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Resource Egalitarianism, Prosthetics, and Enhancements

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Biography

Rhonda Martens is an Associate Professor at the University of Manitoba. Most of her work has been on the history and philosophy of astronomy, including the book, *Kepler's Philosophy and the New Astronomy* (2000). She has recently developed an interest in the ethics of cyborg technologies and is co-authoring a science fiction novel with her husband, Rodrigo Muñoz.

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Abstract

Theories of economic justice are concerned with how to divide up resources in a way that is fair. Many resource egalitarians believe that we should divide up resources unequally to compensate for certain types of differences in abilities between individuals. For example, resources may be required to retrofit old buildings with visual fire alarm systems for people who are deaf. Improvements in prosthetics and enhancement technologies (e.g., drugs to increase alertness or memory) could be used to address inequalities in abilities directly. The abilities we have are, to some extent, a matter of chance. Only some people have the ability to become musical virtuosos. Only some people have the ability to become Olympic athletes. Developments in prosthetics and enhancement techniques (e.g., drugs to increase alertness) promise to change chance to choice. As our ability to control our abilities increases, we need to consider whether this is a good idea. We also need to ask what our society should look like in order to promote a beneficial use of new technologies. These issues are complicated by the fact that many of our theories of justice rely heavily on the distinction between chance and choice. We hold people responsible for things they can control, and not for the things they cannot. This article considers a popular theory of distributive justice – Dworkin’s resource egalitarianism – and shows how it gives us the wrong answers to these questions. The problems raised by considering Dworkin’s theory points in the direction of what an adequate theory of justice needs to look like in order to accommodate developments in prosthetic and enhancement technologies.

Keywords

Human enhancement, Prosthetics, Justice, Dworkin

Introduction

Egalitarian theories of economic justice often concern themselves with the problem that individuals come into the world with different sets of abilities (natural resources). Some sets of natural resources are more advantageous in the social (including economic) world than others. Rawls referred to this as the natural lottery. Egalitarians like Dworkin and others propose that social resources be unequally distributed to offset inequalities in natural resources. The job, then, is to figure out how this distribution is supposed to work, which is a complicated and controversial affair. Buchanan, Brock, Daniels, and Wikler have proposed that prosthetic and human enhancement technologies have the potential to allow us to equalize natural inequalities directly, bypassing some of the controversies

involved in social resource distribution (2001, 69). It might seem that this solution would be a welcome one to resource egalitarians like Dworkin. But here's what Dworkin has to say about the possibility of being able to equalize natural inequalities directly:

That crucial boundary between chance and choice is the spine of our ethics and our morality, and any serious shift in that boundary is seriously dislocating. (2000, 444)

We are entitled to think that our most settled convictions will, in large numbers, be undermined, that we will be in a kind of moral free-fall, that we will have to think again against a new background and with uncertain results. (2000, 446)

Dworkin later clarified that the "moral free-fall" is a problem for how we apply our theories of justice to specific cases, but is not a problem for theories of justice generally (2004, 363). For example, if we hold people morally responsible only for outcomes they can control, and if scientific advances changes what we can control, then we will be responsible for more. The rule, 'hold people responsible for what they can control' has not changed, even though the cases to which it applies has.

I will argue that Dworkin is mistaken, that revisions to his theory are necessary not just because of the possibility of future technologies, but on the basis of currently available ones as well. Furthermore, it is my position that examples drawn from prosthetic and enhancement technologies are interestingly different from the usual examples used to motivate resource distribution principles. Exploring these examples will be instructive for determining the shape that we want our theory of resource justice to look like. I'll begin by discussing the role that the distinction between chance and choice plays in Dworkin's theory, as well as the intuitions that motivate this distinction. Next I will turn to an example of a currently existing technology, the cochlear implant, and how this connects with Dworkin's view. I'll briefly discuss a few other examples as well. Considering these cases brings up the issues of health care rationing, accessibility, and responsibility. I'll close with a discussion of what a theory needs to look like that takes these issues into account.

Option and Brute Luck

Dworkin's distribution principle relies on a distinction between option and brute luck, as follows:

Option luck is a matter of how deliberate and calculated gambles turn out . . . Brute luck is a matter of how risks fall out that are not in that sense deliberate gambles . . . Obviously the difference between these two forms of luck can be represented as a matter of degree, and we may be uncertain how to describe a particular piece of bad luck. (1981, 293)

For example, being born to parents who gamble away the grocery money is a matter of bad brute luck for the child, but bad option luck for the parents. For another example, a farmer may choose to plant a certain crop, and then have the bad luck of the weather disagreeing with that choice. This is a combination of option and brute luck. Brute luck, good or bad, can have social as well as natural causes. Dworkin lists being the victim of racism as an example of socially caused brute bad luck (2000, 445-446). For Dworkin, people are to be compensated for the results of bad brute luck but not bad option luck. We can see that the distinction between chance and choice plays a crucial role in his redistribution principle, and so moving the line between chance and choice will change how redistributions pan out.

Part of what motivates the distinction between brute and option luck is an interest in having a theory of distributive justice track our notions of responsibility. Some of the examples Dworkin uses – reckless gamblers, spendthrifts, lazy people – express a concern with free riders, people who do not contribute sufficiently to society but undeservedly benefit from it. Notice the language Dworkin uses in the following: “Why should the spendthrift be rewarded for hard work and frugality he never practiced, out of taxes raised from those who have in fact worked hard and been frugal?” (2002, 113).

A similar motivation might account for Dworkin’s answer to the “equality of what?” question. Dworkin proposes that we equalize resources. Others propose that we equalize wellbeing or welfare (e.g., Griffin 1986). Dworkin believes that welfare egalitarianism requires transfers that “would strike most people as unjust” (2004, 340). Consider the case of the lazy person who wishes also to be wealthy. This is an expensive preference. If we satisfy this preference, we do so at the expense of those who are not lazy or who do not wish to be wealthy. Dworkin’s preferred response to the problem is as follows: “Most lazy people have not chosen to be lazy, but they are free to overcome their laziness, even though they must sometimes make extra effort at the cost of “welfare” to do so” (2003, 193). As long as the lazy person was not deprived of resources, the fact that the resources are insufficient to meet his expensive preferences is not unjust according to Dworkin.

I'm going to make some assumptions for the purposes of this paper. I'm going to assume that we are all, if only for the sake of argument, sympathetic to the idea of resource egalitarianism. Namely, we ought to use social resources to compensate for inequalities in natural resources. I'm also going to assume that we are all, for the sake of argument, sympathetic to the idea that we are not obliged to carry the free rider. Finally, I'm going to assume a garden-variety notion of free will, where sense can be made of the idea that we can make choices at all and can be held responsible for those choices. The goal is to see the extent to which someone holding these assumptions can handle prosthetic and enhancement technologies. That said, it is also worth asking whether these are assumptions we should be holding, even for the sake of argument, but that is a subject for another paper.

One more preliminary matter before we get our examples. Anderson (1999, 295) raised a now well-known objection called the Harshness Objection. The basic idea is this. If someone freely chooses to drive irresponsibly, and freely chooses to not get medical insurance, then according to Dworkin's theory, we are not obliged to provide her with medical treatment if she gets into an accident. This seems harsh. There are several possible responses to the harshness objection. One is to simply bite the bullet by agreeing that it is harsh but that we are still not obliged to provide medical treatment. I'll call this the 'cruel but fair' response (and it is possible that nobody in the literature holds this position). Another response is to propose that we can give people moment-to-moment fresh starts (Fleurbaey 2005, 2008). The reckless driver made a bad decision in the past. We can forgive that, and work our distribution principles from this new moment, resetting the clock. A third is to point out that while we are not obliged to provide medical treatment, we can choose to do so anyways, for some other reason that has nothing to do with our distribution principle (e.g., charity or a trumping principle).

Prosthetics and Enhancements

In this section we'll discuss prosthetics and enhancements in very general terms, but later we will discuss the cochlear implant in a bit more detail. The details matter for justice considerations. For our present purposes, what prosthetics and enhancements have in common is that they can change an ability set that an individual has. I follow Silvers (1998, 101) in distinguishing between modes, levels, and functions of abilities.¹ For example, someone who is paraplegic can travel (function) using a wheelchair (mode)

1. Thanks to Catherine Gee for bringing Silvers' work to my attention.

at a certain pace (level). In the interests of space I will ignore the controversies around specifying normal functions, modes, and levels.

Our social structures and socially created physical structures are designed with certain assumptions about functions, modes, and levels. For example, it is assumed that we all have a flying disability, and so stairs are put in buildings with more than one story. There is a cost to retrofitting buildings and social structures to accommodate functions, modes, or levels that were not taken into account during the original construction. For example, one measure that could be taken towards integrating the Deaf and hearing communities would be to teach nearly everyone sign language. This would be a substantially expensive undertaking at this point in time (teacher retraining, a linguistic gap between those who grew up under the new educational system and those who did not, etc.), but would not be expensive to maintain once fully in place. Often the (initially) cheaper option involves training and using medical devices on individuals to normalize function, mode, and level as much as possible (see Silvers 1998 for a discussion of the dangers of normalization). The costs in this option are often individual rather than societal costs.

The resource egalitarian holds that these individual costs need to be compensated because it is a matter of brute luck that the individual needs to carry these costs in the first place. The problem I will discuss is what happens a prosthetic is introduced that produces (at least near) species-typical functions, modes, and levels. Let's consider a "magic" prosthetic, a future version of the cochlear implant that allows people who are deaf to hear at the same level as someone with species-typical hearing. Once that prosthetic is in place (successful adjustment after surgery), there are no further extra costs to the individual. He is no longer at a disadvantage in the social and economic marketplace. At that point, he no longer needs the compensatory resources reserved for people who are deaf.

So far resource egalitarian gives us intuitive answers for the person who is deaf as a matter of brute luck, and the person who exercises option luck to no longer be deaf. But there's at least one more possibility: the person who exercises option luck to remain deaf by refusing the cochlear implant. On Dworkin's resource egalitarianism, we are only entitled to compensatory resources in the event that our *brute* luck is bad. We are not entitled in the event that our *option* luck is bad. Prosthetics and enhancements change brute luck into option luck (at least to the extent that the prosthetic or enhancement works really well), so on Dworkin's view, the introduction of a new prosthetic or enhancement is an introduction of a new reduction in compensatory resources for those who opt out. The cochlear-refuser may still need the compensatory resources that she was entitled to before the invention of the implant, but now she is no longer entitled

to them. This seems harsh.² Furthermore, the cochlear-refuser is worse off than the person who is not a viable candidate for the cochlear implant. Deafness is still a matter of brute luck for the non-candidate, and so he is still entitled to compensation. Yet it is still the case that both of them are at a disadvantage in a society that assumes a hearing population. Dworkin's theory of distributive justice increases the difficulty of an already difficult decision. It reduces welfare, and in the case of prosthetics, it reduces welfare for an already vulnerable population.³

Perhaps Dworkin can insist on continuing to supply resources on the grounds of a cost-benefit analysis. There are always risks and costs associated with surgery and implants. Surely the risks and costs themselves can be compensated. However, surgical risks are only risks for those who choose to get the surgery. So this provides no grounds for supplying resources to the person who chooses to not get the surgery.

One thing that could be said is that being faced with this choice at all is a case of brute bad luck, and the choice is something for which we should compensate. After all, a hearing person doesn't need to consider whether or not to get the cochlear implant. This seems a possible middle ground, but it isn't clear to me that Dworkin's theory gives us the right results. Presumably it is less bad luck to be faced with the choice than to have no choice at all (the extra bad luck of losing compensation entitlements is introduced by Dworkin's theory!). So the invention of the cochlear implant would still reduce the amount of entitled compensation.

Let's consider a different kind of case. Pre-natal screening can sometimes allow parents to choose termination or continuation of a pregnancy in the event that the foetus is likely to have a costly condition. Suppose the parents choose to continue the pregnancy. The brute luck belongs to the child (and so the child is entitled to compensation if the brute luck is bad), but the option luck belongs to the parents. No compensation is owed to them, even though it will cost more to raise the child. This will put economic pressure on the parents to terminate.

2. Interestingly, the Canadian Academy of Audiology lists "a desire to be a part of the hearing world" as one of the criteria for being a viable candidate for the cochlear implant. <https://canadianaudiology.ca/consumer/cochlear-implants.html> [last accessed April 27, 2015].

3. It is worth pointing out that if a caretaker is refusing a cochlear implant on behalf of a child, then the nature of the luck for the child is brute. That child would still be entitled to compensatory resources. The problem arises when adults make decisions on behalf of themselves.

Suppose pre-natal interventions are available to produce genetic advantages beyond our current species-typical functions, modes, or levels (enhancements). If this becomes a widespread practice, parents who opt out of these interventions could find themselves with extra child-rearing costs (e.g., different schools, increased length of economic dependence due to a marketplace that assumes an enhanced workforce). Again, Dworkin's account does not give us the resources to justify compensating these parents because their luck was option. This puts economic pressure on the parents to enhance.

Physical Autonomy and Coercion

It seems pretty clear that two of the standard responses to the harshness objection misdescribe the cochlear example. It might be cruel but fair to let an unlucky gambler lose her home, but it seems just cruel to remove resources for a cochlear-refuser. The 'fresh start' view also runs into problems. The loss of a house through gambling is a single event in time. It makes sense to consider the possibility of a fresh start from that moment. But the choice of getting the cochlear implant remains an ongoing choice for someone who does not yet have it. Fleurbaey's (2005, 2008) fresh start view does not give unlimited chances. In the reckless gambler case, the gambler gets a fresh start only if she is committed to not gambling anymore.

One move Dworkin could make would be to allow his brute/option luck distinction to be trumped in certain circumstances. The cases we are considering (prosthetics and enhancements) involve modifying the body. Physical autonomy is very important, and is a viable candidate for a trumping consideration. We might be willing to agree that it is usually problematic to coerce someone to get a medically unnecessary surgery. Withholding resources on the grounds that a surgery would make those resources unnecessary seems coercive.

The coercion solution needs further work to help us out (more work than we have space for here). There is a sense in which coercion is unproblematically used on a regular basis (e.g., raising children or threatening potential criminals with incarceration). I'll follow Wertheimer (1987) and Ryan (1980) in viewing coercion as problematic if it involves violating a right or entitlement. On this view, if the cochlear-refusing person is being denied resources to which she is *not* entitled (which, on Dworkin's view, she wouldn't be), then we haven't established that coercion is a problem. But I'm quite uncomfortable with this result.

It's instructive to look at other cases of medical coercion. Recently California SB 277 was passed that requires school children to be vaccinated unless they have a medical exemption.⁴ Personal beliefs against vaccination practices do not count as a medical exemption, and so these personal beliefs can only be exercised if the child is home schooled. It is true that parents who do not wish to vaccinate their children are under tremendous social pressure. It is also true that it is a better thing to have the vaccines available than to relieve the social pressures on those who wish to opt out.

Interestingly, most of the rhetoric justifying the law focuses on the health consequences of the increasing numbers of unvaccinated children rather than on the economic costs of an outbreak.⁵ The claim to an obligation to vaccinate is based on potential harm done to others (e.g., the loss of herd immunity). This consideration does not apply to the cochlear implant. Deafness is not contagious. The issue instead has to do with our economic obligations, and it is harder to make the case that economic considerations trump physical autonomy.

Harshness and Health Care Rationing

I've suggested that it is harsh to deny compensation to the cochlear-refuser or the parent who refuses to enhance his child. But is it unjustly harsh? Perhaps the cochlear-refusers are analogous to those who are reckless with their health, thereby costing society money through their carelessness.⁶ "One man's freedom in health is another man's shackle in taxes and insurance premiums" (Knowles, 1977, quoted in Wikler 2004, 111). If we think in terms of the intuitions that motivate Dworkin's resource egalitarianism, the health-reckless are not entitled to the same coverage (although they might receive it for other reasons).

What makes harshness excessive? Some societies are harsh by necessity. Indeed, all societies are harsh to some extent. The rationale behind health care rationing is that our resources are always finite, and the money used to fund one medical project is money not used to fund another. This is an unfortunate fact, and we want to make these hard

4. http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_0251-0300/sb_277_bill_20150219_introduced.html [last accessed August 10, 2015.]

5. The CDC website states that "Vaccination Protects Your Family, Friends, and Community." <http://www.cdc.gov/features/ReasonsToVaccinate/> [last accessed August 10, 2015.]

6. Thanks to Sruthi Rothenfluch for raising this question.

decisions in the most ethical manner possible. Dworkin's distinction between brute and option luck gives us one way of providing a principle for how health care gets rationed.

Several critics of resource egalitarianism (e.g., Anderson 1999, Denier 2005) have pointed out practical problems as well as problems with what we want our relationship with the medical profession and the state to be like. It is intrusive and judgemental for a doctor to grill us on our lifestyles before deciding on whether to provide subsidized treatment (or any treatment at all). It is impractical (and intrusive and judgemental) for bus drivers to determine whether a blind person is not at fault for being blind before allowing the guide dog on the bus. Health care rationing is both an ethical and a practical problem, so it needs to be feasible. Rather than pursuing these points further, I will focus on disanalogies between those who refuse prosthetics/enhancements and those who are reckless with their health. We'll focus on the cochlear implant to make these differences clear.

One difference that is particularly relevant to how Dworkin discusses option luck is that the cochlear-refuser knows with certainty that he will remain deaf. He is hoping for a different compensation protocol. The reckless person, by contrast, is aiming big (and often failing). In the case of the gambler, the hope is a large sum of money for a small amount of effort, thereby bypassing the usual, more labour-intensive methods of making money. In the case of the heavy smoker, the hope is a lifestyle that defies probability. Nicotine is pleasurable. But it is a rare smoker who hopes to become sick (and there are more rapid and reliable ways to achieve this goal). Dworkin holds that we should be responsible for our gambles in order for our choice to gamble to be respected (1981, 294). Respecting and supporting liberty is an important part of Dworkin's theory. The issue for the cochlear-refuser is that the choice to refuse now comes with a socially imposed penalty, one that did not exist prior to the existence of the implant. Later we will discuss the significance of the social nature of the penalty.

Another difference has to do with our feelings about the characters used in examples. Anderson (1999), Denier (2005), Wikler (2004) and others point out that when justifying restrictions on health coverage to the reckless, examples are used that pander to our judgmental attitudes. Our society has harsh judgements on addicts, gamblers, and reckless drivers.⁷ The feeling is that they are behaving carelessly and maybe even callously

7. Ubel et. al. (1999) did a study that suggests that some people would deny health care to addicts regardless of whether the addiction caused the health problem or influenced the prognosis. Instead, it seems that some would deny health care on the grounds that addicts are not the sort of people worth saving. A troubling result indeed.

with our hard-earned resources. The example would not be so compelling if we instead pointed out that the risk of breast cancer increases significantly with the choice to delay having children, as well as the choice not to have children at all. It seems fairly clear from this consideration that we view delaying having children as a socially respectable choice that does not involve the careless treatment of group resources (Wikler (2004) uses this example). Furthermore, we would not want delaying or avoiding having children to be a choice available only to the financially well off. Similarly, refusing the cochlear implant or an enhancement also seems a respectable choice that does not involve carelessness. But on Dworkin's view, women who delay having children, cochlear-refusers, and gamblers are all making choices that increase the odds of having bad luck, and thus get treated the same.

Earlier I proposed that we assume for the sake of argument that we are not obliged to carry free riders. I'll follow Arneson (1982, 621-622) in defining free riding as involving a certain kind of reasoning, either explicitly or implicitly. The free rider observes that she will benefit more from a cooperative scheme if she does not contribute, and this observation is her reason for not contributing. While it is certainly possible that a cochlear-refuser might engage in this form of reasoning, it is not a necessary form of reasoning to come to the conclusion to refuse the cochlear. There are plenty of other reasons the refuser might have, and these reasons seem substantially more compelling than the free rider form of reasoning. Similarly, it is possible that a woman might decide to delay children *because* she'll be better off economically if she is childless *and* has health insurance to cover the increased breast cancer risk. It's possible, but would be a very surprising reason for making that decision. So the brute/option luck distinction allows us to avoid carrying the free rider, but it cuts a lot of other people off from compensation as well. It is too strict.

At least some of the considerations pertaining to health care rationing are beside the point. Perhaps the most important difference between the cochlear-refuser and the health-reckless is that while a smoker with lung cancer is sick, being deaf is not an illness. The resources in question are not for treating an illness, but rather are for navigating a society that assumes we can all hear. The issue is accessibility and discrimination rather than health care rationing. Granted, some of the same considerations for health care rationing hold for accessibility. Societies have limited resources, so complete accessibility for everyone may be economically unfeasible.

Accessibility and Direction of Responsibility

There is a growing philosophical literature on accessibility (e.g., Kelly 2013, Toboso 2011, Crossley 2003). I just want to focus on one accessibility issue here by making the following claim: to the extent to which social injustices rather than physical misfortunes render an ability set disabling, there is a stronger demand on society to take responsibility. It seems likely that Dworkin would agree with this claim. Consider what he says about other examples of socially caused brute bad luck:

We feel a greater responsibility to compensate victims of industrial accidents and of racial prejudice, as in both cases victims, though in different ways, of society generally, than we feel to compensate those born with genetic defects or those injured by lightning or in those other ways that lawyers and insurance companies call “acts of God.” (Dworkin 2000, 445-446)

Compensation is backwards-looking (compensation is for an event that occurred in the past), but it seems a friendly amendment to suggest that we also have a greater responsibility to *prevent* racism and industrial accidents. If this amendment is acceptable, then on Dworkin’s view, we should feel a greater responsibility to prevent prejudice against the Deaf community than we should to compensate a person for not having the pleasure of hearing Mozart. This seems right. Nonetheless, this sits uneasily with Dworkin’s view that society owes compensation only for the results of brute bad luck. Getting a cochlear implant is a choice that may allow someone to avoid experiencing societal injustices experienced by deaf people, but it is not right that society is now relieved of the obligation to rectify unjust practices against the Deaf. Indeed, it is ludicrous to suppose that discriminatory practices that target the Deaf are justified if the deaf person in question is a cochlear-refuser. It also does not seem right that the deaf person now has an obligation to get an implant in order to reduce the instances of injustice against her simply because she *can* choose to do so. I likewise would not recommend eliminating sexism by producing only all females or only all males (even if we developed a completely artificial means of procreation, and could produce only females or only males by a less controversial means than abortion). Our obligation is to stop being sexist rather than to stop being a target of sexism, and the obligation rests on the discriminator rather than the discriminated.

In the abstract, the direction of obligation in the case of discrimination is clear. What is less clear is what counts as discrimination, and who holds responsibility in real life situations. For example, the Ontario Human Rights Commission points out that Ontario

law does not require all buildings to have an alarm system with visual features. Most smoke detectors use sound as an alert (although a visual alert is starting to become standard). Ontario law also does not specify who is responsible for covering the cost of providing visual alert systems.⁸

Harshness, Choice, and Responsibility

Dworkin's distinction between brute and option luck is intended to track the distinction between outcomes for which we are responsible and those for which we are not. There are, however, reasons for thinking that choice doesn't always track responsibility. Suppose you receive a live video feed from a serial killer who shows you two captives and tells you that both will die if you do not choose one to die. You choose. While you might *feel* responsible, it seems reasonable to say that the moral culpability belongs to the serial killer alone. We can also generate examples in which there is no morally culpable agent. For example, if a field medic only has enough antibiotics to save one person, and two people need the antibiotics to live, then the field medic has a choice. There may also be no principled reason to choose between the two (neither was reckless, neither is going to go on to cure cancer, etc.). One person will die, and the choice of the medic determines which one dies, but the medic is not morally responsible for that death. It is simply unfortunate. Both of these scenarios are forced choice cases, where the options for producing a preferred outcome are unavailable.

The issue of forced choice also does not always track responsibility either. There are many forced choice scenarios where one does still have responsibilities. Indeed, under certain very harsh conditions that limit choices, responsibility may increase beyond what is normally reasonable. The military, police, firefighters, and survivors in a zombie apocalypse operate under dangerous forced choice scenarios with additional responsibilities. I like the zombie apocalypse scenario for how far it can push our intuitions. Also, some of the extra obligations of the military, police, and firefighters can be attributed to an agreement to take on these obligations, which might include an agreement to maintain a certain level of physical functioning. There is no such agreement in a zombie apocalypse. If it were the case that being deaf would make a person a liability to the survival of the group (and it might not because a deaf person might feel the vibrations of an approaching zombie herd before a hearing person might hear them), then the group might be warranted in

8. <http://www.ohrc.on.ca/en/human-rights-disability-and-accessibility-issues-regarding-visual-fire-alarms-people-who-are-deaf> [last accessed July 13, 2015]

pressuring the acceptance of an implant that would permit hearing, and the deaf person might have an obligation to accept the implant.

Similar considerations could hold for enhancements as well. I find it rather surprising that Liao, Roache, and Sandberg (2012) first argue vigorously for the seriousness of the problem of climate change and the potential that certain enhancements have for mitigating climate change, but then argue that the enhancements should be voluntary. If any situation warrants pressure to enhance, saving the world is it.

Consider a less dire scenario than the end of the world: the mean streets of New York in the 1960s. Given that Spider-Man had great powers, he had great responsibilities. But it isn't clear that Peter Parker had a responsibility to become Spider-Man in the first place. This suggests that the level of extraordinary obligations varies with the level of the severity of the situation. Perhaps in a doomsday scenario, Peter Parker would have an obligation to become Spider-Man.

Earlier we discussed the direction of obligation. Some of the scenarios listed above might be the result of misfortune rather than injustice (the zombie apocalypse might be an "act of God"). We could argue, however, that the climate change case involves injustice. This is a complicated claim involving collective responsibility, obligations to animals, obligations to future persons, lack of knowledge, and so on. But let's suppose we can make the case that some people can be held morally culpable for climate change. Even if we can do this, focusing only on those who created the problem might not provide a sufficient solution to the problem. In the climate change case, Liao, Roache, and Sandberg discuss options for modifying future generations. Obviously future generations did not cause the problem. This suggests that the direction of obligation can be trumped in dire circumstances when even the most strenuous redemptive actions of the culpable would not be sufficient to solve the problem.

A Few Comments on the Real World

Up until now we've discussed some future version of the cochlear implant. The current version is considerably less optimal. Since the cochlear implant involves a medical procedure, it comes with a variety of risks from the medical (infections, nerve damage, etc.) to the economic (e.g., if the manufacturer goes out of business, replacement parts may be difficult to find), and others (e.g., setting off theft detection systems).⁹ Other

9. The FDA has a list of benefits and risks: <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/ImplantsandProsthetics/CochlearImplants/ucm062843.htm> [last accessed August 11, 2015].

considerations include ensuring that the implant does not cause damage to the cochlea that would preclude the use of future, better technologies (Garud and Rappa 1994, 353). It needs to be upgradable. Furthermore, the cochlear implant does not automatically produce hearing, and therapy and education is generally required to support its effectiveness, and the effectiveness varies. The cost of the cochlear runs beyond the cost of the procedure and device itself. It is clear that the decision to get a cochlear implant is a difficult one that could profoundly affect welfare. We might be comfortable with agreeing with Dworkin that it is fine if the lazy person has to sacrifice welfare, but that approach is flippant in this context.

There are social controversies surrounding the cochlear implant as well. In response to social and economic difficulties (including prejudice), many deaf people have participated in the forming of communities, activist societies, and the construction of a Deaf culture. Cultural membership is an important part of identity. To be sure, wine aficionados form groups as well, but this identify-formation generally isn't a response to experiencing prejudice. Comparing the cultural membership of people with expensive tastes to the Deaf culture also seems flippant.

One of the more dramatic social controversies involved a petition to the court to override the decision made by Lee Larson, a deaf single mother of two deaf children. She was encouraged to consider cochlear implants for her children and decided against the procedure. She wanted them to experience Deaf culture for themselves and make their own decisions when they were older. She had to fight in court to have her decision upheld. Many Deaf activists provided vigorous support for Larson. Some of the grounds included protecting the Deaf community as a culture, arguing that deafness is not an illness, and arguing that deafness is not a disability per se, but a disadvantage in a hearing society (Ouellette 2011).

The arguments and motivations behind the Larson court case are interesting. Initially Larson was urged by the school to consider cochlear implants because the school did not have an ASL program. In court the State argued that using spoken language was required for the proper development of the language-processing sections of the brain. This argument was countered by the claim that visual languages also stimulate language-processing abilities (Ouellette 2011, 1248, 1251). The second argument is about the optimal development of the individual. The first argument is about the fit between the individual and society (normalization). It is at this point that we need to think about the direction of obligation.

We also need to think about welfare. Granted, Dworkin is against equalizing welfare, but presumably welfare is not something we want to ignore altogether. There are good reasons to not be too quick to coerce prosthetic use, especially if the focus is on normalization. One fairly obvious reason is that we often make mistakes despite the best of intentions. For example, in Canada, between 1961 and 1962, Thalidomide was available as a treatment for morning sickness for pregnant women. Unfortunately it crossed the placental wall, causing many serious side effects to the foetus (including death). One common side effect is phocomelia, where the limbs are shortened and often shaped like a flipper. The medical advice given to many parents was to outfit their child with prosthetic limbs. This was a focus on normalizing the mode of locomotion, but in many cases it led to a decrease in mobility (level) and an increase in pain (Silvers 114).

When it comes to enhancements, thus far we've talked about them as though we are thinking about some magical medical future. But in all likelihood, it is pretty clear that the various possibilities will not work the same for everyone. Buchanan, Brock, Daniels, and Wikler suggested that we address inequalities at their source, by reducing them rather than compensating for them (2001, 69). As the authors are well aware, however, this may be very difficult to do in practice. Only some will be viable candidates for enhancement treatments, only some will not experience problematic side effects, only some will experience the full benefits, and so on.

Concluding Remarks

My goal in this paper is to explore the extent to which Dworkin's theory has the resources to handle prosthetic and enhancement technologies. It does not. This raises the question of whether we can move towards a theory that can give us better answers while respecting the two sets of intuitions that motivate Dworkin's theory (we may not agree with those intuitions, but that is the subject for a different paper). On the one hand, we have an interest in levelling the playing field. On the other hand, we have an interest in avoiding funding the irresponsible, frivolous, careless, free-rider. We want society to live up to its responsibilities in generating a just society, and we want the individual members to live up to their responsibilities in contributing to society. The problem is that Dworkin's brute/option luck distinction does not fit the bill for allowing us to respect these two sets of intuitions when considering examples of prosthetics and enhancements. In contrast to the lazy and irresponsible, the welfare considerations of those deciding whether or not to get a prosthetic device or an enhancement do not seem at all frivolous.

The brute/option luck distinction does not give us a framework for determining whether individuals are behaving responsibly to the group in part because responsibilities vary with context (level of affluence/poverty of the group, direness of the problem that needs solving, etc.). These contextual matters are often independent of whether or not the individual had a choice to exercise.

In addition, the brute/option luck distinction does not map onto the desire to create a more just, less oppressive society. When an injustice is involved, the direction of obligation matters more than the brute/option luck distinction. