

PHIL 260: Persons & Values
 Winter 2006; David O. Brink
 Handout #3: Psychological Reductionism and Its Rivals

A NEW STATEMENT OF THE RIVAL VIEWS

Having looked at the Lockean view that inspires much of the contemporary reductionist literature and its historical critics, we might now begin our more systematic discussion with a new statement of the main rivals. There are at least two kinds of **Nonreductionism**.

- **Simplicity**: P1 and P2 are identical iff P1 and P2 are the same.
- **Soul**: P1 and P2 are identical iff P1 and P2 have the same soul.

By contrast, we can identify various forms of reductionism. One version is **Psychological Reductionism**:

- **Psych-R1**: P1 and P2 are identical iff P2 is (sufficiently) psychologically continuous with P1 (or vice versa).

A different form of reductionism is **Physical Reductionism**. We begin with the notion of physical **connectedness**.

- Persons P_x and P_y are physically connected iff the physical states of P_x are counterfactually dependent in the appropriate way on the physical states of P_y (or vice versa).

We then define physical **continuity** in terms of physical connectedness.

- Persons P_x and P_y are physically continuous iff P_x and P_y are elements in a series of persons such that (e.g. temporally) contiguous pairs of persons are physically connected.

The basic version of physical reductionism should, therefore, be formulated like this.

- **Phys-R1**: P1 and P2 are identical iff P2 is (sufficiently) physically continuous with P1 (or vice versa).

Some physical reductionists focus on the **brain**.

- **Brain-1**: P1 and P2 are identical iff the brain of P2 is (sufficiently) physically continuous with the brain of P1 (or vice versa).

Mixed Reductionism combines physical and psychological continuity in some way.

- **Conjunctivism-1**: P1 and P2 are identical iff P2 is (sufficiently) psychologically and physically continuous with P1 (or vice versa).

- **Disjunctivism-1:** P1 and P2 are identical iff P2 is (sufficiently) continuous with P1 (or vice versa) either psychologically or physically.

EPISTEMOLOGICAL PROBLEMS FOR NONREDUCTIONISM

If nonreductionism is true, either (a) common views about which physical and psychological changes we survive are right and this is a colossal coincidence, or (b) they are false and we have no idea which changes we can survive. More generally, unless and until we have an independently plausible account of the persistence conditions for souls, we must remain ignorant about the life-spans of persons. These worries give us reason to focus on reductionism and try to decide which version is most plausible.

BODY SWITCHES

One argument against certain versions of physical reductionism appeals to the possibility of Body Swaps. For instance, Locke imagines that the same person might inhabit different bodies at different points in time (Essay §§14, 15, 19), as when the person of a prince might come to occupy the body of a cobbler if the consciousness of the prince is somehow transferred to the body of the cobbler (§15). But Locke leaves the mechanism by which such a transference might occur unspecified, and he allows for memory connectedness without memory continuity (in effect, he allows gaps or interruptions in memory continuity).

Shoemaker describes a more satisfactory case of body switch that involves brain transplant (Self-Knowledge and Self-Identity, p. 23). In Shoemaker's case, surgical techniques have advanced so that brains may be surgically removed, reconnected, and transplanted in ways that preserve psychological continuity. Suppose that Brown and Robinson have fairly similar bodies and that each undergoes brain surgery; however, during the procedures, their brains are inadvertently put into the wrong bodies. The person with Robinson's brain and Brown's body dies on the operating table due to complications. The surviving patient -- call him Brownson -- has Brown's brain and Robinson's body. Is Brownson Brown or Robinson (or neither)?

Though upon seeing Brownson in the recovery room one might be inclined to assume that Brownson is Robinson, you can't judge a book by its cover. As one talks to Brownson and watches his behavior, our views are likely to change. After all, Brownson has Brown's memories, beliefs, and desires, not Robinson's. He intends to complete Brown's projects. Etc. One can survive multiple transplantation -- getting a new heart, legs, lungs, kidneys, eyes, etc. In the process, one acquires many new body parts. Brownson's case seems to be just an extreme case of this in which Brown acquires a whole new body. If so, Brownson is Brown. This spells trouble for some forms of Phys-R. Psych-R1 gives the right result here, but so too does Brain-1, both of which imply that that Brownson is Brown.

To decide between them we need a case that pulls continuity of brain and psychology apart. Consider **Complete Body Swap** in which brains stay with their original bodies but psychologies are swapped. In this case the surgeon has a device that scans a person's brain and makes a record of her mental states and then copies these states into another brain, while erasing the previous states of that brain. A and B undergo this operation; afterwards the A-body person has B's mental life, and the B-body person has A's mental life. Is the A-body person A or B (mutatis mutandis for the B-body person)? Here too, it seems, our intuitions about identity are likely to track facts about psychological continuity. Brains are important to personal identity just because they are the normal carriers of psychological continuity -- psychological continuity

normally depends on continuity of brain. But if we care about continuity of brain **just insofar** as it underwrites psychological continuity, then our ultimate concern is for psychological continuity.

WILLIAMS AND THE PSYCHOLOGICAL SPECTRUM

Bernard Williams is in agreement. But he thinks that our intuitions provide unstable support for pure psychological reductionism. He brings out this instability by appealing to our intuitions about a **Psychological Spectrum**.

Williams imagines a spectrum of cases in which someone physically continuous with me will be tortured; the cases vary according to how connected the victim is to me psychologically (185-6). At the near end, I am told that just before the torture is administered, a psychologist will destroy a few psychological connections between him and me now (e.g. the victim will not remember a few of the things that I now remember). I fear this torture, because I assume that it will be me who is tortured, despite this small loss of connectedness. In the middle of the spectrum, I am told that the victim will, before his torture, experience a greater loss of connectedness; he will not have some of my beliefs, memories, and preferences but will have acquired quite different ones from another person's life. Now I not only fear that I will be tortured; I fear the loss of connectedness. The far end of the spectrum involves someone physically continuous with me who is completely different from me psychologically. Again, Williams claims, it is natural to continue to fear the torture and the loss of connectedness as well. (Notice that Williams must be assuming that the spectrum involves a series of **alternative possible immediate changes**, not a sequence of successive small step-wise changes that together produce one big change.)

But this reaction implies that we think that our identity follows physical, rather than psychological, continuity. This is not just some new argument for a different reductionist view, though that would deserve our attention too. It is, as Williams notes, just a new perspective on the same sort of case that we earlier described as a body swap (187). It's as if we had built up gradually to asking A whether he would fear the torture of the A-body person after the operation. The only difference, Williams notes, is that we have left B out of the picture here except as the source of the A-body person's new psychology (189).¹ Williams thinks that this difference is not and could not be relevant (189-192). I'm less sure, but this raises issues that are best postponed until our discussion of fission and other forms of duplication. Williams concludes that the Psychological Spectrum should incline us to redescribe the earlier case as one of **psychology swap**, rather than body swap. Williams seems to conclude further that this constitutes a defense of the need for a physical criterion, whether it be a pure physical reductionism or part of a mixed version of reductionism (198).

Is this conclusion the natural one, or should Williams conclude that our evidence for psychological reductionism is mixed and/or unstable?

Also, fear might be appropriate at the far end of the spectrum, but what is the appropriate object of fear? Should it be torture, as Williams assumes, or death, as the psychological reductionist might claim?

¹I have also given a less first-personal description of the spectrum than Williams. Williams thinks that this description is intuitive and justified (187-9). But a first-personal description may prejudice our intuitions; we should see if our intuitions are as strong on a more neutral description.

Williams seems to assume that we have a firm intuition that the victim at the end of the Spectrum is me, but he also has an argument for this claim.

1. Personal identity is always determinate.
2. Special concern depends on personal identity.
3. Hence, special concern must be all or nothing.
4. Special concern could not become wholly inappropriate because of a small change in psychological connectedness.
5. Hence, for any point n in the spectrum at which I exist, I must exist at $n-1$ and $n+1$.
6. Hence, if it's me at the near end of the spectrum, it's me at the far end, where there's a complete loss of psychological connectedness.
7. Hence, psychological reductionism is false.

Once we set this argument out carefully, we can see how important the determinacy assumption is in (1). Because, whereas we might agree with (4) that special concern cannot be in place at n and wholly inappropriate at $n+1$ or $n-1$, we might think that special concern can and should be affected in small ways by small changes in connectedness. But this possibility is blocked by (3). Because (3) follows from (1) and (2), and (2) looks fairly innocent, our questions should focus on (1).

Determinacy is a natural assumption about personal identity. It seems as though questions about whether I will be among the living tomorrow or whether it will be me that is tortured in cell block #9 tomorrow have a perfectly determinate Yes-or-No answer ("Self and Future," 193-7 and RP 214; cf. Reid, *Intellectual Powers* 342/111, 344/112). But it seems that the determinacy assumption is the most natural ally of nonreductionism, rather than any form of reductionism, and that this assumption can be challenged.

