission with equal claim on personhood, than none of them are numerically identical with the person who stepped into the scanner. The replicant is only you if the you that stepped into the scanner is
simultaneously destroyed. This type of reply can lead to some counter-intuitive results, such as the brain-split triplet hoping that only one of his transplanted half-brains survives, as both surviving would be ontologically the same as neither surviving. In practice, the best-candidate clause only works to preserve identity in the limiting case where all but one branch doesn’t survive. My goal below is to offer an intuitive way of identifying the “best candidate” from among multiple survivors, and to do so without violating The Triviality Requirement.

3.6 Mark Johnston’s Argument from Above

Parfit argues that a good reductionist must accept that personal identity does not matter—is not a “deep fact” about reality (“Unimportance” 300). Mark Johnston replies with his “argument from above,” namely that ontological reductionism is consistent with “ordinary further facts,” and moreover that these further facts can, in some circumstances, imbue the constitutive facts they subsume with additional meaning (Johnston 262-7). He gives the example of a work of art, a statue of Goliath. According to the constitutive reductionist, the statue is nothing over and above what it is composed of: clay. But it is not identical with the clay it is composed of. We can think of situations in which the clay survives, but the statue does not. That the statue of Goliath survives a fire is a further fact than that the clay of which it is composed survives the fire. And this is true without claiming the statue is some sort of superlative entity; it is true, Johnston claims, because material objects are in a different ontological category from the matter than composes them (263). Furthermore, the clay’s survival of the fire derives importance from the “higher level” fact that the
statue survived; not the other way around. He then argues that personal identity involves just such further facts: that a person is a human being is a further fact from the matter (body and brain) that composes her (263). The fact Ronald Reagan survived John Hinkley’s assassination attempt is a fact beyond the underlying facts regarding the survival of his body, his brain, etc, because of the categorical difference between persons and their organs and body parts (264).

I believe Parfit would respond that the important parts of Reagan’s survival are captured by the lower level facts of survival, facts about the continued functioning of Reagan’s body, and specifically his brain. (Similarly, perhaps, in the underlying facts about how the clay of the statue survived in its same orientation, structure). Parfit offers the example of a (different) brain-dead patient whose heart is still beating and perfusing blood to his various well functioning organs (“Unimportance” 305). The fact that the patient is still alive consists in these facts about the patient’s heart and organs. Parfit argues, contra Johnston, that the fact that the patient’s heart is still beating should not derive further meaning from the further fact that the patient is alive, even though “being alive” is itself good (306).

As we shall see in Chapter 6, my proposed account of personal identity explains how these further facts about human beings might imbue the constitutive facts about bodies and brains with derived meaning. These facts—and the concepts they comprise—play very real functional roles via socio-cultural processes, processes that have a direct and continued interplay with the brains (and bodies).
4. **Embodied Cognition and the Extended Mind**

In this chapter, I will explore two different accounts of what has been dubbed active externalism, where aspects of the environment are so functionally integrated into the cognitive problem-solving system that it is apt to think of them as part of the mind at that moment. Before examining this position further, it is worthwhile to mention some developments in the philosophy of mind that set the stage for it, namely that of content externalism.

4.1 **Semantic Externalism**

Through his now infamous Twin Earth thought experiment, Hilary Putnam argued that the meanings of words “just ain’t in the head,’ that the semantic content of our utterances is fixed by historical interaction with aspects of the external world (Putnum 285-7). Furthermore, the meaning of a word can change in accordance to changes in the external world, without any concomitant changes within the person’s brain. Semantic content does not supervene on intrinsic mental states. The thought experiment posits a doppelganger Twin-Jamie that lives on a planet (Twin-Earth) that is exactly identical to Earth in every imaginable way except one. On twin earth, the liquid that functions in every perceivable way identically to Earth-Water has a different molecular make-up than the \( H_2O \) to which we are accustomed. The argument goes, if I were to travel to Twin-Earth, when I would refer to the substance I was “cabrewing” through as water, I would be mistaken. Whereas Twin-Jamie—who would have identical intrinsic mental states—would be correct. Our differing
historical interactions (with different wet molecules) have fixed different semantic contents for our utterances.

Tyler Burge adapted this argument in a way that foreshadows this paper’s underlying goal: to reinsert the dynamic power of culture into explanations of human cognition. Burge highlights the social nature of human environments by arguing that semantic content is fixed by the social interactions of linguistic communities (Burge 77-9). For example, one can imagine a community where the word “adrenaline” is still used to refer to both epinephrine and norepinephrine indiscriminately. Within this community, when Bob says that his heart was racing from all of the adrenaline given to him in the ER, his utterance is true. As a member of a different linguistic community, where the distinction between the two has been made explicit, Bob’s utterance would be false: Adrenaline is synonymous only with epinephrine, and norepinephrine is given to combat extreme hypotension. It could be argued that the intrinsic mental states of Bob are identical in each of those two situations, but the truth-content and hence semantic content of his utterance changes based on differences in the socio-linguistic context.

It is here that Campbell’s sequentialism (Ch. 3.3) could potentially pose a problem. If the content of our mental states is determined through historical interaction, how do we account for Random? Because the psychological states of Parfit’s Replicas have a reliable causal relationship to the psychological states of his body on Earth, it is reasonable to argue that they have derived external content and hence their thoughts refer in the proper sense. This cannot be said of Random, whose
psychological states have no connection at all to those of the original Earth Derek. To the degree that my account is externalist on mental content, and wide on causal connectedness, it may be open to the sequentialist critique. We will see in Ch. 6.8 below.

4.2 Extended Mind Hypothesis

In 1998, Andy Clark and David Chalmers took externalism a step further when they put forth the Extended Mind Hypothesis (EMH), arguing that the mind can extend beyond the human head (8). Or, more precisely, that the “vehicles” of cognition, when properly defined, can involve not only the brain, but also other parts of the body, as well as certain aspects of the physical environment (Clark and Chalmers 8-9). They can be biological or not. These “vehicles” or cognitive realizers are the substrates that do the work in the dynamic loops of activity that constitute cognition. To emphasize the arbitrariness of using the skull as the boundary for cognition, they offer a heuristic, the parity principle: “If, as we confront some task, a part of the world functions as a process which, were it done in the head, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world is part of the cognitive process” (Clark and Chalmers 8). The parity principle helps identify a slew of manipulations that could be done inside of the head, but are often more efficiently done upon the environment directly. Consider rotating objects in videogames such as Tetris, Dr. Mario, Bejewled, or Candy Crush. In all of these games, possible moves can be evaluated either by rotating the objects within one’s mind, or by using the controller (or phone interface) to rotate the object within the
game. It is universally more efficient go the environmental route (Clark and Chalmers 8). Here the parity principle dictates that we should consider that coupled loop of brain-hand-controller-screen-eyes-brain as part of one functional system, the mind. To drive this point home, they ask us to consider if a neural implant allowed us to rotate the objects on-screen using only our brain. We would most likely have no hesitation in calling that activity part of the mind (Clark and Chalmers 8-9). Other similar examples include using pen and paper to do long division, to scribble talking points for a debate rebuttal, or to rearrange letters for an anagram puzzle; slide-rules, pocket calculators, counting on one’s fingers, etc. (Clark and Chalmers 8-10). In all of these cases, the parity principle helps to restore epistemic credit to epistemic actions by treating these actions as thought (Clark and Chalmers 9).

Clark and Chalmers then broaden the application of the parity principle to mental states proper: beliefs, memories, desires, intentions, etc. Some, if not all, of these mental states—the true mark of the mind—may also extend beyond our own “metabolic borders” (Clark and Chalmers 12). In what has come to be a contentious example, they consider a man with Alzheimer’s named Otto and his trusty notebook. Because Otto’s disease is advanced enough that he cannot make new memories within his brain, he carries his notebook at all times and uses it incessantly, writing down everything he believes to be of importance or utility and referring to it before most any action. Clark and Chalmers argue that the notebook has become coupled with Otto in a way that elevates it beyond simple tool use, and that the parity principle implies we should treat the notebook as an integrated part of his dispositional belief system (Clark
and Chalmers 12-17). A more quotidian example of such (cooperative) memory scaffolding is the use of patient charts in the hospital by doctors and nursing staff.

To prevent unjustified leakage of the mind into the world, Clark and Chalmers outline further constraints on the application of the parity principle, which I believe can be summarized by three criteria: fluency, transparency, and trust-worthiness. Fluency implies that the person is reliably and directly coupled with the object or aspect of the environment in a bi-directional loop such that inputs and outputs are not easily distinguished (Clark and Chalmers 13-16). The bi-directionality is important, so that the aspect of the environment is not a simple input to the cognitive system, but part of an interactive loop. Clark gives the example of a turbo-charged engine, where the output of the combustion (exhaust) is fed back into the system to drive the turbo charger that in turn adds more power to the combustion (Clark 2010). Transparency requires that the object/aspect is accessed automatically and without previous deliberation. Hence, it has become phenomenologically “transparent” in a quasi-Heideggerian sense (Clark and Chalmers 15-16). This prevents a false coupling where a simpler, intermediary belief (such as ‘I believe the address is in my notebook’) would do all the cognitive work, simply directing the thinker to the object in the environment. Finally, the information so gleaned must be trusted as it would be if it were stored and retrieved inside the head (Clark and Chalmers 13-17).

4.3 Iphones and Facebooks

For all the trouble that Otto and his notebook have caused, it is hard to believe EMH was put forth in 1998, well ahead of the advent of the smart phone. It has
proven very prophetic. Since then we have all, in a sense, become Otto. Smart phones have made the exact sort of off-loading of mental states described by EMH mainstream. These devices can store desires such as favorite dishes at local restaurants or merchandise found online that one wants to purchase eventually (Chalmers 1). They scaffold intentions in the calendar app as well as various self-improvement apps (exercise, learning a new language) that are set to prompt you when you need to use them. Memory is extended by storing everything from phone numbers and addresses to birthdays and anniversaries to clusters of abstracts for use as bullet-points during a speech. Journaling apps integrated with omnipresent cameras facilitate narrative history in general. Other apps perform much more specific cognitive tasks such as calculating tips or helping design and execute a monthly family budget. The GPS and mapping capabilities speak for themselves in their transformative role. As every philosophy student is painfully aware, the art of sophistry has been irrevocably impacted by anybody’s ability to Google almost any factoid during that friendly argument over a beer. One could even argue that perception itself has been augmented with the ever present video camera, and more-so with various apps abilities to integrate environmental knowledge into the camera’s window. Smart phones did not alone make EMH true, but they did make its truth much more apparent.

Now, add to this sea-change the inception of another cultural revolution: social media. It is not difficult to see how directly and dramatically this one-two punch could alter questions of personal identity, especially with over 1.44 billion unique,
active Facebook users (Millis). With Facebook, the narrative of one’s life is mapped out in elaborate detail online. One’s “timeline” is a diary on steroids, complete with photographs and videos and GPS locations and—perhaps most importantly—comments and feedback and germane anecdotes from social conspecifics saved for posterity. The accessibility of this multimedia narrative invests it with new cognitive importance and efficacy. People refer to this environmental scaffold with alarming frequency. It is like one is having a casual conversation about their identity almost continuously. This is exactly the type of dynamic coupling Clark was looking for in the EMH. In the following chapter I will argue that the prevailing use of Facebook on smartphones does indeed meet the criteria of the Parity Principle, and hence is relevant to questions of personal identity.

4.4 Distributed Cognition

The cognitive anthropologist Edwin Hutchins takes Clark’s critique of traditional brain-bound thinking even further, shifting the analysis to what he terms “distributed cognition.” Hutchins argues that dynamic cultural systems are responsible for much of the organization and structure of human cognition. Distributed cognition as a paradigm attempts to better model cognition by resituating human agency within the context of a larger cognitive system, where much of the work is done by culturally driven social activity (Hutchins “Enaction” 425-7). According to Hutchins, the adaptive brain that Clark focuses on is wholly beholden to and dependent upon the culturally determined environment into which it is born, in such a way that the most perspicuous viewpoint on human cognition looks at the
larger informational structures into which human agents are embedded (Hutchins “Enculturating” 9).

Hutchins thinks Clark’s treatment of the PEA inadvertently identifies a central short-coming in organism-centered descriptions of cognition; namely, where the organization of ecological assemblies comes from. According to Hutchins, Clark struggles with this question, having rejected the “inner executive” of traditional internalism, but not yet having accepted the potential of culture-brain co-evolution to organize persistent, dynamic epistemic environments. Clark finally, somewhat ambivalently offers the Hypothesis of Organism Centered Cognition (HOCC): although cognitive systems may comprise assemblies that extend beyond the human brain and body, it is the brain that controls and organizes the assembly process. Hutchins questions whether all—or even the most important—real-world cognitive performances are organism-centered in this way. Given his account of the emergence of language as a distributed, collective cognitive activity, it is no surprise that Hutchins answers in the negative (Hutchins “Enculturating” 6-8).

Reading, writing, and speaking are cultural practices par excellence. To play a role in this social environment of language manipulation puts very specific restraints on what a thinker attends to. Hutchins argues that this “thinking for speaking” implies that even lower level perceptual processes are at least partially organized and constricted—if not constructed—by cultural practices (Hutchins “Enculturating” 5). He agrees that embodied agents are opportunistic and adaptive, but argues that the constraints on which resources are exploited—which resources are routinely available
to meet the criteria outlined by Clark—are created by cultural historical processes. Very few of the dynamic agent-environment loops Clark describes are in any way invented by the thinking brains that exploit them. Instead, the ability to participate in these loops is a requisite for enculturation (Hutchins “Enc” 5-6). Hence, Baldwinian evolution has selected for brains that can adapt to this environment, and cultural mechanisms, in turn, have been tailored to brains, lest they die out. This places the organizational burden outside the individual. Indeed, as mentioned in the introduction to this thesis, Hutchins identifies this as the central problem plaguing cognitive science: its Representationalism (Hutchins 1995 356-9). Early cog-sci theorists tacitly assumed that these social, culturally mediated processes where all contained within the mind, mapped as symbolic representations. This set the stage for the fool’s errand search for intrinsic content, the agent-based picture of cognition that is only now being revised.

Hutchins most detailed exploration of distributed cognition is in his 1995 book Cognition In the Wild, where he gives a detailed study of the informational processes underlying the navigation of a navy amphibious assault ship, a quintessential example of cognition distributed across multiple agents and instruments in the material world. The knowledge and abilities of the cognitive system as a whole is not contained within the brain of any individual within the system. Hutchins believes this is a good, though simplified, analogue for complex cognitive behavior such as language use. Perhaps self identity too arises out of just such a dynamic informational system, involving a complex web of language and language-users.
4.5 Tomasello and Ontogeny

Similarly, the American developmental and comparative psychologist Michael Tomasello has argued that it does not make sense to speak of human cognitive skills isolated from the environmental contexts within which they both evolved and operate (Tomasello 467). Tomasello argues that human beings’ unique cognitive abilities are both an adaptation to and result of cultural organization. We are an elaborate example of niche-construction: organisms modify their environments in such a way that it creates a strong selection pressure on their progeny. Indeed, Tomasello attributes our species’ uniquely lengthy ontogeny to our need for cognitive flexibility, so that the young, neurologically unfinished infant can adapt to the complicated cultural environment through social learning (Tomasello 467-8). This is seen physiologically through an extensive culling of the over-abundance of neurons with which we are born. Infants come into existence armed with a grab-bag of cognitive tricks that prime them to participate in humanity’s unique form of cooperative and communicative interactions (Tomasello 469). Indeed, from a wide range of primate experimentation, Tomasello concludes that the main difference between chimp and human cognition is shared intentionality (474-6). Participants form so-called “we-intentions,” cognitively representing a shared goal and jointly coordinating their actions to pursue that goal (Tomasello 476). It takes both biological inheritance and the inherited ambient cultural environment to realize our unique species-typical cognition. Consider cases where the biological underpinnings are missing (extreme autism), or where the cultural backdrop is unavailable (so-called feral children). “Thus, we see here the
basic human cultural dialectic: biologically evolved skills for social interaction enable the creation of cultural artifacts and practices, which then structure the ontogeny of each new generation of children” (Tomasello 476).

This Hutchins-Tomasello account of human cognition also meshes well with the fact that the cultural explosion that typifies humanity seems to have occurred some 90,000 years after the appearance of anatomically modern humans (Tomasello 467). It seems unlikely that the mechanisms underlying this dramatic change would be present inside the Teleporter along with our bodies and our brains.
5. Extending Personal Identity

5.1 Numerical Identity, Humans, and Cognition

At this point it might be fair to ask what, if anything, all of this has to do with personal identity. What does numerical identity have to do with cognition, however it is best understood? A central tenet of Parfit’s account of survival—as well as many of the leading accounts of personal identity—is the psychological criterion (“What Matters” 136-139). If we are talking about the connectedness and/or psychological continuity of thinking human agents, whether it is phenomenological connectedness or continuity of mental states, we are talking about cognition. If, contra Parfit, this cognition cannot be reduced to mere bodies and brains, then we have reason to doubt Parfit’s reductive account of personal identity.

This point requires further treatment. One might ask whether psychological connectedness/continuity as Parfit envisions it is metacognitive? Does it require thinking about thinking; or, more exactly, second order cognitive dynamics such as self-evaluation, self-criticism, etc. I think yes. But even if not, people are a special case. Even in the most narrow interpretation of numerical identity, we are talking about a continuity of mental states, a continuity that must encompass the cognitive complexities of human consciousness. The brute experience of a gopher will not do here. In discussing his various teleportation cases, Parfit oftens says things like “the person who wakes up on Mars seems to remember living my life up to the moment when I pressed the button, and he is in every other way just like me” (“Unimportance” 292). Surely, by “every other way just like me” he isn’t referring to simple physical
resemblance. There is a mental resemblance, beyond a common set of memories, even if it must be more fundamental and robust than the kind of personality shifts psychologists concern themselves with.

Parfit is not so sure. He specifically wants to avoid questions about the “kind of person” someone is, the mid-life identity crisis. He considers the sentence, “Since her accident, she is no longer the same person” (Parfit “Unimportance” 292). This sentence, to him, exemplifies the difference between numerical and qualitative identity, because it contains both: the one and the same (numerical) person is qualitatively different. I think Parfit gets this wrong, as we will explore in the next chapter. Surely he doesn’t want to reduce the problem of personal identity to the problem of change in general. Is his sentence the same as “The green tomato has been red since it ripened”? To say yes, I believe, is to miss what is unique about human identity. Did that same person survive the wreck and surgery? Society answers these difficult questions all the time, and not always in the positive. And a big factor is how well can they be integrated back into their life, into the dynamic cultural systems they are a part of: neighbors, coworkers, hobbies (the guitar leaning against the chair in their house, the craft closet, the easel), etc. By over-simplifying his account of human consciousness, Parfit risks making his entire argument circular, as well as his criterion quasi-physicalist: I can cut your body up (or copy your body exactly); then there are two of you; hence your identity is not a deep fact. The reduction of personal identity to brain and body is vacuous if too much of human psychology is ignored.
5.2 Critique from Mind Extension

My Critique of Parfitian Reductionism will come in two parts, either of which can be accepted or rejected independently. The first is based on the work of Andy Clark summarized in the preceding chapter; the second from Edwin Hutchins. I have renamed them according to the strength of their assumptions regarding the nature of the extended mind. The difference resides in Lemma I. The majority of this chapter will focus on the weaker formulation, although many of the arguments are easily applicable/extendable to the stronger formulation. Hutchins will become more prominent in the following chapter, when I attempt to outline a novel account of personal identity. I begin with the critique from Weak Mind Extension:

I. At any given moment, the mind may be meaningfully scaffolded onto objects in and aspects of the surrounding environment

II. Psychological continuity and/or connectedness variously relies on this re-occurring scaffolding

III. Questions of personal identity cannot always be answered reliably without considering this material and cultural context

IV. Parfit’s account of what happens in Fission cases is incomplete

V. Personal identity in Fission cases can be deterministic when the omitted context is included

To obtain the stronger formulation, we simply replace Lemma I with the following:

I’. At any given moment, the mind may be inextricably embedded within a larger informational structure comprising various complex socio-cultural activities
The first goal is to establish Lemma II, assuming the summary of Clark has convinced us of Lemma I in the previous chapter (or Hutchins and Tomasello for I’). Because I believe the most convincing case for extended personal identity stems from a very particular cultural practice—the use of Facebook on smart phones—I will begin with that before moving on to a more generalized argument. The Lemmas III and IV will then follow somewhat easily. Arguing for Lemma V will form the core of Chapter 6, wherein I introduce my own attempt at a coherent account of personal identity.

At a glance, Lemma II seems plausible. As in the case of the car-wreck mentioned above, it is the person’s social network that often makes these difficult calls regarding continuity of identity—and with some frequency. I would argue that cases exist where people are considered numerically different after a traumatic brain injury or revelation of a secret life. The murderer is divorced and disowned. The car wreck victim is seen as a fundamentally different person, though he may still be loved and nurtured. But regardless of where one falls on these problematic questions, my critique does not need an example where society rejects personal identity. I only need the role of cultural processes in reaffirming and maintaining continuity in these extreme cases to be recognized. This is hardly controversial. When the coma victim awakens, when the emotionally shattered veteran returns from the front, it is this social and cultural web that helps weave this body and brain back into place—that creates continuity between their past and their present. Their re-integration into their previous life depends on these dynamic cultural systems. Most, if not all, of Parfit’s thought
experiments would fall into this extreme category, where some traumatic medical or technological intervention has dramatically changed the conditions of existence for a person; society’s role in facilitating this transition seems obvious to me, as does its relevance to personal identity. We now move on to more quotidian cases of extended identity.

5.3 Facebook and the Parity Principle

We begin with the widespread (almost ubiquitous for some generations) use of Facebook on smartphones (FOSP). Does this interaction achieve the sort of coupling that Clark and Chalmers have in mind for EMH? In broad outline, the case for FOSP seems isomorphic to that of Otto’s notebook. To be sure we refer to the parity principle, and more specifically to the constraints placed upon its use, which I summarized in Chapter 4 as fluency, transparency, and trust-worthiness. The fluency requirement requires the iPhone and the user to be reliably and directly coupled with each other, and for the loop created to be dynamic enough that easy characterization of inputs and outputs is not possible. The question is difficult, but the prospects are promising as Clark and Chalmers have acknowledged this coupling is possible for various uses of smart phones, though not for Facebook specifically (Chalmers 1-3, Clark 2010). The reliability and directness are definitely there: people have this technology at the ready at almost all times. Furthermore, a strong case can be made that the input-output interaction is also sufficiently complex. Clark gives the example of a turbo-charged engine, where would-be exhaust feeds the power-charger (Clark 2010). It would be likewise difficult—and potentially arbitrary—to differentiate what
part of the Facebook narrative gestalt counts as a simple output, versus a further input to the dynamic user-program process of story construction.

To achieve transparency, FOSP must be accessed automatically and without previous deliberation. Here the proof is in the pudding, an empirical slam-dunk. If you have ever witnessed a young adult FOSPing, you know it is compulsive and trance-like on the verge of the subliminal or the subconscious. There is no functional moment available for an intermediary belief of the sort ‘I believe my self image is being assaulted on Facebook.’ These users are so deeply coupled with their device that gaining their attention is often not dissimilar from rousing them from a fugue. Finally, the trust-worthiness of the information represented on FOSP seems to be trusted as factual at least to the degree that brain-bound memories are. Consider as evidence people’s propensity to refer to FOSP to answer objective questions about what happened where and when and involving whom. Similarly, consider peoples’ willingness and need to defend the veracity of what they post, be it about what happened or, more perspicuously, what they believe regarding a particular political issue. A final consideration would be how confidently people turn to Facebook to keep up on what is happening in the life of a friend or acquaintance. This tendency to take other people’s online representations of themselves as legitimate has led to a new host of jealousy-fueled psychological issues (Konnikova).

5.4 Generalized Argument for EMH vis-à-vis Psychological Criterion

Shortly after introducing the Extended Mind Thesis, Andy Clark wrote a paper meticulously detailing how public language, when considered as an artifact external to
a thinking agent, can reshape the computational space of human brains. I would like to borrow the structure of his exegesis to frame my argument for the extension of personal identity into the cultural-material world. This is not to equate language and personal identity in any way; this is just repurposing one treatment of mind-extension in order to elucidate another. Clark identifies six general ways in which linguistic artifacts “complement the activity of the pattern-completing brain” (Clark 1998).

i. Memory Augmentation

Here we consider how we use external scaffolding to store memories of who we are, what we have done, what our goals are, etc. These are our photo albums and diaries (Facebook pages), but also our souvenirs, collections of favorite books, the art and décor of our house—all of the items we off-load memories onto, only later to retrieve entirely (as a video of a sports game from your youth) or partially (as in a wooden bowl from a trip prompting a memory or story from your memory). People in one’s life also can fill this role: both telling stories about you and prompting you to tell stories. These are the threads that help maintain psychological continuity in a neurologically real way. Our mental states get from time $t_1$ to $t_2$ only after being looped dynamically with any number of these environmental scaffolds. This happens on all time scales, specifically the short time scales the psychological criterion necessitates. We are less interested in these artifacts linking you to your infancy via your favorite teddy bear (though I am apt to believe this works also). This is why the loss of personal affects, perhaps in a robbery or natural disaster, can feel like a real
loss of self. You can survive it, as you can survive partial lobotomy or amnesia, but not trivially so.

ii. Environmental Simplification

Consider how we structure our environment around our interests, intentions, and beliefs. The functional layout of your immediate environs ushers your interior mental life from one moment to the next: This is your craft closet; your guitar stand in the living room; your easel and paints and current work in progress left in sight; your mediation corner; your office and desk arranged just so. This is also your coworkers and neighbors and friends having a working conception of your identity and using it to constrain the topics about which they speak with you.

iii. Coordination and the Reduction of On-line Deliberation

Yes this is coordination between your person stages. This is planning to go to the gym and leaving your clothes and bag out; this is setting goals and writing them down, pinning up a flier for the race you want to train for; this is art and motivational posters; favorite poetry, bands, sports teams; this is also collaborative problems solving between person-stages.

iv. Taming Path-Dependence

As we have seen, the path-dependence of personal identity is in many ways maintained by things external to the person. This is those around you asserting facts about you and who you are, especially when you seem to do something out of character. But the opposite can equally be true, as when a friend offers some insight into a pattern of behavior you have not recognized in yourself. Perhaps this spurs
change. This is that poem you taped to your locker door a year ago that hits home at just the right moment, spurring you to take some chance you otherwise would not have.

v. Attention and Resource Allocation

Clark speculates that linguistic formulations are somehow helpful in focusing, monitoring and controlling behavior, whether on a post-it note left on the bathroom mirror or attending directly to a climbing instructor’s guidance as you learn a new technique. Vis-à-vis language as a cognitive tool, this then also includes the mental rehearsal of such instructions, i.e., when you are later practicing climbing on your own. The parallel in personal identity could easily involve you repeating things you have heard from others or things from prior person-stages. This begins to rub-shoulders with some accounts of the roots of consciousness being such verbal rehearsals, a la Vgotsky or Dennett. To what degree these loops of self stimulation are maintained by one’s surrounding environment, include loved ones and more casual acquaintances, is hard to speculate. But it seems to me a reasonable hypothesis that without being able to offload some of the mental upkeep of our continuous consciousness onto social conspecifics—and material surroundings—our psychological connectedness would suffer. This could account for the almost fugue state of those left in solitary confinement for an extended period of time.

vi. Data Manipulation and Representation

As Clark describes how he manipulates chunks of text in creating a chapter for his book, I can’t help but think about Facebook: “I am continually creating, putting aside,
and re-organizing chunks of text...all kinds of hints and fragments...source texts and papers full of notes and annotations. As I (literally, physically) move these things about...so the intellectual shape of the chapter grows and solidifies” (Clark 1998 10). The final shape of the work results from a sustained, iterated, feedback loop of interactions with these external props. This is how people use Facebook Timelines and photo albums to orchestrate a narrative of their life, which they then in turn internalize, and rehearse.

If the neurological activity underlying the psychological criterion—if the brain itself—relies so intricately on the cultural context, both material and social, within which the thinker exists, then Parfit’s account of personal identity is missing a key component. In the following chapter, I attempt to identify what is missing, and to argue that its omission is what made replication so problematic for a determinate account of personal identity.
6. **Personal Identity in Cultural Context (PICC)**

6.1 **Intro**

Personal Identity in Cultural Context is my attempt to sketch an account of personal identity that is determinate in a way that thwarts Parfit’s reduction argument. It is also my attempt to reassert culture’s importance in human personhood. Humans are inherently social creatures, and as I have argued in the previous chapter, there are good reasons to believe that our unique consciousness—the same consciousness that allows us to have the type of psychological continuity we are looking for—depends upon the continued presence of that social scaffolding. Moreover, to change the make-up of that social and material culture is to change us, by degree. Hence, Parfit and I ultimately agree on the fragility and protean nature of personal identity. But not on its shallowness. Culture in general, and language in particular, are “deep facts” about human existence.

6.2 **Fission Revisited**

We return to the Fission case. Derek steps into the Replicator, which then transmits a perfect copy of him to Mars, as well as another one right across the room to a second scanner pod. Who of the three—if anyone—is Derek? My answer is simple, almost tautological. Whoever continues on with his life is Derek. Whichever replicant returns to the socio-cultural niche that he has both thrived in and carved out his entire life, will continue to be him. The other two are de facto copies of him. And however strangely similar their streams of consciousness might be right at that moment, they will diverge greatly from that point on. There is no moment $t_x$ where all
three Parfits are identical mentally, phenomenologically, etc. As soon as they open their eyes, their streams-of-consciousness have diverged. The real—and only—Derek Parfit will be the one that returns to his prior life: his house, his friends, his smartphone, his Facebook account.

Here we have a Closest Continuer/Best Candidate theory with a twist: there is always a mechanism that “kills off” all of the unwanted “branches.” Moreover, it does so automatically. Via PICC, there is always at most one best candidate moving forward. This is not an arbitrary choice, but a necessary fact. Because he has lived his entire life as a single being, all of the socio-cultural mechanisms are built around that uniqueness, and will reinforce it at every moment. As far as the “copies,” we can borrow from David Lewis’s perdurantist account in dealing with new persons emerging with shared histories.

Suppose you agree that at most one Derek can survive the Fission experiment. What about the apparent arbitrariness, and moral ambivalence, in choosing between three people with identical claims on that life? Strictly speaking, vis-à-vis the uniqueness and determinacy of personal identity, it doesn’t matter how the person is chosen. Or whether any of them return to that life. The immorality in taking a human being’s family, friends, house, life in general away from them—even arbitrarily—is an immorality that we are not unfamiliar with. And in the Replication hypothetical, it could well be argued that the replication itself was the root of the immorality. The uniqueness of Derek just stems from the cultural facts on the ground. That being said, this choice may only seem arbitrary because it is one that we have never encountered
as a society. Perhaps society—culturally—would adapt a set of rules or laws or mores to deal with such situations. In the above example, for instance, I could imagine people’s intuitions privileging the person who steps into the scanner originally. In less biologically continuous cases, perhaps geographic proximity becomes the rubric. Perhaps they have to fight to the death; or are rounded up and disintegrated, painlessly; perhaps the replicants become the legal and financial charges of the original. Whatever the mechanism for deciding—however arbitrary—the moral quandary comes from the copying itself, not from the fact that only one Derek can survive it. Or if it is the pragmatics of such a decision that bothers, society makes difficult calls about identity all the time. The neighbor who survived a high-speed motorcycle accident; Alzheimer’s patients, cerebral-vascular accidents; cases where psychological continuity/connectedness does not seem to hold. Or the unfaithful husband that gets caught having lived a secret second life. Society decides to what degree he gets to return to his previous life, and qualitative “identity.” PICC argues that these judgements are ontologically relevant, based on their effect on the psychological continuity of the individual, and hence her numerical identity.

6.3 Nobody Gets the Iphone

Consider the case where the scanned Derek is destroyed, and the numerous copies are broadcast to planets all over the galaxy. No Derek returns to his previous life on Earth. Here we have a case of Parfitian survival, but not of continued personal identity. We can finally make use of his Relation R. Psychological survival is a limiting case of personal identity: the man stranded on the desert island who is never
found. He has been permanently severed from his previous life, and his identity does not survive. This, of course, changes the moment he is found and returned to society. The cognitive dissonance experienced by people in such situations (stranded; long-term POW camps; extended solitary confinement; kidnappings; etc.) as they are re-integrated into their lives helps inform our intuition in this case. Again, however fragile personal identity is, it is determinate.

6.4 Unger and Loss of Focus

What about the case where all three Dereks work together to clandestinely share the same life on Earth? They rotate daily who plays the role of “Derek” in society; the other two hide in a secret bunker with a video feed keeping them up to date on their shared existence. Surely here we have the kind of fuzziness that Parfit wants. And we do. But that fuzziness is no less determinate than death itself. Ultimately, this case is not much different than the previous one: a limiting case where we have psychological survival, but loss of identity. To explain exactly why, I will refer to Peter Unger’s wonderful account of replication with multiple-branch survival. He is interested in the loss of focus in one’s life that would inevitably occur (Unger 184-5). His explanations for this blurring in one’s life perfectly predict PICC. Not just because of the “singular goods” of a person’s life, but because of the various social roles and cultural systems that only one Derek can participate in. Only one Derek can have the type of relationship he would want with Derek’s wife. Only one Derek could hold his illustrious chair at Cambridge. Same with his myriad other material and social wealth, from his motorcycle to his peculiar philosophical oeuvre.
His inability to participate in these roles exclusively would blur the details of his entire life irrevocably (Unger 188-193). This is cultural death. This would apply too to the elaborate counter-example where the multitudinal Dereks flung throughout the galaxy somehow take turns (knowingly or unknowingly) interacting with vestiges of their shared life on Earth, perhaps an insidious NASA and a complicit wife.

In fact, Unger himself in many ways foreshadows PICC when discussing “heavily discounted branches.” These are Fission progeny whose existence would not threaten or blur or dilute his own main-line existence. Many of his criteria for heavily discounting (the identity-impact) of a branch begin to loosely sketch the cultural processes central to PICC, or their implications for identity. This is seen predominately in his concluding assertion that the loss of focus in ones life goes far above and beyond merely the loss of singular goods in the various branches (Unger 197-8).

Furthermore, Unger pre-emptively (unknowingly) offers an elaborate “counter-example” to PICC, but one that is so far-fetched it really works only to help explain exactly what PICC is trying to get at. He imagines a possible world where it is not just Derek that fissions in two, but the entire solar system itself has a “symmetric and not so very disastrous” fission in two (Unger 194-7). Hence numerical identity would be violated despite PICC’s insistence on cultural context, for there are two perfectly identical cultural contexts for the two Dereks to each return to. I am perfectly content with this characterization, and with our doubt in PICC being proportional to the believability of such circumstances obtaining. Indeed, this is exactly my thesis:
culture is such a powerful deciding factor in our lives—and *a fortiori* our identity—that we would need to replicate it in its entirety to create the kind of indeterminism Parfit wants.

6.5 Does Survival Matter More?

Perhaps a generous Parfit is willing to concede that we have indeed saved a workable definition of personal identity from the judicious pincers of reductionism. Is it not still possible that it is psychological survival that is of the most interest to Derek as he steps into the teleportation pod on Earth? In fact, according to our characterization of cultural context, does the PICC’s answer not play out like a very elaborate version of Unger’s Future Pain Test? After all, every one of the replicants must go through the soul-shattering cognitive dissonance of being exiled from the life they had lived up until stepping into the Pod.

I would argue that this is indeed the crux of the matter, and that by focusing solely on psychological survival, we would entirely miss it. Personal identity understood through PICC could help inform Derek much before making the choice to replicate, as it alone seems to highlight the morose fate that awaits the vast majority of his replicants (all but one), even without the intervention of an evil genius or mad scientist. Because of the uniqueness of identity inherent in PICC (as in our common sense and daily understanding of personal identity), the creation of such replicants is in itself an immoral act.

Consider then a different tack. A single man in his early thirties is considering entering the FBI’s witness protection program, as he has been a key witness in a high
profile mafia case, and fears for his life. Surely psychological survival is the more informative perspective here. Surely any rational agent would risk the loss of personal identity under PICC for the assured survival of the witness protection program. Assuming the severance from his previous life is complete: no further contact with any friends, family, acquaintances, coworkers; new job, new house, new car, new Facebook account (or, gasp, no Facebook account); I believe the young man very well could be risking a loss of identity. But to assume glibly that any rational being would make this choice for self-survival misses out on much of what makes humans human. I have no trouble imagining many people being tortured over such a decision, unable to imagine a life without a relationship with their parents, friends, siblings, etc. I have no trouble imagining someone willing to risk mortal danger to keep these social relationships in place; this is the heart of PICC. There is real conflict here, of a moral nature. Again PICC proves to be informative.

6.6 The Narrative Criterion

It is important to note that even if one remains unconvinced by Chapters 4 and 5—and hence unwilling to extend the psychological underpinnings of identity beyond the boundaries of the body, or to imbue cultural processes with the kind of cognitive efficacy they need to make PICC a viable version of the psychological criterion—PICC still offers a plausible account of the so-called narrative criterion. Narrative identity is a theoretical movement attempting to shift the question away from diachronic numerical identity—the reidentification of a person from \( t_1 \) at a different time \( t_2 \)—and toward the so-called characterization question (Shoemaker). Namely,
what are the conditions under which psychological attributes, phenomenological experiences, and actions are properly attributable to the same person? The most common vein of answers revolves around the ability of the agent to incorporate those experiences and attributes into the self-told story of her life (Shoemaker). It is this existence of this extended narrative ego that best explains the things we associate with personal identity, such as self-concern about the future and ownership of our past. PICC would be helpful in emphasizing the role of larger cultural structures in weaving this personal narrative. This account is not without criticism, the most critical being that any type of narrative creation seems to presuppose an underlying numerical identity, the very problem it had hoped to circumvent. A weaker stance on mind extension may deprive PICC of its ontological depth, but not of its facility in organizing the narrative of one’s life in an intuitive and parsimonious manner that respects the social nature of human beings, as well as the importance of cultural structures.

6.7 Parfit on Language

It’s hard to imagine Parfit being impressed with a narrative account of identity, or with the PICC’s reliance on public language as one of the most efficacious social instantiations of cognitive scaffolding. Parfit in general seems cynical of how language relates to reality in general, and to cognition in particular. Indeed, his original distinction between “deep” and “shallow” facts seems to turn on such cynicism with regard to language. Knowing what a “copse” is adds nothing to one’s understanding of reality: “My only new information is about our language. That those
trees can be called a copse is not, except trivially, a fact about the trees” (Parfit “Unimportance” 297). Could he say the same thing about the word “forest”? Indeed, Parfit seems to often cherry-pick his examples regarding language. Consider his back-and-forth with Mark Johnston and “the argument from above.” As mentioned above in Chapter 3, Johnston’s criticism turns on the idea that a Constitutive Reductionist can appeal to differences in ontological category, ie. between the work of art and the clay of which it is composed. Johnston argues that at times these “higher” ontological categories can imbue the material they comprise with derived importance (Johnston 262-7). Parfit’s response again wants to reduce the higher ontological categories to mere “conceptual facts” that “only give further information about our use of words” (“Unimportance” 307).

Here we are not so interested with Parfit’s views on language in general, but we are interested in how they inform his views of human cognition. If one is willing to take a strong stance on how public language impacts cognition, Parfit’s reductionism (and hypothetical objection to PICC) become even more questionable. It is worth noting that many thinkers both inside the extended mind camp (Clark, Hutchins) and outside of it (Dennett, Deacon, Tomasello) argue that the ambient cultural practice of language is fundamental to the emergence and persistence of the peculiar human flavor of cognition in which we are interested. Tomasello's account is especially informative, as discussed above in Chapter 4. Public language is the quintessential example of cognitive niche-construction.
Indeed, one might argue the very basis of Parfit’s reductionist argument stems from a similar mistreatment of language. The notion of indeterminacy is fundamental to his account, and to him it signals that personal identity cannot be a “deep fact” about reality (Parfit “Unimportance” 297-8). But if empiricists like Tim Williamson are to be believed, such vagueness might well be a fundamental aspect of our cognition, and not a weakness of language in representing a “deeper” reality (712-715). More specifically, cases of vagueness are not semantic indeterminacy, only epistemic uncertainty. Epistemic uncertainty that is insurmountable, but not necessarily problematic ontologically (716). He arrives here via a careful critique of the supervaluationist position. Supervaluationists maintain that all vagueness springs from linguistic indecision, and attempt to expand standard logic to admit the “truth-value gaps” in such ambiguous cases by considering the compounds of opposing claims in borderline cases. Williamson uses a recursive statement about “supertruth” to show that their acceptance of the principle of the excluded middle (along with the very definition of supertruth) leads them back to the bivalent definition of truth they were hoping to avoid in such borderline cases (694-706). So epistemism argues for keeping the traditional rules of formal logic and Tarskian truth conditions and just admitting that in certain borderline cases, the demarcation line is fundamentally unknowable (Williamson 712-17). For Williamson, every vague predicate such as “fat” or “bald” has a distinct, sharp cut-off that is impossible for us to know (Williamson 715-17). Hence, the epistemic point that no person after Fission is clearly Derek does not necessarily undermine the metaphysical claim that someone is
uniquely Derek. This retort works especially well for Parfit’s combined spectrum argument, described in Chapter 3. The fact that we may not be able to delineate exactly where Derek ends and Greta Garbo begins does not necessarily imply the non-existence of a sharp line. In these type of difficult borderline cases, Williamson says that epistemicism harmonizes with commonsense on how little the epistemic uncertainty effects the ontological certainty: our inability to say exactly where Mt. Everest ends does not shake our commonsense knowledge of a unique Mt. Everest (Williamson 712-17).

6.8 Causality

I now briefly return to the causality requirement on the psychological criterion. Do I need to narrow the requirement to prevent cases such as Cambell’s Random (Ch. 3.4) from thwarting PICC? I do not believe so. Firstly, despite originating from active externalism, PICC is no more committed to semantic externalism than Parfit is. One could imagine a world where internalism holds, and the intrinsic properties of brain-bound mental states imbue them with content. PICC merely argues that the cultural context (both material environment and complex social dynamics) offers part of the story of who Derek is, and hence a potential mechanism for choosing between the possible continuers. Each of the replicants, however their mental states refer, either return to Derek’s life, or they don’t. As discussed above, these socio-cultural mechanisms are well positioned to help resituate persons who have had other fundamental aspects of their personhood (physical or psychological) disturbed. Indeed, this kind of stitching-back-into-place happens all the time. Random’s content-
strained miracle brain would be a cakewalk compared to the war veteran with the traumatic brain injury, (or, most likely, any of Parfit’s split-brain participants). The content externalist could argue that through the interactions made possible by Random’s functioning in the proper context of Derek’s life, his mental states would quite quickly gain proper semantic reference a la Burge. As in Tomasello above, some may see a parallel with the normal ontogeny and development of language use in our species.

Furthermore, one could argue that PICC is really only committed to externalism in the sense that it negates bio-chauvinism: a person’s mental processes often subsume artifacts and aspects of the environment beyond the brain. Perhaps this does not occur in the case of public language use, or at least not in a way that necessitates externalism as pertains to semantic content. If Random’s brain and body allowed him to interact with the appropriate cultural dynamics in the appropriate ways, he could be Derek’s continuer, regardless of how his biology achieved this functional integration. Personally, the mathematical impossibility of such a random occurrence alone makes the Random thought experiment one step too far, in my honest opinion.

6.9 Martin and Fission Rejuvenation

Raymond Martin offers a modified version of Fission to support Parfit’s thesis that it is not personal identity that matters in survival. This thought experiment, which he dubs “fission rejuvenation,” is a form of the split-brain experiment where the two half-brains live their separate lives in series instead of in parallel (Martin 217-8). Furthermore, an elaborate transmitter allows the second brain to pick up right where
the first brain leaves off (upon death), but in a much younger twin body. Until then, the second brain-half and its young body are kept in suspended animation. Hence, Martin asserts, it is a form of life-extension that any rational agent should endorse, despite what Martin sees as a loss of identity (218-20). To drive this point home, he assures that numerical identity is violated by imagining that the suspended brain2/twin-body combo is awoken once a year and walked about the hospital where he is stored, ensuring that the two post-fission half-brains are simultaneously alive in the right sense (Martin 220-1).

Although potentially devastating for someone such as Peter Unger who wants to re-aver personal identity’s importance in issues of survival while admitting that Fission cases violate numerical identity, fission rejuvenation poses no real problem for PICC. As a modified best candidate theory, PICC is in fact less threatened by the serial fission case than by the traditional parallel case, as the rival candidates for personhood are made much easier to chose between. They are never really in competition for the same life qua cultural niche; they share in back to back. Here, again, PICC offers the common-sense result that fission-rejuvenation is just life extension, all while providing a determinate answer for personhood at all times. Even while on his yearly walk-abouts in the hospital, brain2/youngbody is never engaged in any of the social/cultural/material aspects of the original person’s life. It is not until he is awoken (permanently) from suspended animation (upon brain1/oldbody’s death) that he begins to partake in that life, and hence assumes the mantle of personhood. Martin himself makes this argument when defending the fact that it is a good deal for
the fissioner from extrinsic considerations, asserting how the brain/youngbody would have no problem “slipping neatly into all of John’s social roles” (Martin 220). PICC agrees with Martin that fission rejuvenation (if medically uncomplicated) would be a good idea for a person; it just disagrees on its upshot on numerical identity.
7. Critiques

7.1 The Triviality Requirement

I now turn briefly to some anticipated critiques of PICC, beginning with the Triviality Requirement Parfit borrowed from Williams. Parfit might argue that it is a trivial fact, or a series of them, that determines identity under PICC: who gets the iPhone, who administers the Facebook account, who returns to the house and car, who “keeps” the wife and children, etc. And indeed, any of the facts that make up our life may appear “trivial” if viewed in isolation, but it is the gestalt of this context that essential. So this critique really is just his scientism talking again, underestimating the contribution of culture. I have argued that human cognition is both born from and dependent on these cultural processes. In short, there is nothing trivial about culture.

7.2 Uniqueness

One might argue that the indeterminism is really still there under PICC, that it is just masked, or at best circumvented, by vague and arbitrary claims about culture. Again, I cannot help but insist that this criticism stems from a deep-ingrained devaluation of culture, or at least an overvaluation of biology. Yes, we still end up with multiple copies of the exact same biology. So what? This fact alone causes no problems regarding the early lives of twins. Nor would it, even if the twins were actually perfect clones of a single anonymous baby, fissioned off when the donor baby was of an arbitrary young age. It is the ambient culture that would determine their identities, and it is the ambient culture that is the missing factor in Fission cases.
Furthermore, perhaps the sort of indeterminism that bothers Parfit so much is just a fundamental part of our reality, or at least of our interaction with it. As discussed above, epistemicists such as Williamson arrive at this conclusion through the consideration of logical puzzles on vagueness such as the Sorties Paradox. And in the vaunted scientific realm of theoretical physics, consider how the Heisenberg uncertainty principle and the measurement problem at-large seem to imply that reality is indeterminate at its most fundamental levels.

7.3 Fragility

Perhaps the cultural facet of identity appears too fragile, too easily separable, too easily lost or changed. After all, we can survive the loss of our iPhone, eviction from our house, even the loss of all of our material wealth in a merciless cyclone. But the same can be said for the biological aspects of our identity. As Clark points out while defending active externalism in general from similar complaints, we can survive various levels of brain trauma, from the removal of a few neurons to the “wholesale ablation of my visual cortex” (Clark 2010). Parfit’s own split brain examples are nonchalant toward far more invasive brain surgeries. PICC merely points out that we cannot discard and disregard the cultural context of identity in its entirety, which I would argue the debate has up to this point. Could we do the same for the entire brain? Of course not. And if we attempted to, would it at all be surprising when we settled on a physical criterion for personal identity, seeing as that is all that is left? Just as the more of our brain we lose, the more likely our personal identity could be disrupted, the more our cultural niche is disrupted, the greater chance we stand of
losing our bearings, so to speak. Similarly, at no point in this paper would I argue that the cultural mechanisms alone would be enough to stitch a complete stranger into place, to give a new identity to a wholly unrelated biology.

7.4 Conservativism

I could also imagine being accused of blind conservativism with regards to personal identity, of defending an outdated concept long after the science has forced us to move on. But there is nothing conservative about asserting culture’s importance and efficacy vis-à-vis cognition. And as we have seen, the entire enterprise was born from scientific insight within the cognitive science and artificial science disciplines. Active externalism remains largely a fringe movement, at least in part because of its progressive outlook and critical re-evaluation of some hallowed concepts, such as intrinsic content of mental states and biochauvanism writ-large. As for my application of externalism to questions of identity, PICC remains similarly forward-looking and progressive.

Consider an ongoing debate in cognitive science over the multiple realizability of the mind. At least since the inception of the very field of AI in the 1950’s, some thinkers have believed that the human mind could be implemented in a variety of ways, not just by biological brains (Clark 2008 37-8). However, recent advances in embodied cognition have led others, such as Lawrence Shapiro, to argue against this so-called Separability Thesis, arguing that the mind too closely reflects—and depends upon—the body that it inhabits to be abstracted from it, then functionally implemented in a different substrate, such as a robot’s CPU. Or to be removed from it and placed
into a different body (Clark 2008 40-46). Some philosophers have taken this and ran, arguing for the biological criterion, a nuanced rebirth of the physical criterion rooted—at least in part—in these advances in cognitive science. Eric Olson’s animalism falls into this category. And PICC is intentionally consistent with either result. Whether human minds come to be backed up on hard-drives and downloaded into robots, or are at last seen as unique to human bodies, they will need the appropriate web of social practices to be human. In fact, as we approach the possibility of exploring some of these very questions empirically, it is PICC’s portrayal of psychological connectedness and continuity (and not Parfit’s) that leaves open the possibility of an abstract, functional characterization of a human mind (and identity) being preserved outside of its original body, potentially to be re-implemented in a different substance, organic or otherwise. This is a possibility that many futurists, such as Ray Kurzweil, remain heavily invested in. It would be nice to have a philosophical conception of personal identity that takes them seriously.

Undoubtedly other concerns remain. At best, the last two chapters have helped sketch what PICC aspires to be. And as we shall see in the conclusion, I believe there are good reasons for developing and defending this nuanced understanding of personal identity, above and beyond simply asserting culture’s proper place in our understanding of human existence.
8. **Conclusion**

The further fact of personal identity can survive reductionism if we take the role of culture in human cognition seriously. In this paper I have argued that various material artifacts and dynamic social processes play such an important role in cognition that they are best understood, at various moments, as part of the human mind. Hence, one cannot disregard the cultural context of one’s life when discussing the psychological criterion for identity. By doing exactly this in all of his thought experiments, Parfit got it wrong. By supplying this missing cultural component, PICC offers a deterministic account of identity that is far less cynical, more considerate of what makes humans human (and cognitively special among all Earthly creatures), and at least as intuitive on everything from teleportation to punishment.

Furthermore, by giving culture such a vaunted place in the story of who we are as a species, I have endeavored to combat a growing strain of neo-scientism that devalues both culture and the disciplines that traditionally study it. The average person seems more apt than ever to evoke a genetic explanation for every facet of human existence. But if advances in synthetic biology and genetics have shown anything, it is the plasticity of the phenotype, the complex interplay of genotype and environment. Epigenetics has offered the precise mechanisms by which this can occur. And as argued in this paper, our species’ unique ontogeny is such that infants enter the world well before their brains are finished forming, hence allowing the ambient cultural mechanisms to have real efficacy on their cognitive development. The humanities still have much to say about humanity.
My liberal arts polemic aside, there are convincing reasons to preserve our intuitive notion of personal identity, and to marry it to an extended view of the mind. Smart phones have changed many aspects of our lives, and the evidence is mounting that our psychology is no exception. When social media is added to this mix, behavior emerges that is best described using an extended view of personal identity, one that takes a person’s online presence seriously as a facet of their self. This nuanced understanding of personal identity will become even more important as our interaction with the web becomes more subtly integrated into daily experience. Technology such as Google Glass and augmented reality apps promise to do just this.

Indeed, as we look further into the future, I believe the efficacy and importance of our notion of personal identity will become more important, not less, as technology brings us closer to some of the thought experiments Parfit so enjoys: extended lifetimes (whether within traditional bodies or not), computer back-ups of persons, true artificial intelligence. Even the prospects for transhumanism would benefit greatly from a culturally nuanced, extended concept of personal identity. Whereas Parfit describes a future with persons splintering left and right, some futurists see consciousness merging as we leave our biological confines. Any move beyond our current individuated experiences toward some sort of collective consciousness would necessitate the less skeptical conception of personal identity. It would only obfuscate what was at stake if personal identity wasn’t considered a deep fact to begin with.

Returning to the here-and-now, a workable theory of identity that takes social aspects of cognition seriously, such as PICC, could be informative on a variety of
current issues. There is the ongoing debate over the use of extended solitary confinement to punish prison populations. There are issues related to divorce and the custody of kids (or even how to split/share the material goods). There are the recurring problems of immigration and how to best integrate and/or assimilate non-native populations. Even the downward spiral of depression and mental illness in cases of homelessness might be elucidated.

Since it is where Parfit began, it is where we will end: the moral implications of personal identity theory. In Reasons and Persons, Parfit used his reductionist argument to undermine moral theories that centered on the individual, ultimately to bolster the case for utilitarianism. If the existence of a persisting individual self is not a deep fact about reality, then it is unlikely to form a reliable basis for a moral theory. Utilitarians, on the other hand, generally aspire to de-emphasize the significance of the individual (such as exactly who receives benefits or burdens) and concentrate on the net magnitude of the good effected. Since then, Parfit has been defending the various moral implications of his stance. The upshot for punishment is perhaps the most intriguing. Parfit recognizes that he undermines most people’s intuition regarding fair and just desert. If the further fact of personal identity is the main reason most people subscribe to notions of punishment and compensation, then without identity there is a fear that “No one ever deserves to be punished for anything they did” (Parfit 1986 839).

At the core of these intuitions is the notion that one should not be punished (nor compensated) for something another person has done. In Parfit’s Branch-line
case, this tension is between a criminal Derek and his replicant Backup. And although PICC has perhaps offered us a way to preserve identity and hence any conception of just desert that depends upon it, PICC is also consistent with some of the nuance that Parfit has brought to this issue. What PICC and Parfit agree on is the fragile, protean, and impermanent nature of identity. The psychological connectedness between temporally distant times of a person’s life can be tenuous at best. For PICC, dynamic cultural processes play some role in buttressing these connections. For Parfit (and Lewis, et al) it is the composite chains of connectedness that matter. But for all it seems reasonable to question whether we can justly punish someone today for something they did in the distant past.

Because PICC has emphasized some qualitative aspects of human cognition in its extension of the psychological criterion, it seems particularly susceptible to the notion of personal change as undermining the notion of identity it wishes to preserve. How is PICC to deal with a claim such as “I am not the man I was when I did that”? Certainly we have left open the door for real change in numerical identity based on (extreme) qualitative psychological changes, such as the mid-life crisis adulterer with the secret life, mentioned above. The worry is that this seeping of the qualitative into the numerical opens the door for too much change in one’s identity. Does PICC really offer a non-trivial account of how the pre-verbal infant Derek is the same person as the esteemed professor? Or has identity changed too many times to count in between those years?
Personally, I find the notion that we are potentially multiple different people throughout our lives appealing, and take it as a potential boon for PICC. David Lewis, too, can imagine just such gradual identity change, if the biological person were to live long enough, i.e., the case of Methusela (155-7). Life extension is one of the sci-fi scenarios that, to me, is seeming more and more plausible. But our lives are already long. Under PICC, personal identity remains dynamic. But it is dynamic in the right ways, in the ways that allow for true growth and change in personhood.
Works Cited


