

Does Division Multiply Desert?

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1. Dividing a Killer

Consider the following hypothetical case:

Killer. Last week I killed an innocent old lady. I did this because she unwittingly cut in front of me at the grocery store. I committed *murder*. I possess free will in whatever sense is necessary to ground the claim that I deserve punishment, in some retributive sense, for my act.¹ During the past week I thought deeply about what I did, realized that it was very wrong, and have truly turned over a new leaf. I once was vicious, but now am virtuous.² Punishing me would benefit no one. For example, it would have no deterrence effects.

Although not everyone agrees, many believe that I ought to be punished for what I did last week. This particular belief is entailed by a more general belief many have:

Desert. When people culpably do very wrong or bad acts, they deserve punishment in the following sense: at least other things being equal,

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1. For a powerful case against desert-grounding free will, see Pereboom 2001. I will here assume, for the sake of argument, that we do possess such free will.

2. By "now am virtuous," I mean that my behavior now is at least not worthy of any punishment.

they ought to be made worse off, simply in virtue of the fact that they culpably did wrong—even if they have repented, are now virtuous, and punishing them would benefit no one.

In this essay, I will discuss some issues concerning Desert that arise in cases where people divide.³ Here is such a case:

Killer's Division. A week after I killed the old lady in *Killer*, I got on my bicycle, and I headed home from the soup kitchen—where I started volunteering as part of turning over a new leaf. A drunk driver slammed into me, completely destroying my legs and torso, and cracking my skull open on the pavement. The impact disconnected the left and right hemispheres of my brain. Luckily, it is the technologically advanced future, and these two parts of my brain were immediately scooped up off the pavement and rushed to the hospital. The left hemisphere of my brain was transplanted into a cloned body just like my previous one. The right hemisphere of my brain was transplanted into a different cloned body also just like my previous one.

Had *only* the left hemisphere of my brain survived and been successfully transplanted into a cloned body, *I* would have survived. And, owing to sufficient redundancies in my brain, I would have continued on with just this one hemisphere exactly as I would have if I had not been in the accident.⁴ The analogous counterfactual, pertaining to the right hemisphere of my brain, is true. But both hemispheres did survive.

The person who inherited the left hemisphere is called *Lefty*, and the person who inherited the right hemisphere is (predictably) called *Righty*. Note that “Lefty” refers to “the person who inherited the left hemisphere,” *whether or not this person is identical to me* (“Righty” is being used analogously).

I went unconscious the moment I was hit by the drunk driver. The hospital, knowing that I own two cottages, one hundred miles apart, sent Lefty home to one cottage and Righty to the other. Each woke up the next morning in their respective beds completely unaware of what happened after the drunk driver began to suspiciously swerve toward the bicycle.

We can now ask some crucial questions: *Does Lefty deserve to be punished for what I did last week? Does Righty?* Some people think that the answers to these questions depend on whether or not Lefty or Righty are the same person as me. They accept

3. I am referring here to the sort of division cases famously explored by Derek Parfit (1984, chap. 12).

4. Such redundancies, though not realistic, are metaphysically possible.

Does Division Multiply Desert?

Desert Requires Identity. In order for one to deserve punishment for some act, one must be the same person as the person who performed this act.⁵

If this view were true, it would be very important whether or not, for example, Lefty is me. Now, I cannot be the same person as Lefty *and* be the same person as Righty since if this were true, then Lefty and Righty would be the same person (by the transitivity of identity). But since Lefty and Righty wake up in separate beds, tickling Lefty would cause him but not Righty to laugh, and so forth, they are separate persons (by the indiscernibility of identicals). So, I am either one but not the other, or I am neither. Which is it? We might accept a

Reductionist View. The fact of personal identity is reducible to psychological or physical facts.

But now notice that whatever physical or psychological facts we could point to that would make it the case that Lefty is me would equally make it the case that Righty is me. Thus, if it is psychological or physical facts that would make it the case that I am identical to Lefty or to Righty (as Reductionist Views imply), then it seems implausible that I could be one but not the other, and would thus have to be neither. But we might instead accept a

Nonreductionist View. The fact of personal identity is not reducible to psychological or physical facts.

If this view were true, it might be that I *am* Lefty, even though I am physically and psychologically related to Righty in every way that I am physically and psychologically related to Lefty. (Similarly, it might be that I *am* Righty, and so forth.) For reasons I cannot rehearse here, many are inclined, with Parfit, to reject Nonreductionist Views. However, I should clarify that the potential puzzles for Desert I here discuss do not arise only if we reject Nonreductionist Views, or only if we accept Parfit's theory of personal identity. They arise for a very wide and heterogeneous class of theories of personal identity.

But they do not arise for *all* theories of personal identity. They do not arise according to theories that imply that *Killer's Division*, as I have described it, is impossible. Two important counterfactual claims are

5. John Locke espouses Desert Requires Identity. Interpretive evidence for this can be found from sec. 13 through sec. 26 of "Of Identity and Diversity" in Locke 1975 [1694].

included in the description of *Killer's Division*. They are claims about who I would be if either of the following cases occurred:

Only Lefty Survives. The right hemisphere of my brain was destroyed in the accident. Only Lefty survives.

Only Righty Survives. The left hemisphere of my brain was destroyed in the accident. Only Righty survives.

The two claims are

- (i) that in *Only Lefty Survives*, Lefty and I would be the same person; and,
- (ii) that in *Only Righty Survives*, Righty and I would be the same person.

Whenever both (i) and (ii) are true, Lefty and Righty are what I will call my *continuers*. (Recall that, for example, “Lefty” refers to “the person who inherited the left hemisphere,” whether or not this person is identical to me.)

Some theories of personal identity imply that (i) or (ii) is false, and they are thus inconsistent with my description of *Killer's Division*. If such theories are false, such that division is possible, then there are some potential puzzles for Desert. And I will here assume *arguendo* that such theories are false.

Again, there is substantial variety within the wide class of theories of personal identity according to which these Desert puzzles *do* arise. There are different sorts of Reductionist Views. *Psychological Views* say that personal identity is reducible to certain psychological facts.⁶ And according to the standard such view, X at time t_n is the same person as Y at later time t_m if and only if Y is uniquely psychologically continuous with X.⁷ *Physical Views* say that personal identity is reducible to certain physical facts.⁸ According to a standard such view, X at time t_n is the same individual as Y at later time t_m if and only if Y is uniquely physically con-

6. Defenses of such views appear in Locke 1975 [1694], S. Shoemaker 1970 and 1984, Parfit 1971 and 1984, Perry 1972, Lewis 1976, Nozick 1981, and elsewhere.

7. I here follow the formulation offered by David Shoemaker (2009, 61), which is a standard formulation, compatible with those offered by many prominent defenders of Psychological Views (including Derek Parfit and Sydney Shoemaker).

8. For examples of such views, see Thomson 1997, Olson 1997, and DeGrazia 2005.

Does Division Multiply Desert?

tinuous with X.⁹ Personal division is clearly possible on nearly all Psychological Views, and on many but not all Physical Views.¹⁰ Division is also possible according to many but not all Nonreductionist Views.¹¹

9. I write “same individual as” rather than “same person as” because on many Physical Views, particular persons are numerically identical to particular nonpersons, for example, presentient fetuses. On many such views, persons are not *essentially* persons, but rather are essentially biological organisms, or brains.

10. Division is possible on many Physical Views. They imply that, in *Killer’s Division*, both Lefty and Righty are physically continuous with me in the same way that my future self would be physically continuous with my past self. In *Only Lefty Survives*, Lefty would be uniquely physically continuous with me. In *Only Righty Survives*, Righty would be uniquely physically continuous with me. These Physical Views thus imply (i) and (ii), the two crucial counterfactual claims included in the description of *Killer’s Division*.

There are, however, *some* Physical Views that imply that (i) or (ii) is false. For example, consider the claim that, in order for Y to be relevantly physically continuous with X, Y must possess at least roughly half of X’s brainstem. Since even today’s best neurologists cannot successfully divide brainstems, it is highly dubious that both Lefty and Righty would each possess at least roughly half of my brainstem. Since at least one of them would not possess enough of my brainstem, at least one of them would fail to be relevantly physically continuous with me. And so either (i) or (ii) would be false, depending on whether it is Lefty or Righty who gets (most of) my brainstem. Thus, what I described happening in *Killer’s Division* would in fact not happen.

In response, one could argue directly against the claim that in order for Y to be relevantly physically continuous with X, Y must possess at least roughly half of X’s brainstem. Indeed, it seems irrelevant to my survival that I maintain one and the same brainstem. An exact replica of my brainstem, which performed the same basic regulatory functions just as well as my original brainstem, would also seem to preserve my existence just as well. See D. Shoemaker 2009, 106.

Alternatively, one could point out that, while brainstems cannot be divided by today’s best neurologists, perhaps brainstems will be divisible by *tomorrow’s* best neurologists. At the very least, one could point out that it is not *metaphysically impossible* for my brainstem to divide, such that Lefty and Righty would each get half—and that exact replicas of the half each is missing would immediately regrow from each original half. And to generate puzzles for Desert, *Killer’s Division* need not be more than metaphysically possible.

But for all that, there remain some Physical Views that imply that *Killer’s Division* is metaphysically impossible. For example, some Physical Views might have stricter requirements on physical continuity, and thus on identity. These requirements might imply that if a person loses half of his or her brainstem, he or she ceases to exist—even if an exact replica of the lost half were immediately regrown from the remaining half. Insofar as they imply that division is impossible, I will here assume *arguendo* that such Physical Views are false.

11. See, for example, Chisholm 1976, Swinburne 1984, and Merricks 1998 for defenses of Nonreductionist Views.

There are at least two different sorts of Nonreductionist View. According to *Soul Views*, X at time t_n is the same person as Y at later time t_m if and only if X and Y possess the same soul (or Cartesian Ego). According to *Simple Views*, X at time t_n is the same person as Y at later time t_m if and only if X and Y are the same person.

There are some Reductionist Views that characterize division differently than I have so far. I have been assuming that if division is possible, and if Reductionism is true (such that it is implausible that I am Lefty but not Righty, or Righty but not Lefty), then there are *three* distinct persons in *Killer's Division*: me, Lefty, and Righty. But David Lewis (1976) argues that there are only *two* persons: *me-Lefty* and *me-Righty*. Prior to the division, me-Lefty and me-Righty exist simultaneously and are colocated. They go their separate ways at the point of division.

While there are some minor implications of shifting to Lewis's metaphysics,¹² doing so does not yield any significantly different implications for the main issues about Desert here discussed. The same issues will arise, but under somewhat different presentations.

In sum, the assumption that division is possible is a very ecumenical one, and the theories according to which division is possible form a very wide and heterogeneous class. It thus seems well worth exploring the puzzles to which such theories might give rise. But I grant that insofar as my puzzles trouble Desert-believers at all, they are unlikely to trouble those who antecedently believed division to be impossible. And some Desert-believers might even argue that my puzzles provide reason to

Division might be possible, according Soul Views, if souls could split into halves, and if a person could survive with at least half of his or her soul. Then Lefty and Righty could each inherit half of my soul, and (i) and (ii), the two crucial counterfactual claims included in the description of *Killer's Division*, would be true.

But perhaps souls cannot split. Division, as I have described it, is still possible on some nonsplitting Soul Views. Here is how: If only Lefty survived, he would get my soul. If only Righty survived, he would get my soul. Thus, (i) and (ii) are true. If both Lefty and Righty survived, then only one of them would get my soul (only God knows which one), and the other would get a different soul. Similarly, division is possible on some Simple Views. Here is how: If only Lefty survived, he would be me. If only Righty survived, he would be me. Thus, (i) and (ii) are true. If both Lefty and Righty survived, then only one of them would be me. (In all such cases, Lefty and Righty would be my continuers, whether or not they are me.)

However, division is impossible on some nonsplitting Soul Views and on some Simple Views. A nonsplitting Soul View might say that my soul always goes with Lefty. If Lefty does not exist, then neither do I. Then (ii) would be false. And a Simple View might say that the fact about my identity always goes with Righty. If Righty does not exist, then neither do I. Then (i) would be false. Or such views might say or imply that *either* (i) *or* (ii) is false, without committing to *which* is false. See Kagan 2012a, 150–62, for a very clear discussion of division, which contains some interesting remarks about division and Soul Views.

12. If Lewis's view is correct, then the conflict between Desert Requires Identity and Irrelevance of Others (which is noted below in section 3) disappears.

believe that division is impossible—though, for reasons that I cannot explicate here, I think we should be reluctant to accept such arguments.

Having introduced *Killer's Division*, and having made these preliminary remarks about personal identity and the possibility of division, I can now introduce the first potential puzzle.¹³

2. The Multiplication Argument

In addition to Desert, consider two further claims:

Irrelevance of Division. The total amount of punishment that is deserved cannot increase merely in virtue of personal division.

Irrelevance of Others. How much punishment a person deserves cannot be affected by the mere existence or nonexistence of another person. (For the technically more accurate articulation of this claim, see the footnote.)¹⁴

These two claims might seem, considered independently, hard to deny. However, together they threaten to undermine Desert, as the following *Multiplication Argument* shows. Throughout this Multiplication Argument, please read “P deserves punishment” as “P deserves *X amount of punishment*.”

- (1) In *Killer*, I deserve punishment for what I did last week. (Desert)
- (2) If, in *Killer*, I deserve punishment for what I did last week, then in *Only Lefty Survives*, Lefty deserves punishment for what I did last week.

13. In section 5, I will begin to explore some cases where persons *fuse*. What I said in this section about the possibility of division applies, mutatis mutandis, to the possibility of fusion. That is, I am here assuming that fusion is possible (and that theories of personal identity that imply that fusion is impossible are false).

14. Purely for convenience, I have decided to use somewhat loose language in spelling out Irrelevance of Others (similar to the way Parfit [1984, 267] formulated Williams's first requirement). But it is important to note that I am interpreting Irrelevance of Others to imply that Lefty—the person with the left hemisphere—cannot deserve more or less punishment depending on the existence or nonexistence of others, whether or not he is identical to me, and whether or not Lefty in *Only Lefty Survives* is identical to Lefty in *Killer's Division*. Put more precisely, the idea is that if in one possible world *w* the person with the left hemisphere deserves *X* punishment in virtue of his relation to process *p*, then in any world *w** in which the person with the left hemisphere is related to process *p* in intrinsically exactly the way the person with the left hemisphere is in *w*, in *w** the person with the left hemisphere deserves *X* punishment (inspired by Johnston 1989, 381). While it might have to be read twice, this technically more accurate articulation of Irrelevance of Others remains intuitively plausible.

- So, (3) In *Only Lefty Survives*, Lefty deserves punishment for what I did last week. (1 & 2)
- So, (4) In *Killer's Division*, Lefty deserves punishment for what I did last week. (3 & Irrelevance of Others)
- (5) If, in *Killer*, I deserve punishment for what I did last week, then in *Only Righty Survives*, Righty deserves punishment for what I did last week.
- So, (6) In *Only Righty Survives*, Righty deserves punishment for what I did last week. (1 & 5)
- So, (7) In *Killer's Division*, Righty deserves punishment for what I did last week. (6 & Irrelevance of Others)
- So, (8) In *Killer's Division*, both Lefty and Righty deserve punishment for what I did last week. (4 & 7)
- (9) If, in *Killer's Division*, both Lefty and Righty deserve punishment for what I did last week, then the total amount of punishment that is deserved can increase merely in virtue of personal division. (If each deserves X, the total deserved is 2X.)¹⁵
- So, (10) The total amount of punishment that is deserved can increase merely in virtue of personal division. (8 & 9)

Contradiction. (10 & Irrelevance of Division)

If (2) through (10) and Irrelevance of Division are true, then the claim that in *Killer* I deserve punishment for what I did last week (1, entailed by Desert) must be false. On the other hand, if (1) through (10) are true, then Irrelevance of Division must be false, and it must be the case that

Division Multiplies Desert. When a person who deserves punishment undergoes division, each product of division deserves the same amount of punishment this person deserves.

If I deserve X amount of punishment in *Killer*, then Division Multiplies Desert implies that Lefty and Righty, the products of my division, each deserve X amount of punishment in *Killer's Division*. The total amount of punishment deserved has thus increased from X to 2X. Hence the name of this argument: the *Multiplication* Argument.

15. Remember that, for example, (8) should be read as "In *Killer's Division*, both Lefty and Righty deserve X amount of punishment for what I did last week."

3. Is the Existence of Others Relevant to Desert?

One possible response to the Multiplication Argument is to deny Irrelevance of Others. But before exploring this response, it is important to observe—as Parfit famously did—that identity does not matter for rational prudential concern. I should be just as prudentially concerned about what happens to Lefty as I should be prudentially concerned about what happens to my future self, whether or not I am identical to Lefty (same goes for me and Righty).¹⁶ Suppose Lefty's quality of life in *Only Lefty Survives* would be the same as in *Killer's Division*. If I knew my cerebral hemispheres were about to split, I would have *no* prudential reason whatsoever to take a pill that would cause my right hemisphere to liquefy upon becoming disconnected from my left hemisphere, thereby ensuring that only Lefty would survive. Why mention this? If we believed that identity matters for rational prudential concern, then we might believe that, insofar as I do not exist in *Killer's Division*, I have already gotten at least some of what I deserve. What I have gotten, we might claim, is as good as the death penalty. Or we might more modestly claim that division, while not as bad as death, still isn't as good as ordinary survival. Either claim might move us to reject (4) and (7). However, since both claims are implausible, we cannot plausibly reject (4) or (7) on such grounds. What happens to me in *Killer's Division* is at least as good as ordinary survival. Having made this preliminary observation, I will now consider some further objections to the Multiplication Argument.

Irrelevance of Others licenses the move from the claims that Lefty (3) and Righty (6) deserve punishment in a case in which only one of them survives to the respective claims that Lefty (4) and Righty (7) deserve punishment in a case in which they both survive. If Lefty deserves punishment in one case, then Lefty also deserves punishment in another case that is exactly the same except that some other person exists.

But people who accept Desert Requires Identity would reject Irrelevance of Others. They would claim that the *Only Lefty Survives* and *Only Righty Survives* cases are importantly different from *Killer's Division* because (on some views) facts about personal identity change between the former cases and the latter case. Moreover, for those who accept Desert Requires Identity, it matters, in the latter kind of case, whether a Nonreductionist View is true.

16. And Lefty should be just as prudentially concerned about what *happened* to me, whether or not he is identical to me (same goes for Righty and me).

First, suppose Nonreductionist Views are false (some Reductionist View is true). Then, as explained above, I am *neither* Lefty nor Righty in *Killer's Division*. Defenders of Desert Requires Identity will thus claim that neither Lefty nor Righty deserves punishment for what *I*, a separate person, did last week. They will thereby deny (4) and (7).

Next, suppose that a Nonreductionist View is true. Now, as explained above, it is possible that I *am* Lefty, even though I am physically and psychologically related to Righty in every way that I am physically and psychologically related to Lefty. (Similarly, it is possible that I *am* Righty, and so on.) Defenders of Desert Requires Identity will here claim that Lefty *or* Righty, *but not both*, deserve punishment for what I did last week. They will thereby deny either (4) or (7), depending on whether I am Lefty or Righty.¹⁷

However, Desert Requires Identity does not seem plausible in division cases. In nondivision cases, the following italicized question seems to garner intuitive support for Desert Requires Identity: *how can I deserve punishment for what someone else did?* But in *Killer's Division*, Lefty is my *continuer*. That is, while he is not identical to me,¹⁸ he would have been had it not been for Righty's existence. It is only a technicality involving the logic of identity that prevents Lefty from being me.¹⁹ Now imagine Lefty asking: *how can I deserve punishment for what someone else did?* If the "someone else" Lefty is referring to here is me, then the answer to his question seems easy: *because you are this person's continuer*. We do not believe that Lefty can get off scot-free owing to a technicality involving the logic of identity. While metaphysical facts about personal identity might be contingent on whether, say, only Lefty survives or both Lefty and Righty survive, it seems deeply implausible that something as serious and important as whether someone deserves punishment for committing a murder could be. And while the logic of identity might *force* us to accept that I am Lefty in *Only Lefty Survives* but not in *Killer's Division*, it cannot analogously force us to accept that Lefty would deserve more or less punishment, depending on whether Righty survives. Desert Re-

17. Of course, in such cases we might not *know* the fact of personal identity, or who has my soul (or Cartesian Ego), and so, according to Desert Requires Identity, not know whether it is Lefty or Righty who deserves punishment.

18. If a Nonreductionist View were true, we could here assume that the further fact of personal identity holds between me and Righty.

19. The technicality is that Lefty and Righty are not identical (indiscernibility of identicals), and so I cannot both be identical to Lefty and be identical to Righty (since the transitivity of identity would then imply that Lefty and Righty are identical).

quires Identity does not provide a plausible answer to the Multiplication Argument.²⁰

It is important to notice that, in denying Desert Requires Identity, I am only claiming that if Desert is true, then my continuers might well deserve punishment for my wrongdoing, even if they are not identical to me. I am not committing to any more specific view about what it is about my continuers that makes them deserving of punishment for what I did. I am not, for example, committing to a view that says that L deserves to be punished for T's wrongdoing if and only if L is psychologically continuous with T.

We might deny (4) and (7) for a different reason. Recall that (4) says that, in *Killer's Division*, Lefty deserves X amount of punishment for what I did last week and that (7) is the analogous claim about Righty. Again, the moves from (3) and (6) to (4) and (7), respectively, are licensed by Irrelevance of Others. However, we might deny Irrelevance of Others, and instead accept

Divided Desert. When a person who deserves punishment undergoes division, each product of division deserves an equal proper fraction of the total amount of punishment this person deserves. These products must inherit *equal* fractions because they are alike in all relevant respects.²¹

Divided Desert implies that if I deserve X amount of punishment in *Killer*, Lefty and Righty each deserve X/2 amount of punishment in *Killer's*

20. We could maintain both Desert Requires Identity and Irrelevance of Others if we denied Desert. Moreover, perhaps staunch believers in Desert Requires Identity would regard my division cases, combined with Irrelevance of Others, as an argument against Desert. I suspect, however, that most people attracted to Desert would, upon encountering my division cases, willingly abandon Desert Requires Identity and regard its plausibility as limited to ordinary, nondivision cases.

21. Parfit (1984, 271–72) asks, “If the malefactor is sentenced to twenty years in prison, should each resulting person [from division] serve twenty years, or only ten?” The latter disjunct suggests Divided Desert. Later on, in chapters 14 and 15, Parfit considers a variety of extreme and moderate implications of his views on personal identity. Here is a sketch of his argument for the extreme claim concerning Desert (from Parfit 1984, 324, and 1986, 838–39):

- P1 Desert requires Nonreductionist identity.
- P2 There is no Nonreductionist identity.
- So, C Desert is false.

I am not aware of anyone (including Parfit) who has been persuaded by this argument to abandon Desert. I suspect that this is because people who are attracted to Desert and who accept a Reductionist View would have no qualms about denying P1.

Division. But this violation of Irrelevance of Others also seems implausible. It cannot be that, through the sheer luck that Righty survived, Lefty would deserve less punishment.²²

One might offer the following counterargument: It *is* true that how much punishment Lefty deserves depends on the existence of another person—namely, me. And so we have a counterexample to Irrelevance of Others. And so we cannot plausibly invoke Irrelevance of Others in response to Divided Desert.

This counterargument fails. First, what Irrelevance of Others implies is that the *mere* existence or nonexistence of another person cannot affect how much Lefty deserves. And it is not my mere existence that would make Lefty deserving of punishment, but that I killed an innocent old lady last week, and that Lefty is my continuer. Second, it is perhaps helpful to see that, while I am neither Lefty nor Righty, and while Lefty and Righty are nonidentical, certain prudential and moral relations hold between me and Lefty and between me and Righty that do not hold between Lefty and Righty. Whereas Lefty and Righty are my continuers, Lefty is not Righty's continuer, and Righty is not Lefty's continuer. Accordingly, I should have prudential concern both for Lefty and for Righty (the way I ordinarily would for my future self), but Lefty and Righty should not have such prudential concern for each other (though perhaps they should have special concern for each other in something like the way siblings or close friends do).²³ Similarly, while the wrongs I did can matter for how much punishment Lefty and Righty deserve, the wrongs that Lefty does cannot matter for how much punishment Righty deserves, and so on.²⁴

22. Luck can certainly affect how much punishment a person *can* or *will* suffer, but not how much he or she *deserves* to suffer. Satan would not be less deserving of punishment if he found and escaped into a bunker that made him invulnerable to punishment.

23. Distinguishing between the predivision and postdivision individuals in this way can, I believe, solve one of Parfit's puzzles about the *Branch-Line Case* (see Parfit 1984, 287–89), but I cannot get into this here. Also see part I of Velleman 2008.

24. We might consider

Divide and Rob. I know that I am about to divide, and I form two intentions: the intention to have Lefty rob a bank, and the intention to have Righty write a check to Against Malaria Foundation. I divide. Lefty robs the bank on the basis of the first intention I formed. Righty writes the check on the basis of the second intention I formed.

Some might be tempted to claim that the wrongdoing that Lefty did *does*, in this case, matter for how much punishment Righty deserves. But we should be careful not to misidentify what it is in virtue of which Righty might deserve punishment. If Righty deserved

It seems that the mere existence or nonexistence of Righty (Lefty) could not affect how much punishment Lefty (Righty) deserves. Attempts to deny (4) and (7) by denying Irrelevance of Others seem too implausible.

4. Does Division Multiply Desert?

Suppose we simply accepted (1) through (10) of the Multiplication Argument. This would imply Division Multiplies Desert and that Irrelevance of Division is false. If Division Multiplies Desert, then, for example, if I deserve twenty years of punishment in *Killer*, Lefty and Righty would each deserve twenty years in *Killer's Division*—making a total of forty years. And we might not see what is so implausible about this result. In this section, I will mention a couple of implications of Division Multiplies Desert, which some might find hard to believe.

First, it might seem that if anything increases how much punishment is deserved, it is increases in things of the following sort: the severity or number of bad acts or motives, the degree to which persons are virtuous or vicious, and the degree to which the relevant people are culpable for these acts, motives, or characters. More generally, some might believe we should accept the

Fault Restriction. There cannot be a greater total amount of deserved punishment if there is no increase in fault. (“Fault” is here construed, rather broadly, as any kind of error for which an agent is relevantly culpable.)

And indeed personal division does not per se involve any increase in fault, as I here understand it. If I were a vicious person just prior to my division, which consequently resulted in two vicious people, then my division would arguably involve an increase in overall fault. But in *Killer* I am, prior to my division, a virtuous person;²⁵ Lefty and Righty would thus

punishment in *Divide and Rob*, it might be in virtue of his being a continuer of someone who formed the bad intention on the basis of which Lefty acted in robbing the bank. Lefty's crime might then be relevant in that it could serve as *evidence* of a bad intention that I, the person of whom Righty is a continuer, had. Moreover, Righty might deserve punishment if he knew that Lefty was going to rob a bank, but did nothing to stop him, or to warn the bank, police, and so forth. But it seems implausible that Righty could deserve more or less punishment *merely* in virtue of whether or not Lefty in fact commits the bank robbery.

25. I would thus not attempt to, as David Wiggins (1976, 138) writes, “evade responsibility by contriving [my] own fission.”

be virtuous people too. If I did not repent for killing the innocent old lady, and Lefty and Righty each woke up in their respective beds creepily chuckling about how fun it was to kill the innocent old lady, then again my division would arguably involve an increase in overall fault. But in *Killer* I do repent; Lefty and Righty would thus not approve of killing the innocent old lady. To simplify matters, we should focus on cases of division in which no one is culpable for the division itself and in which no errors are made by the products of division, that is, we should focus on cases of division that involve no increase in fault.

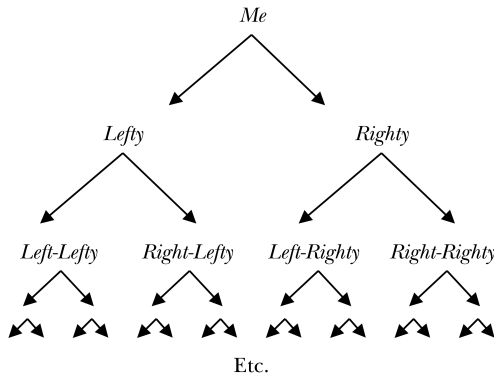
Despite the fact that division does not per se involve any increase in fault, someone might find the Multiplication Argument for Division Multiplies Desert to be more plausible than the Fault Restriction. But before concluding that this is true, we should take note of a further implication of accepting the Multiplication Argument for Division Multiplies Desert: *indefinite* division would multiply desert indefinitely. Even if the total amount of deserved punishment could increase *somewhat* without any increase in fault, it might seem harder to accept that it could increase indefinitely without any increase in fault. Consider another case:

Repeated Division. Technologically advanced hospitals have GrowthRay3000s, which can be used to stimulate pieces of brains to grow into whole brains exactly similar to those whole brains of which they were originally parts. GrowthRay3000s can bring about such desired effects within one three-thousandth of a second.²⁶

Now consider a different possible continuation of *Killer's Division*. With the help of some GrowthRay3000s, Lefty and Righty had the missing halves of their brains regrown from the halves that they each retained. Both then had whole brains and were physically and psychologically related to me in exactly the way that people are ordinarily related to their past selves. If I could be more than one person (I could not), I would be both. After Lefty and Righty woke up the next morning, they each decided to go for a walk. Astonishingly, Lefty was struck by a drunk driver. And doubly astonishingly, so was Righty! The accidents again destroyed their legs and torsos, and split their brains into halves. These four halves were taken to the hospital, and each was regrown into a whole brain and transplanted into a cloned body. Then there were four people: *Left-Lefty*, *Right-Lefty*, *Left-Righty*, and *Right-Righty*. Amazingly, all were in separate accidents exactly similar to mine, Lefty's, and Righty's. And so on.

26. I am here inspired by Jacob Ross's (n.d.) use of various science fiction rays.

Does Division Multiply Desert?



After one division, there are two people. After two divisions, there are four. After three, there are eight, and so on. After just ten divisions, there are 1,024 people.

If we accept the Multiplication Argument, then assuming that I deserve X amount of punishment in *Killer*, we would claim that Lefty and Righty each deserve X amount of punishment in *Killer's Division*, making a total of $2X$ deserved punishment. But this argument can be reiterated. If Lefty splits into Left-Lefty and Right-Lefty, and they each deserve X punishment (as implied by Irrelevance of Others), and Righty splits into Left-Righty and Right-Righty, and they also each deserve X punishment (as implied by Irrelevance of Others), then the total becomes $4X$ deserved punishment. After ten divisions, there will be $1,024X$ deserved punishment, in total. Indeed, there is *no limit* on how much total deserved punishment there could be, all stemming from one wrong act. Reiterating the Multiplication Argument after each division implies the conclusion that indefinite division multiplies desert indefinitely.

Some people might find the Fault Restriction hard to deny, and they might find the implications of the Multiplication Argument in cases like *Repeated Division* hard to believe. To avoid contradiction, these people might have to deny either Desert or Irrelevance of Others. However, others might be willing to drop the Fault Restriction and to accept the implications of the Multiplication Argument in *Repeated Division*. For instance, they might defensibly argue that the Fault Restriction seems plausible in *nondivision* cases, but that it loses its intuitive appeal when applied to division cases (similar to the way in which Desert Requires Identity loses its intuitive appeal in division cases). They could thereby accept Desert and Irrelevance of Others without contradiction. However,

Desert and Irrelevance of Others together imply Division Multiplies Desert, and Division Multiplies Desert might have implausible implications in the context of personal fusion.

5. Fusion

First, some more science fiction.

Suppose that, rather than a brain, my mind is realized in a futuristic liquid metal. My mind is distributed uniformly across the liquid metal, which can form various shapes. Usually, I take a form that is very hard to distinguish from an actual living human body. (Think of the T-1000, the bad guy from *Terminator 2*.) It is possible that I will divide. If I divide, the humanoid shape my liquid metal usually takes will form a puddle and divide like an amoeba into n qualitatively identical puddles. The resulting puddles will be the same size as the original one (perhaps the original puddle becomes n times larger immediately before dividing); each will be qualitatively identical to the original one, as well as spatio-temporally continuous with it. Then, the puddles will each morph into the particular humanoid shape the original one had.

It is also possible that I will *fuse* with other liquid metal persons like me. Consider another liquid metal person who is exactly like me. Suppose we each morph into a puddle and then each split into a left puddle and a right puddle, making a total of four qualitatively identical puddles. L1 and R1 are my puddles, L2 and R2 are his. Seconds later, puddles L1 and R2 are destroyed. But seconds after that, R1 and L2 come together, forming a single, unified puddle. I have now fused with another liquid metal person into a single *fusion product* who is qualitatively identical to each of us *fusion ingredients*.²⁷

27. Fusion isn't just for liquid metal puddle people. Take two qualitatively identical human persons, Shlefty and Shrighty. Owing to sufficient redundancies in their brains, if each had just one cerebral hemisphere, each would continue on exactly as each would if each retained both hemispheres. There are four cerebral hemispheres: L1, R1, L2, and R2. Suppose R1 and L2 are destroyed, and L1 and R2 are immediately connected. Shlefty and Shrighty have fused into a single person who is qualitatively identical to each of them.

Parfit (1984, 298–99), Unger (1990, chap. 6), and McMahan (2002, 83) each offer a brief but plausible discussion of fusion.

Cases of Dissociative Identity Disorder arguably provide real-life examples of fusion when the individual alters (separate persons realized in one and the same body) are integrated via therapy into a single person. Radden (1996) offers an intriguing discussion of fusion cases involving Dissociative Identity Disorder, including a discussion of the moral responsibility and punishment of the products of such fusion (though for an

Does Division Multiply Desert?

It might be impossible to fuse certain persons together; attempting to fuse an old cynical scrooge and a young optimistic philanthropist might result in a cacophonous nightmare, an entity that is arguably not a person. Or maybe the resulting entity is a person, but one who happens to have a very chaotic psychology. But for the cases of fusion under discussion here, we should imagine that the persons who would fuse are physically and psychologically similar enough that they are “fusion compatible.” Indeed, I will assume that the relevant fusion ingredients are as close to qualitatively identical as possible. For instance, we might imagine fusion stories like this one (told from the perspective of the distant future):

Angela and Barbara. Angela and Barbara were liquid metal persons. They each came into existence in 2951 and were raised in separate but qualitatively identical controlled environments.²⁸ Though their lives from 2951 to 2999 were rich and complex, they remained qualitatively identical. On New Year’s Day 3000, they fused in the liquid metal way described above. The resulting person is Carol.²⁹

In fusion cases like this one, I believe that the following two claims are true:

Prudential Comparability. Fusion ingredients (for example, Angela and Barbara) should be just as prudentially concerned about what happens to the product of their fusion (for example, Carol) as they should be

excellent criticism of her view on punishing fusion products, see D. Shoemaker 2009, 234–35). While these arguably realistic cases of fusion are well worth exploring, the more hypothetical cases I discuss in the main text are preferable, for present purposes, for two reasons: First, my hypothetical cases of fusion *are* cases of fusion if there can be any such cases at all. It is more debatable whether Dissociative Identity Disorder integration cases are truly cases of fusion because it is more debatable whether there are truly *two* preintegration persons and because it is more debatable exactly how the integration process works (for example, if one alter were simply eliminated, this would not be a case of fusion but at most a case in which one person dies and another person doesn’t). Second, in my hypothetical cases of fusion, *Prudential Comparability* (see below) seems very hard to deny. It is more dubious whether Prudential Comparability holds in cases of Dissociative Identity Disorder integration.

28. Perhaps these environments were controlled in the way Truman’s was in *The Truman Show*.

29. Recall the brief discussion of the metaphysics of division from section 1. There I explained why, at least according to certain Reductionist Views, it is plausible that I would not be identical to either of the products of my division. For similar reasons, it is plausible that neither Angela nor Barbara would be identical to Carol.

prudentially concerned about what happens to their future selves, and in just the same way.

And:

Desert Comparability. Punishing a fusion product is, from the point of view of Desert, tantamount to punishing each of the fusion ingredients in the same way and to the same extent. For example, if Angela deserved a punishment and Barbara deserved a punishment of the same size, then Desert would be just as satisfied if they were each given this punishment prefusion as it would be if Carol were given this punishment postfusion.

Why should we believe these claims?

Recall what I claimed about division: I should be just as prudentially concerned about what happens to Lefty as I should be prudentially concerned about what happens to my future self, whether or not I am identical to Lefty. (Same goes for me and Righty.) What matters for rational prudential concern is a psychological or physical relation, rather than identity. Whatever the particular nature of this psychological or physical relation is, it holds between me and Lefty, and between me and Righty. Similarly, there is a class of personal fusion cases where this relation holds between the fusion product and each of her fusion ingredients (but not between the fusion ingredients). For example, in *Angela and Barbara*, Carol is qualitatively identical to Angela, and the two are psychologically and spatiotemporally continuous. Indeed, the relations between Angela and Carol are exactly the same as the relations between Angela and future Angela, except that (i) Angela and Carol are nonidentical (on certain views), and (ii) Carol is the continuer of two people, whereas future Angela is the continuer of just one person. But neither (i) nor (ii) seem to *matter*.³⁰ That is, Angela's fusing with Barbara into Carol seems just as prudentially good for Angela as ordinary survival, and pun-

30. One might note that, whereas future Angela is psychologically and physically continuous only with past Angela, Carol is psychologically and physically continuous with both Angela and Barbara. Could this difference plausibly ground the claim that (ii) does matter after all, and that, for example, Angela should have less prudential concern for Carol than she should have for future Angela?

I do not think so. Consider a pair of cases, again assuming in each case that, owing to sufficient redundancies in your brain, if you lost one cerebral hemisphere, you would continue existing exactly as you would if you retained both hemispheres.

In the first case, your left hemisphere is destroyed and then immediately replaced with an exact replica materialized from scratch. In this case, you survive, and everything that matters prudentially is preserved. In the second case, your left hemisphere is destroyed and then immediately replaced with an exact replica that belongs to a person

ishing Carol seems just as prudentially bad for Angela as punishing future Angela.

Now, assuming that it is true that nonidentity holds between Angela, Barbara, and Carol, it is true that making Carol worse off to degree X might not, for example, make *Angela* worse off. However, we can say that making Carol worse off to degree X makes Angela *quasi*-worse off to degree X, or just “q-worse off” to degree X, in the following sense: if, while holding everything else constant, Barbara were taken out of this case, Angela *would* have been made worse off by degree X.

The difference between Angela’s being made worse off to degree X and her being made q-worse off to degree X does not, from the point of view of her prudential concern, matter.³¹ In the sorts of fusion cases under consideration here, it seems hard to deny Prudential Comparability. And Desert Comparability is true, I believe, in these cases in which Prudential Comparability is true. Consider the following argument:

- (1) There is desert-based reason to make culpable wrongdoers A and B each worse off to degree X. (Desert)
- (2) If there is desert-based reason to make A and B each worse off to degree X, then there is just as much desert-based reason to make A and B each q-worse off to degree X.
- (3) There is just as much desert-based reason to make A and B each q-worse off to degree X (as there is to make A and B each worse off to degree X). (1 & 2)
- (4) Making the fusion product of A and B worse off to degree X makes A and B each q-worse off to degree X.
- (5) There is just as much desert-based reason to make the fusion product of A and B worse off to degree X (as there is to make A and B each worse off to degree X). (3 & 4)

qualitatively identical to you who has existed with this left hemisphere for exactly as long as you have but in a different part of the world.

It seems to me that what happens in the second case is prudentially no worse for you than what happens to you in the first case. The *history* of your left hemisphere replacement seems irrelevant. What seems prudentially relevant is what the left hemisphere replacement is going to do from now on.

31. Unsurprisingly, the notion of being made q-worse off also applies to division cases. Consider a division case in which Lefty and Righty will live qualitatively identical lives and will each be made worse off to degree X at some point in the future. Insofar as I am not identical to either Lefty or to Righty, this might not make *me* worse off to degree X; but it would make me q-worse off to degree X. If, while holding everything else constant, Righty were taken out of this case, I *would* have been made worse off to degree X.

Assuming (1), we can avoid (5) only if we deny either (2) or (4). But (4) follows from the meaning of *q-worse off*: suppose the fusion product of A and B is made worse off to degree X; A would have been made worse off to degree X if B were taken out of the case, and B would have been made worse off to degree X if A were taken out of the case.

This leaves (2). The intuition undergirding (2) is that the difference between being made worse off and being made q-worse off should not matter to Desert since it is only a technicality involving the logic of identity that, in certain cases, forces us to say “q-worse off” rather than “worse off.” It cannot be that there is desert-based reason to make someone worse off, but less or no desert-based reason to make that person q-worse off. (2) is intuitively plausible.

Thus, it seems that we cannot plausibly avoid (5). But (5) is simply another way of formulating Desert Comparability, the claim that Desert would be just as satisfied if each fusion ingredient were punished to degree X (or made worse off to degree X) as it would be if their fusion product were punished to degree X (or made worse off to degree X).³² Punishing someone I prudentially should be concerned about in just the same way and to just the same extent that I prudentially should be concerned about my future self seems to be just as good, from the point of view of Desert, as punishing me. Of course, it is not the *same* as punishing me. Those who accept Desert Requires Identity will deny Desert Comparability. But, as I already argued, Desert Requires Identity seems false. Identity does not seem to be what matters for Desert.

For these reasons, in the sorts of fusion cases under consideration here, it seems hard to deny Desert Comparability. (I will now, for convenience, omit the qualification “in the sorts of fusion cases under consideration here.”)

Next consider the “mirror image” of Division Multiplies Desert:

Fusion Divides Desert. If n people who each deserve m years of punishment fuse, the fusion product deserves m years of punishment. The total pre-fusion punishment deserved is m times n years, and the total postfusion

32. Note that (5) is formulated in terms of desert-based *reasons*, whereas Desert (and thus Desert Comparability) is formulated in terms of what *ought* to be done. But the claims about desert-based reasons in (5) imply the relevant oughts when considerations besides desert are held constant, or when these other considerations are not sufficiently weighty.

Does Division Multiply Desert?

punishment deserved is m times n years divided by n —or just m years. (Hence, fusion divides desert.)³³

There is a simple and powerful argument for Fusion Divides Desert. According to Desert Comparability, giving the fusion product m years of punishment is as good, from the point of view of Desert, as giving each of these n fusion ingredients m years of punishment. That is, giving the fusion product m years of punishment is *desert comparable* to giving each of these n fusion ingredients m years of punishment. If so, giving the fusion product more than m years would seem to be desert comparable to overpunishing the fusion ingredients, and giving the fusion product fewer than m years would seem to be desert comparable to underpunishing the fusion ingredients.³⁴

33. An immediate worry one might have about Fusion Divides Desert is analogous to the worry about Division Multiplies Desert shared by those who believe in the Fault Restriction. Suppose there are one thousand murderers (who each have repented and are now virtuous) and that they each deserve twenty years of punishment. They form into puddles and fuse into one. According to Fusion Divides Desert, this one person deserves only twenty years. That is, the total amount of punishment deserved has decreased dramatically (divided by one thousand) just in virtue of an accident—not in virtue of any change in fault. Some might take this to be a good enough reason to reject Fusion Divides Desert. They might accept the

*Fault Restriction**. There cannot be less deserved punishment if there is no decrease in fault.

However, just as one might defensibly claim that the Fault Restriction seems plausible in nondivision cases but not in division cases, one might defensibly claim that the Fault Restriction* seems plausible in nonfusion cases but not in fusion cases.

34. Furthermore, notice that if we accept Division Multiplies Desert, we *might* be forced to also accept Fusion Divides Desert. Why? Consider

Killer's Division and Fusion. Suppose I deserve twenty years of punishment for killing an innocent old lady. I divide into Lefty and Righty. Seconds later, Lefty and Righty fuse. Call the product of their fusion Feron. (I will here leave it open whether or not I am identical to Feron.) According to Division Multiplies Desert, Lefty and Righty each deserve twenty years of punishment. But it seems implausible that Feron would deserve anything other than twenty years of punishment.

Unless we can capture the claim that Feron deserves twenty years of punishment without appealing to Fusion Divides Desert, it seems implausible to accept Division Multiplies Desert without also accepting Fusion Divides Desert.

Moreover, a modified version of *Killer's Division and Fusion* provides further evidence against Desert Requires Identity. Suppose I have killed no one, and that Lefty and Righty each commit a murder during the few seconds they exist, before they fuse together into Feron. According to Desert Requires Identity, Feron cannot deserve punishment for what Lefty and Righty did, since he is identical to neither. But this seems implausible.

6. A Problem for Division Multiplies Desert

The problem, or puzzle, will not be apparent for several paragraphs. It takes some time to set it up. First, consider the fusion of an innocent person and a fully culpable murderer.

Angela the Murderer: Remember *Angela and Barbara*, but now suppose that, on New Year's Eve 2999, Angela committed murder and Barbara did not. Instead, Barbara innocently observed a pretty sunset. Barbara deserves zero years of punishment, whereas Angela deserves twenty years. Then, on New Year's Day 3000, they fused into Carol.

What to do in tragic cases like this one, where an innocent person and a murderer fuse? On the one hand, we do not want the murderer to, well, get away with murder, and on the other hand, we do not want to do what is desert comparable to punishing the innocent person.

A reasonable response to *Angela the Murderer* is that it is, as it stands, underdescribed. Whether or not we should punish Carol, and how much, seems to depend on the details of how Angela and Barbara fused. After all, this new case is importantly different from *Angela and Barbara* since in the latter the fusion ingredients are qualitatively identical. But in *Angela the Murderer* the fusion ingredients are qualitatively different, owing to the fact that one but not the other committed murder—how, then, do these qualitatively different entities come together in fusion?

In particular, we might think it matters whether Carol has Angela's memory of committing murder, or instead has Barbara's memory of innocently observing a pretty sunset (that is, the memory of *not* committing murder).³⁵ We might also think it matters whether Carol *identifies with* Angela's act of murder, where this involves Carol embracing this act as her own, as an act that would intelligibly result from her central beliefs, desires, intentions, and personality traits.³⁶ In order to fill in such important details, I will add the following:

Addendum to Angela the Murderer: Not long after Angela committed murder and Barbara observed a sunset, but before they fused, Barbara's mental life was altered, using a HypnoRay3000, to make it phenomenologically indistinguishable from Angela's mental life. Thus Barbara now has mem-

35. Or, if memory presupposes personal identity, we can instead say that Carol has the *quasi*-memory of Angela's act of murder.

36. See Schechtman 1996 and D. Shoemaker 2009, 220–28. The relation “person P identifies with action A” is not always one-to-one. In *Killer's Division*, for example, Lefty and Righty would both identify with, or *own*, my act of killing the innocent old lady.

Does Division Multiply Desert?

ories of and attitudes about Angela's act of murder that are phenomenologically just like Angela's; of course, these newly acquired memories of Barbara's are *false* memories. This alteration did not need to be very extensive, given that Angela and Barbara were qualitatively identical prior to their different behaviors on New Year's Eve. Angela deserves twenty years of punishment. Barbara deserves zero years of punishment. As before, they will fuse into Carol on New Year's Day.

Some people might object, claiming that Barbara deserves more than zero years of punishment, in virtue of what her mental life is now like (it is now phenomenologically just like Angela's). But I find this view hard to accept. The reason I find this view hard to accept is not that Barbara is not identical to Angela, the wrongdoer; recall that there are powerful reasons for rejecting Desert Requires Identity. Rather, the reason I find it hard to accept is that Barbara's current mental life, though phenomenologically just like Angela's, does not have the appropriate sort of *cause*. Barbara's current mental life is phenomenologically just like a murderer's because of a HypnoRay3000 alteration. That is not the appropriate sort of cause to ground desert. Angela's current mental life is phenomenologically just like a murderer's because she committed murder. That is the appropriate sort of cause to ground desert. In *Killer's Division*, Lefty's mental life is phenomenologically just like a murderer's because he is the continuer of someone who committed murder. That too is the appropriate sort of cause. These claims are plausible.

The view that Barbara deserves any more than zero years of punishment thus seems implausible. At the very least we should agree that, due to the fact that *a* particularly important sort of cause is missing in the case of Barbara that is present in the case of Angela, Barbara deserves significantly *less* than twenty years of punishment. That is, we should at least agree that *Angela the Murderer*, with the Addendum, is a fusion case in which the fusion ingredients deserve significantly different punishments.

It is hard to say what to do in tragic cases like *Angela the Murderer*. I suspect that we can, however, make some progress by stepping back and thinking about overpunishing and underpunishing in cases that involve neither fusion nor division. Consider

Differentially Deserving. There are n people who each deserve twenty years of punishment and one person who deserves only fifteen years of punishment. For some reason, we cannot give everyone exactly what they deserve. We have to either punish no one at all, or else give everyone the same amount of punishment, X , where X is between twenty years of

punishment and fifteen years of punishment. We are again setting aside benefits that might come from punishing.

First, suppose that $n = 1$. (Later I will return to cases where n is greater than 1.)

There are different views we could take about what X should be in cases like *Differentially Deserving*. We could accept

Average Punishment. Since the reasons for giving each person a fitting punishment are equally strong, in cases where we must give each the same punishment, we should give each the average of what they deserve.

Average Punishment would imply that, in *Differentially Deserving*, assuming $n = 1$, X should be 17.5. Setting X higher than 17.5 would reflect the belief that there are stronger reasons to give the person who deserves twenty years a fitting punishment (that is, the punishment he or she deserves), and setting X lower than 17.5 would reflect the belief that there are stronger reasons to give the person who deserves fifteen years a fitting punishment. But since, on this view, there are equally strong reasons to give each a fitting punishment, X should be 17.5. Alternatively, we could accept

Weighted Average Punishment. Since the reasons for giving those who deserve less (or no) punishment a fitting punishment are stronger than the reasons for giving those who deserve more punishment a fitting punishment, in cases where we must give each the same punishment, we should give each a *weighted* average of what they deserve. In determining the average, greater weight is placed on what those who deserve less punishment deserve.

Weighted Average Punishment would imply that, in *Differentially Deserving*, assuming $n = 1$, X should be *less* than 17.5. How much less than 17.5? That depends on how much extra weight is placed on giving the less deserving of punishment (or the innocent) what they deserve. For example, some might accept something like Blackstone's Formula that "it is better that ten guilty persons escape than that one innocent suffer" (Blackstone 1915 [1765], 523). It is possible to claim that we should give *absolute* weight to giving the less deserving of punishment (or the innocent) what they deserve. That is, we could accept

Least Punishment. Since the reasons for giving those who deserve less (or no) punishment a fitting punishment are *absolutely* stronger than the reasons for giving those who deserve more punishment a fitting punish-

Does Division Multiply Desert?

ment, in cases where we must give each the same punishment, we should give each what the person deserving of the least punishment deserves.

Least Punishment would imply that, in *Differentially Deserving*, assuming $n = 1$, X should be 15. This view seems implausibly extreme. Moreover, independently of how intuitively plausible or implausible Least Punishment is, if defenders of Desert accepted it, their view would imply that it would virtually always be too risky to justifiably engage in punishment. This is because, whenever any punishment is carried out, there is virtually always some nonzero *risk* of giving someone more punishment than they deserve. But I assume that defenders of Desert do think—or at least would like it to be the case—that their view implies that in many cases it is *not* too risky to engage in punishment. For this reason, and because Least Punishment is implausibly extreme, I assume that defenders of Desert would wisely reject it.

In cases like *Differentially Deserving*, where $n = 1$, it seems defenders of Desert must choose between Average Punishment and Weighted Average Punishment.

So far, we have only been considering versions of *Differentially Deserving* in which $n = 1$. We can now ask what should happen as n increases. Both Average Punishment and Weighted Average Punishment imply that as n increases, X should increase. We might accept Average Punishment or Weighted Average Punishment in cases where $n = 1$, but deny these views in some cases where n is greater than 1. I will not explore all the possible views here. A rather modest view, which it seems defenders of Desert must accept, is:

Numbers Matter. There is some number n such that X should be greater than what X should be if instead n were 1.

If defenders of Desert denied this, they would be claiming that, in cases where,

- (1) we must give *an arbitrarily large number* of people who each deserve twenty years of punishment and one person who deserves fifteen years of punishment the same amount of punishment,

we should assign the same punishment, that is, the same size for X , as in cases where,

- (2) we must give *one* person who deserves twenty years of punishment and one person who deserves fifteen years of punishment the same amount of punishment.

But it seems hard to believe that if we accept Desert, X should be the same size in both (1)-cases and in (2)-cases. This would seem not to give due weight, or any weight, to the reasons for giving the extra people in (1)-cases who deserve more punishment their fitting punishments (twenty years). Since these are reasons that I believe defenders of Desert must claim exist, I believe that they cannot plausibly deny Numbers Matter. This concludes my discussion of overpunishing and underpunishing in cases that do not involve fusion or division.

Recall that, according to Desert Comparability, punishing a fusion product is, from the point of view of Desert, tantamount to punishing each of the fusion ingredients. With this in mind, consider two analogues of two claims mentioned above:

Average Punishment FUSION. The product of fusion deserves the amount of punishment that is the average of the amounts of punishment deserved by each of the fusion ingredients.

Weighted Average Punishment FUSION. The product of fusion deserves the amount of punishment that is the weighted average of the amounts of punishment deserved by each of the fusion ingredients. In determining the average, greater weight is placed on what those fusion ingredients who deserve less punishment deserve.

Next recall that Average Punishment, Weighted Average Punishment, and Numbers Matter apply to cases where we must either give each person the same punishment or give each no punishment at all. In fusion cases, we must do what is *desert comparable* to giving each of the fusion ingredients the same punishment or else giving each no punishment at all.³⁷ Desert Comparability thus implies that fusion cases are, in certain relevant ways, like cases where we must give each person the same punishment. Indeed, it seems that:

37. As already seen in the brief discussion of Fusion Divides Desert, this is why (again, at least in the relevant sorts of fusion cases) it would be implausible to *add up* the punishments of the fusion ingredients, in determining how much the fusion product ought to be punished. Below I discuss *Ordinary Fusion*, a case in which Angela deserves twenty years of punishment, Barbara deserves fifteen years of punishment, and they fuse into Carol (after the relevant HypnoRay3000 alteration of Barbara's mental life). It would be implausible to claim that Carol ought to receive thirty-five years of punishment. This is because giving Carol thirty-five years of punishment would be desert comparable to *both* giving Angela thirty-five years of punishment *and* giving Barbara thirty-five years of punishment, which would be significantly overpunishing each of them.

Does Division Multiply Desert?

- Average Punishment and Desert Comparability together imply Average Punishment_{FUSION}.
- Weighted Average Punishment and Desert Comparability together imply Weighted Average Punishment_{FUSION}.
- Numbers Matter and Desert Comparability together imply *Numbers Matter*_{FUSION} (illustrated below).

Suppose that *one million* murderers, who each deserve twenty years of punishment, fused with one murderer who deserves fifteen years of punishment. Assuming Desert, it seems implausible that the product of this fusion deserves only fifteen years of punishment. Even 17.5 years would seem too lenient. Further, let

P_1 = the product of the fusion of one murderer who deserves twenty years of punishment and one murderer who deserves fifteen years of punishment,

and let

P_2 = the product of the fusion of n murderers who each deserve twenty years of punishment and one murderer who deserves fifteen years of punishment.

It seems quite hard to deny the following modest claim about P_1 and P_2 :

*Numbers Matter*_{FUSION}. There is some finite number n such that P_2 deserves more punishment than P_1 . (I will assume that n is sufficiently large if it is at least one million.)

I believe we are now finally in a position to see that Division Multiplies Desert faces a potentially serious problem.

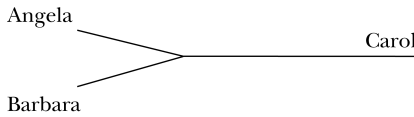
In *Angela the Murderer*, Angela deserves twenty years of punishment. But now suppose that Barbara was also a murderer and that she deserves fifteen years of punishment. Barbara's act of murder is deserving of less punishment than Angela's, we can suppose, because whereas Angela's murder was premeditated, Barbara's was more spur-of-the-moment. Also suppose, as we did in the Addendum, that Barbara's mental life was altered using a HypnoRay3000 to make it phenomenologically indistinguishable from Angela's mental life. Thus Barbara now has memories of, and attitudes about, Angela's act of premeditated murder that are phenomenologically just like Angela's; of course, these newly acquired memories of Barbara's are *false* memories—she now falsely remembers planning out the murder and embraces this premeditation as her own.

Even though Barbara’s mental life is now phenomenologically just like Angela’s, there is again a relevant causal difference. Barbara’s mental life is *partly* appropriately caused, as she has the memory that she committed murder because she committed murder. But her mental life is also *partly not* appropriately caused, as she has the memory that she committed murder *with premeditation* because of a HypnoRay3000 alteration. Angela’s current mental life, by contrast, is *wholly* appropriately caused. She has the memory that she committed murder with premeditation because she committed murder with premeditation.

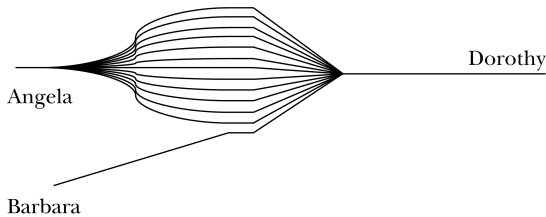
For these reasons, it is plausible that, whereas Angela deserves twenty years of punishment, Barbara deserves only fifteen years of punishment. At the very least, we should agree that Barbara deserves significantly *less* than twenty years of punishment.

Now compare *Ordinary Fusion* with *First Angela Divides*:

Ordinary Fusion



First Angela Divides



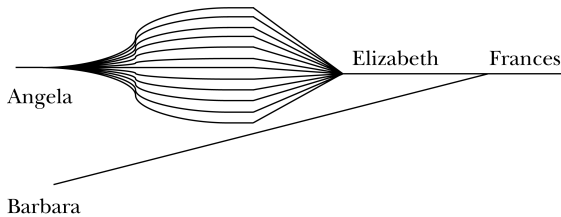
In *Ordinary Fusion*, Angela and Barbara fuse. The resulting person is Carol. In *First Angela Divides*, Angela divides into one million persons. (Diagram is not to scale.) Seconds later, these one million persons, and Barbara, fuse. The resulting person is Dorothy.

According to Division Multiplies Desert, each of the one million products of Angela’s division deserves twenty years of punishment. But then, according to Numbers Matter FUSION, Dorothy deserves more punishment than Carol. But this seems implausible.

Does Division Multiply Desert?

If Angela's division resulted in an increase in fault, by creating many more people who are vicious or who fail to repent, then it would not be as implausible to claim that Dorothy deserves more punishment than Carol. But here, as before, we are restricting our focus to cases of faultless division. Given this, it seems implausible that Dorothy deserves more punishment than Carol. Division per se cannot make this kind of difference. The following case reveals further evidence that Carol and Dorothy deserve the same amount of punishment:

First Angela Divides and Fuses



In *First Angela Divides and Fuses*, Angela divides into one million persons, which, seconds later, fuse. Call the product of this fusion Elizabeth. Then, seconds after that, Elizabeth fuses with Barbara. Call the product of this final fusion Frances.

Since Elizabeth should deserve the same amount of punishment as Angela,³⁸ Carol and Frances should deserve the same amount of punishment. (Because Carol is the product of the fusion of Barbara and Angela, and Frances is the product of the fusion of Barbara and someone—Elizabeth—who deserves just as much punishment as Angela.) Moreover, it seems plausible that Frances and Dorothy should deserve the same amount of punishment. After all, it does not seem to matter, morally, whether Barbara fuses with the products of Angela's division *while* they are fusing or *after* they have fused into Elizabeth. This, in turn, provides further support for the claim that Carol and Dorothy deserve the same amount of punishment. (Because Carol and Frances deserve the same amount of punishment.)

To avoid the implausible implication that Dorothy deserves more punishment than Carol, we must deny either Numbers Matter FUSION or Division Multiplies Desert. Numbers Matter FUSION, I claimed, is hard to

38. Recall *Killer's Division and Fusion*, presented in note 34.

deny if we accept Desert. This is because Numbers Matter is hard to deny if we accept Desert, and Numbers Matter and Desert Comparability together imply Numbers Matter_{FUSION}. We can now state the

Fusion Problem. We must deny either

- (i) Dorothy deserves no more punishment than Carol; or,
- (ii) Numbers Matter_{FUSION}; or,
- (iii) Division Multiplies Desert

Here are two possible solutions to the problem.

The first possible solution is that, while Numbers Matter_{FUSION} is plausible in less exotic cases of fusion in which the one million persons who each deserve twenty years of punishment did not result from division, it is implausible in cases like *First Angela Divides*. However, this solution seems implausible *if* it is true—as is implied by Division Multiplies Desert—that each of the products of Angela’s division *really* does deserve twenty years of punishment and that there is as much reason to punish each of them as there is to punish Angela. To avoid letting these many division products off too easy, we have to punish Dorothy more. Analogously, it would be implausible to deny Numbers Matter in versions of *Differentially Deserving* in which the large number n of persons who deserve more punishment are each products of the division of a single person who deserves more punishment.

The second possible solution is that, while Division Multiplies Desert is plausible in less exotic cases in which division is not followed seconds later by fusion, it is implausible in cases like *First Angela Divides* (in which division is followed seconds later by fusion). This solution implies that how much punishment is deserved by the products of Angela’s division depends on whether they will later fuse. But suppose we had the power to cram the equivalent of twenty years of punishment into a short span of time, such that we could punish the products of Angela’s division in *First Angela Divides* before they fuse. And suppose it is important that we carry out punishment within this critical window (perhaps because we will very soon lose the ability to punish at all). According to the second solution, we ought to punish the products of Angela’s division if we knew they would not later fuse, but we ought not to punish the products of Angela’s division in *First Angela Divides* (or we ought to punish them, but to a considerably lesser extent). This is quite implausible.

It is very puzzling that Dorothy should deserve any more punishment than Carol. But Division Multiplies Desert implies that, in *First Angela Divides*, each of Angela’s division products deserves just as much

punishment as she does. This generates a reason to do what is desert comparable to punishing each of these division products for twenty years. But this reason is absent in *Ordinary Fusion*. So, puzzlingly, we seem to have a reason to punish Dorothy more than Carol. There does not appear to be a non-implausible solution to the Fusion Problem: to avoid a contradiction, we must deny (i), (ii), or (iii). Denying (i) seems implausible, and it seems hard to deny (ii), at least if we accept Desert. We could instead deny (iii), Division Multiplies Desert. But as explained earlier, denying Division Multiplies Desert would require either denying Desert or denying Irrelevance of Others. But, as was pointed out in section 3, it seems implausible to deny Irrelevance of Others.

7. Rethinking Desert?

We began with *Killer*. Many believe that, at least in that case, I ought to be punished for what I did. Then we considered *Killer's Division* and the Multiplication Argument. The Multiplication Argument supports the following conclusion: three beliefs about desert are inconsistent. These beliefs are Desert, Irrelevance of Others, and Irrelevance of Division. If we do not imagine the right kinds of cases, or do not reflect carefully about them, we will not notice that these three beliefs are inconsistent. But, as my argument showed, they are inconsistent. We might have thought that we can defensibly deny Irrelevance of Division, while maintaining Desert and Irrelevance of Others. However, Desert and Irrelevance of Others entail Division Multiplies Desert. If we find the Fault Restriction plausible, we will resist Division Multiplies Desert, and we will perhaps find it repugnant that indefinite division would multiply desert indefinitely. But, I claimed, it seems that the Fault Restriction can be defensibly denied. However, if we accept Division Multiplies Desert, we might face serious problems in the context of personal fusion. In particular, if we accept Division Multiplies Desert, then we will have to implausibly deny either (i) or (ii) in the Fusion Problem.

I have done more, in this essay, than raise difficult questions about how to work out the *implications* of Desert in division and fusion cases. I might have done no more than this if, for example, the only puzzle raised here was about how or whether we ought to punish the fusion products of differentially deserving fusion ingredients. But I believe that, in addition to raising difficult questions about how to work out the implications of Desert, I have given us some reason to rethink Desert itself.

I have shown that, to maintain Desert, we have to deny either Irrelevance of Others, or (i) or (ii) in the Fusion Problem. Giving due weight to the independent plausibility of Irrelevance of Others and (i) and (ii) in the Fusion Problem yields at least *some* reason to rethink Desert. A *possible* conclusion to draw is that the division and fusion cases I have discussed here reveal the fact that we simply ought to deny Desert. It is not clear that this is the right conclusion to draw, but it does seem to be a mistake to claim that it is easily avoided, or avoided at no cost.

This conclusion could not plausibly be avoided, for example, by baldly stipulating that Desert *does not apply* to division and fusion cases. Such a restriction would itself violate Irrelevance of Others. *Only Lefty Survives* is a nondivision case. So Desert would imply that Lefty deserves punishment. But if Righty survived too, we would have a division case, and so Desert would no longer apply, and would thus not imply that either deserves punishment. That is implausible.

We could perhaps rethink and even deny Desert without giving up on other desert (lowercase “d”) views, according to which people deserve to be punished independently of, or on top of, the benefits that may result from punishment (for example, through deterrence).³⁹ Recall that Desert specifically claims that, other things being equal, when people culpably do very wrong or bad acts, they deserve punishment in the sense that they ought to be made worse off simply in virtue of the fact that they culpably did wrong, even if they have repented, are now virtuous, and punishing them would benefit no one. Focusing on a specific view like Desert, rather than desert views in general, made it easier to investigate how some desert considerations might play out in division and fusion cases. But the truth is that the conceptual landscape of desert is complex.⁴⁰ And the intersection of desert and division and fusion cases may thus be exceedingly rich. This essay reveals, at most, the tip of the iceberg.

Finally, personal division and fusion cases might not be puzzling only for Desert and its kin, but also for a wide variety of normative views that are relevantly bound up with personal identity; for example, views about the debts that persons owe to others, views about the just distribution of benefits and harms across separate persons, and views about

39. I am thus not counting utilitarian accounts of punishment as bona fide desert views. See, for example, Smart 1961 and Arneson 2003.

40. Shelly Kagan’s work is a testament to this fact (see Kagan 2012b).

special partial concern for oneself or one's intimates.⁴¹ While I am somewhat skeptical that analogues of the division and fusion puzzles I have discussed here will *threaten* all such views in the way I think they might threaten Desert,⁴² these remain early days. It is at least *possible* that carefully designed examples and arguments will reveal many views that share certain structural features with Desert to be implausible, or less plausible than they seemed prior to considering personal division and fusion.⁴³

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41. Jacob Ross (n.d.) and Tim Campbell (n.d.) have written excellent papers on the implications of fission and fusion cases for ethics. Ross's paper focuses on special concern, and Campbell's focuses on aggregation and the bearers of value. Their distinct and interesting puzzles are importantly structurally different from mine.

42. Perhaps, for instance, a "Divided Debt" view, according to which each of N division products would owe $1/N$ of the debt that their debtor ancestor owes to some debtee, would not be implausible in the way that Divided Desert (from section 3) is implausible. After all, if matters of luck, like whether a debtee spontaneously decides to forgive a debtor's debt, or whether a third party spontaneously decides to incur a debtor's debt, can plausibly reduce a debtor's debt (and winning the lottery can make it very easy to repay debt), then perhaps "division-luck," including how many "division siblings" a product of a debtor's division happens to have, can likewise plausibly reduce the debt owed by each of the debtor's division products. By contrast, luck cannot plausibly affect how much punishment a person *deserves* to suffer. This difference may explain why Irrelevance of Others cannot plausibly be denied, while its debt analogue might reasonably be denied.

43. This essay has a companion piece (Pummer, n.d.) titled "Fission, Fusion, and the Ethics of Distribution." In it, I argue that fission and fusion cases put serious pressure on two widely held views in distributive justice, or the ethics of distribution: that it matters how well off people are relative to others, and that it is easier to justify balancing benefits and harms that occur within the life of a single person than it is to justify balancing benefits and harms that occur within the lives of separate persons. I tentatively conclude that if we cannot resolve certain puzzles raised by fission and fusion cases, we might have reason to rethink the normative significance of the separateness of persons, and (more radically) we might have reason to claim that, while it matters whether there *are* more or fewer benefits and harms, it does not ultimately matter *who* receives them.

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Does Division Multiply Desert?

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