MULTIPLE SPECTRA

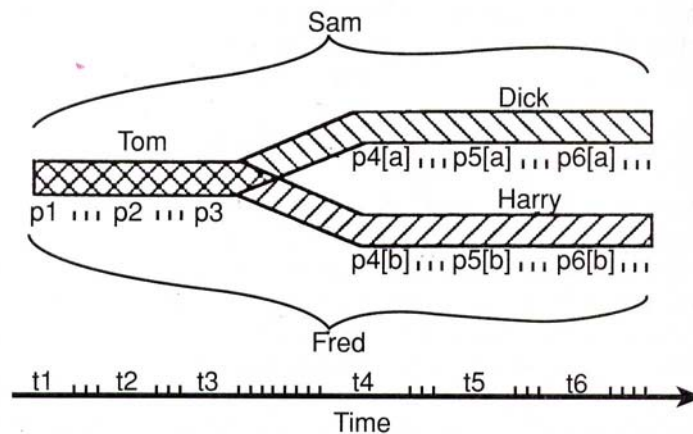
Williams' Psychological Spectrum is supposed to undermine Psych-R1. But a Physical Spectrum (teletransportation at the far end) equally undermines Phys-R1. And the Combined Spectrum (Greta Garbo clone at the far end) equally undermines Disjunctivism. So either we maintain Williams' determinacy assumption and reject reductionism or we maintain reductionism and reject his determinacy assumption.

But we don't need science fiction to question the determinacy assumption. Consider the **Normative Competence Spectrum**. At the near end is a very close continuer of me; a little further away I've lost some recall ability; a little further still I've lost some capacity to deliberate about the merits of alternatives and/or some capacity to regulate my will in accordance with these deliberations; further still I'm child-like; at the far end I'm brain-dead. I clearly survive at the near end. If we are not non-reductionists, there's little reason to think that I survive at the far end. Yet, it would be arbitrary to suppose that any one incremental difference is the one that makes for a substantial change. There must be many cases in the middle in which it is indeterminate whether I survive (and, presumably, there must be second-order indeterminacy about when first-order indeterminacy sets in).

FISSION AND WHAT MATTERS

Whereas identity must be a one-one relationship, psychological (and physical) continuity can be a one-many relationship. The potentially one-many character of psychological continuity is shown in so-called “split-brain” cases.² The issues seem sharpest in **fission** cases.

Consider the following case. Tom, Zeke, and Zach are identical triplets and get in a serious car accident. Zeke and Zach are brain-dead; Tom is not, but his body is hopelessly mangled. Assume that it is possible to transplant Tom's brain into Zeke's body and that this preserves Tom's psychological continuity. If we do this (case 1), we regard Tom as the surviving recipient and Zeke as the dead donor (Zach is simply dead). Now assume that half the brain is sufficient to sustain psychological continuity. If half of Tom's brain is seriously damaged and we transplant the healthy half into Zeke's body (case 2), Tom again survives. If, however, Tom's entire brain is healthy and we transplant half of it into Zeke's body and half into Zach's (case 3), then we have a case of fission.



What do we say in the fission case about Tom and his relationship to Dick and Harry? There seem to be five main possibilities (cf. [RP 256](#)).

²There is clinical evidence that suggests that severing the corpus callosum can produce two distinct spheres of consciousness, corresponding to the right and left hemispheres of the brain. See, for example, R.W. Perry, "The Great Cerebral Commissure" *Scientific American* 210 (1964) and Thomas Nagel, "Brain Bisection and the Unity of Consciousness" reprinted in *Personal Identity*, ed. J. Perry. When hemispheres are severed, dividing consciousness, each hemisphere can "learn" to perform some functions that the other had performed for the united brain, and in some patients various capacities usually found in only one hemisphere are found in both. Insofar as this is true, the possibility of dividing the brain and preserving two qualitatively identical but distinct streams of consciousness is not so fantastic. A residual empirical obstacle is that the functionality of a single hemisphere of the brain seems to depend upon the integrity of the brain stem, which does not admit of division. But these empirical obstacles to dividing the brain are not important, I think. What we would or should say about personal identity in merely counterfactual circumstances can constrain what we think personal identity consists in and what its significance is, and this can affect what we can or should say about personal identity and its significance in actual circumstances.

1. Tom does not survive fission; in particular, he does not survive as Dick or as Harry.
2. Tom survives as Dick, rather than Harry.
3. Tom survives as Harry, rather than Dick.
4. Tom survives as Dick and as Harry.
5. Tom survives as the scattered person consisting of Dick and Harry.

Each answer is initially hard to believe. Against (1), we can ask how a double success could be a failure. Against (2) and (3), we can note that Dick and Harry have exactly equal claims to being Tom. But (4) violates the transitivity of identity; because Dick ...Harry (A..C), Tom cannot be identical with Dick and with Harry (5((A=B) & (B=C))). Neither can Tom survive as a scattered person, viz. the sum of Dick and Harry. If persons must be functionally integrated systems, as their forensic role would seem to require, then Dick and Harry are each persons; they do not together constitute a person.

However, it may be misleading for Parfit to say that it is an “empty question” to ask which answer is correct (RP: 258-60, 278). The best response is to deny (1), as Parfit recognizes (260, 279). Whereas fission preserves psychological continuity, which can be one-many, it cannot preserve identity, which must be one-one. For psychological continuity to constitute personal identity, it must take a **nonbranching** form.

- **Psych-R2:** P2 is identical with P1 iff P2 is (sufficiently) psychologically continuous with P1 and there is no other continuer of P1 that is as continuous with P1.

This makes fission a case of **interpersonal psychological continuity**. Is there a problem with this analysis?

1. Half a brain is sufficient for personal identity.
2. Two half brains in different bodies are different people (fission); and
3. Two half brains in one body make one person (the normal case).

Are these claims consistent? If (1) and (2) are true, shouldn't we reject (3) and conclude that two brains in one body make two people? Or, if (3) is true, shouldn't we deny (1) and (2) and conclude that two half brains in two bodies still make just one person?

No, we can accept all three claims. We can map numbers of brains (and brain parts) on to numbers of people when we know whether the brains (or brain parts) are **functionally integrated**. When two (fully functional) half brains are functionally integrated, they represent one person; when they are not, they are two people. So we can rewrite the triad in such a way as to avoid paradox:

1. Half a brain is sufficient for personal identity, unless it's functionally integrated with some other brain (part).
2. Two half brains in different bodies are different people, provided they are not functionally integrated.
3. Two half brains in one body make one person, provided they are functionally integrated.

WILLIAMS'S DUPLICATION ARGUMENT

Williams's discussion of the "body swap" cases also suggests another worry about duplication cases, including fission.

1. Personal identity is what matters.
2. What matters must depend upon intrinsic, rather than extrinsic, facts.
3. Psychological reductionism (Psych-R2) must make personal identity depend upon extrinsic facts (e.g. about whether there is more than one best continuer).
4. Hence, psychological reductionism (Psych-R2) is false as a theory about personal identity.

WHAT MATTERS: CONTINUITY AND/OR UNIQUENESS?

We should distinguish between different morals that might be drawn from the reductionist account of fission.

1. Psychological continuity, rather than identity, is all that matters.
2. Psychological continuity has more significance than identity.
3. Psychological continuity has significant independent value.

These three claims are arranged from stronger to weaker. Sometimes Parfit suggests the stronger claim (1). But, for many purposes, one of the two weaker claims – (2) or (3) – will do, and it's not clear that most of his arguments support more than (2) or (3).

Fission suggests psychological continuity without identity matters. Fission is not as bad as ordinary death. Indeed, it might seem about as good as ordinary life, or certainly the case in which one survives a failed fission. Whether (1) is true depends on whether psychological continuity is the only thing that matters. Psych-R2 implies

- $PI = R + U$

Personal identity consists in Relation R plus Uniqueness. R seems to have substantial independent significance. The question is whether U also has significance alone or adds significance to R. Does uniqueness matter, and, if so, how much? There are clearly both benefits and costs that could be associated with duplication (RP: 263-65).

- Costs
 - Duplication of a good thing is not always twice as good, or even better (e.g. it won't be much good for Harry to complete Tom's book if Dick has already done so).
 - Duplicates may have to share scarce resources, with the result that neither is as well off as a singleton would have been (e.g. Dick and Harry must split Tom's estate and will have to share his wife's affections).
- Benefits
 - All else being equal, the life expectancy and prospects of duplicates are double that of a singleton.
 - Duplicates may be able to better realize the diverse aspirations of the singleton (e.g. Tom was forced to choose between playing in the NHL and becoming a

moral philosopher; Dick and Harry can better realize Tom's ambitions because Dick can play in the NHL and Harry can become a moral philosopher).

Parfit appears to conclude that the costs and benefits of duplication are comparable but also that uniqueness has little or no independent value (263-64, 272). But the first claim does not support the second. If uniqueness brings both costs and benefits, that seems to be reason to think that it matters as much as continuity. Indeed, even if continuity mattered more, that would not be reason to deny significance to uniqueness. A might win a close election over B; that wouldn't show that B had no electoral support.

Also, it's not clear if Parfit is assessing costs and benefits from the same perspective (Adam). Some costs seem to be assessed from the point of view of Dick or Harry, whereas some benefits seem to be aggregated over them. Does either Dick or Harry benefit from the other's realizing aspirations he had to forego? What if we stick with Tom's perspective?

Also, it's not clear if such costs and benefits tell us whether uniqueness **as such** is valuable. Perhaps we should ask if there are unavoidable costs or distinctive benefits to duplication. Fission does seem potentially to have distinctive benefits as in My Physics Exam (246-47) or Dick's and Harry's realization of Tom's hockey and philosophy ambitions. Is divided love an unavoidable cost? What if Tom's wife were to undergo fission herself?

A related question seems to be whether what we love is a **type or a token**? Once this question is formulated, it's common to assume that we love a token (loving duplicates would be false love). But is this true?

Our fear of clones, as evoked in The Invasion of the Body Snatchers, may suggest that we love tokens, not types. But these feared clones are imperfect clones, lacking aspiration, affect, and emotional depth. What about love? Our intuitions may be unclear unless we distinguish two issues.

- **Initial Love.** Why do we love someone initially? Why do we come to love A, rather than B?
- **Subsequent Love.** Once we are friends with someone, why should we care about that person, rather than someone else with whom we have no previous connection?

Not everyone thinks that love, whether initial or subsequent, can be justified. But many do. If we do, we may want to distinguish the justification of initial and subsequent love. One plausible view is that the justification of initial love can and should appeal to the **qualities** of the beloved. Here, concern seems to track types, rather than tokens. But it seems plausible to think that subsequent love is justified by the **shared history** of associates. Shared history seems to involve a relation among individuals. My wife has a shared history with me, not my Doppelgänger. This may suggest that subsequent love is for a token, not a type, and this may seem to suggest a way in which U can have intrinsic significance. However, it's not clear why shared history requires uniqueness. Why can't it be a potentially one-many relationship? We can distinguish Doppelgängers and Fission Products by appealing to causal connections, without resorting to uniqueness, which fission does not preserve.

Can we agree with Locke that person is a normatively significant category and use this fact to motivate a psychological reductionist view while agreeing with Parfit that personal identity as such matters little or nothing? Whether or not the uniqueness that comes only with personal identity has some distinctive value, the thing of primary value is psychological continuity simpliciter, and not the nonbranching psychological continuity that assures uniqueness and personal identity. Because personal identity and psychological continuity come apart in fission, special concern for the fission-products establishes that it is psychological continuity, rather than personal identity per se, that matters. The scope of our normative attitudes, such as special concern, should be broader than it is if we assume that these attitudes presuppose personal identity. This extends to our backward-looking attitudes, as well as our forward-looking ones. Just as we should have special concern for those who are psychologically continuous with us, even when they are distinct from us, so too we should mete out praise and blame to those who are psychologically continuous with the author of the acts in question, even when these people are distinct from the author. In this spirit, David Wiggins writes

[A] malefactor could scarcely evade responsibility by contriving his own fission.³

But this question about the normative significance of reductionism is one we will explore more systematically later.

THE BRANCHLINE CASE

The reductionist analysis of fission strikes me as defensible. But some kinds of duplication seem more troubling. One such case is the **Branchline Case** (RP 199-201).

I regularly travel between Earth and Io. Normally, the scanner records my psychological and physical states, destroys my brain and body in the process, and creates a new brain and body from this blueprint. This is Simple Teletransportation. However, the new scanner makes the blueprint and the replica on Io without destroying my brain and body. However, in the process it damages the original on Earth, so that that person now has a very short time to live. This is the Branchline Case.

The old scanner, it seemed, provided a wonderfully efficient form of travel. But the same thing, it seems, cannot be said about the new scanner. Indeed, the Branchline Case may make me rethink what I should say about Simple Teletransportation. In the Branchline Case, I do not survive as the replica on Io. Yet it does not seem to be a case of fission either, in which each branch has symmetrical claims to continuing the trunk. Instead, it seems that I survive as the one on Earth. And this, of course, is part of the bad news. I will die shortly, while my replica will live a long life. My replica may try to console me by pointing out that he will do all the things that I had planned to do and will care for my loved ones. As Parfit notes, this may be some comfort. Dying, knowing that I leave a replica behind, is not as bad as dying without any heirs, but it is dying just the same. Soon I shall lose consciousness forever (201).

A natural reaction to Branchline is to say that the person on Earth survives on Earth, despite replication. If Tom enters the replicator on Earth, it seems that it is still Tom who regains consciousness in the replicator on Earth. Nothing has happened to him except that he has been

³"Locke, Butler, and the Stream of Consciousness" in The Identities of Persons, ed. A. Rorty, p. 146.

copied. He is the original and the Ionian is a Xerox. This conclusion would seem to be reinforced by the natural description of a different brain transplant and duplication (Nina). Assume that Tom's twin brother Ziggy gets in a motorcycle accident, which causes irreversible brain damage but leaves his body intact. Realizing that half a brain is sufficient for psychological continuity, Tom donates half his brain to be transplanted into Ziggy's body. There might be a question about the identity of the person recovering in Ziggy's body (and just what Tom was hoping to accomplish by transplanting his brain into his brother's body). But our initial reaction is likely to view Tom as the surviving donor. Donating a brain hemisphere might seem like donating a kidney.

But if we agree that Tom survives replication in Branchline, this seems to present a serious challenge to psychological reductionism. On the metaphysical level, it seems the psychological reductionist should treat Branchline the same as Fission. The replica on Io and the person who has been damaged by the scanner seem equally psychologically continuous with me before I entered the scanner. If so, I should survive as neither, though my concern should attach to each equally. But it seems clear that I do survive as the one who remains on Earth. After all, nothing seems to happen to me when I enter the scanner; it has simply made a copy of me somewhere else. On the normative level, I am not significantly consoled by the existence of my replica. It is better to die with heirs than without; nonetheless, I am about to die, and this regret dwarfs my happiness at leaving a replica behind. But then how can non-branching psychological continuity be sufficient for survival? If not, then Simple Teletransportation is a form of death, not travel. And how can psychological continuity be all that matters? If not, Simple Teletransportation does not preserve what matters. For these reasons, I think Branchline is a serious problem, but I am not convinced that it is an insurmountable one.

One response would be to allow physical continuity to play the role of tie-breaker. On this view, psychological continuity is always necessary and usually sufficient for survival, whereas physical continuity, though it is not in general necessary for survival, determines personal identity when and only when there are two or more equally strong psychological continuers. This view would accommodate our intuitions about Branchline. Yet, because this kind of mixed view gives an extremely limited role to physical continuity, it might seem to salvage a moral victory for psychological reductionism.

My complaint about this response is that it seems ad hoc. If physical continuity is not otherwise even necessary for survival, why should it be sufficient in this one special case? Moreover, we've said that physical continuity of any kind seems important only so far as this is the means to preserving psychological continuity; otherwise, concern for continuity of the body seems a kind of fetishism. But then how can appeal to the body be expected to play any kind of role when psychological considerations have been exhausted?

Alternatively, we might try to argue that I survive as the one on Earth by arguing that the way in which the Ionian is continuous with me, before the scanning, does not have the right sort of cause. If this is to avoid the problems with Brain and with the previous response to Branchline, then we cannot understand "the right kind of cause" as the normal physical cause, the brain. Rather, if the psychological reductionist is to discriminate between proper and improper causes of psychological continuity, that discrimination must itself be based on psychological criteria. In some cases Parfit describes, such psychological continuity as there is is preserved through the intervention, sometimes unknown and/or unwanted, by some other agent or device -- for instance, the Nefarious Neurosurgeon. Now I don't think the mere fact that continuity traces a path outside the agent's body compromises the kind of psychological continuity. For example, I often use external aids -- such as, calculators, notes, grocery lists, and appointment books -- to help assist my

memory and otherwise make deliberations. I hope that this does not compromise my continuity over time. But certain ways of preserving continuity may be incompatible with intentions I have about how my beliefs, desires, and values should be formed, maintained, and modified. In other words, I have second-order beliefs, desires, and intentions about how my first-order beliefs, desires, and intentions ought to be formed, maintained, and modified. Part of the notion of deliberative control of one's actions and intentional states is that one should be responsible for being psychologically as one is. But then part of having deliberative control is to have second-order states that first-order states be the product of one's intentional acts (including mental acts). But then in at least some cases where P2's first-order states are dependent on P1's first-order states, by means of some external agent or device operating without P's knowledge or consent, P2's first-order states won't be dependent on P1's second-order states. This sort of inter-order psychological dependence is itself a kind of psychological connection and, according to our deliberative version of reductionism, an especially important connection. But then in duplication cases in which both branches exhibit intra-order connections but in which only one branch exhibits inter-order connections, we can claim that both branches are continuous with the common trunk but that the branch exhibiting inter-order connections is better connected to the trunk.

Whereas I think that such a psychologically based attempt to discriminate among causes of psychological continuity is both possible and important, I'm less sure that it helps with the present Branchline problem. For if I understand how the new scanner works and voluntarily choose to replicate myself on Io, we may seem to have the relevant connections between the Ionian's first-order states and my own current second-order states. The fact that the connection travels a path outside my body should perhaps be no more disturbing than that I rely on calculators, notes, grocery lists, and appointment books to aid my memory and improve my deliberations.

Another response insists that we distinguish prebranch and postbranch stages. Let's call the prebranch common ancestor Earthling-1, the replica on Io the Ionian, and the terminal person on Earth Earthling-2.

First, we can ask how Earthling-1 should view his branching into the Ionian and Earthling-2. We said that this doesn't seem like fission; Earthling-1 seems to survive as Earthling-2. But why is this? No doubt, it will seem this way to Earthling-2. But, of course, it will also seem this way to the Ionian. In this way, their claims are symmetrical. And if, as we've said, we are concerned with continuity of the body only so far as this is a means to preserving psychological continuity, then Earthling-1 has no reason to privilege the claims of Earthling-2. So, I think, from Earthling-1's perspective, Branchline should, indeed, seem to be exactly the same as Fission. If so, Earthling-1 survives as neither, though his reasons to be especially concerned about each are the same as his reasons for being concerned about his future self in Simple Teletransportation.

Second, there is the question of Earthling-2's outlook. It should be conceded that his outlook is bleak; while he may take some solace in the Ionian's continued existence, he is about to die. But this doesn't undermine psychological reductionism. After all, if Branchline is a case of fission, he is a separate person. The Ionian is not his continuer; rather, they are distinct continuers of a common ancestor. And his life is about to end with no direct heir, as his ancestor had. If the Ionian's continued existence is some consolation to Earthling-2, it is not because the former is the latter's heir. This explains the asymmetry in concern between the prebranch and postbranch perspectives; whereas Earthling-1 has two direct heirs that do merit his concern, even if he does not survive, Earthling-2 has no direct heirs. As such, he neither survives nor has anyone for whom he can justify special concern. This just parallels what we would have said about Fission if we had stipulated that, whereas, Harry would lead a long life, Dick would suffer a fatal accident shortly

after fission. This would have given Tom less to be concerned about in Dick's case, compared with Harry's, but it wouldn't have affected the level of concern appropriate to each of his fission-products. And, of course, there would be no problem explaining why Dick should be depressed contemplating his prospects; he is about to die, and Harry is Tom's heir, not his.

In this connection, I think that we can also accept the claim that Tom does not survive donating a brain hemisphere to his brother's body. In this respect, the donation of brain hemispheres and kidneys are disanalogous. For if Tom donates a kidney to Ziggy, it's clear that Tom survives in part because it's clear that Ziggy survives – both have their streams of consciousness continue uninterrupted and in a non-branching form. But if Tom donates a brain hemisphere, it is not Ziggy who wakes up in Ziggy's body, it is someone whose mental life is continuous with Tom's. But then Tom's mental life branches when the transplant is performed. The recuperating patients have equal claims to be continuing Tom, even though one occupies Tom's body and another does not. Each bears the relation that matters to Tom, so Tom should have equal concern for them. Habit might incline him to assign some special relationship to the heir in his own body. But this is just body fetishism. It's only the logic of identity that prevents them from both being him, each stands to Tom in the relations that matter.

I think that I can accept these claims intellectually, but, like Hume and Parfit, they may be harder to believe outside the confines of my study (T I.iv.7).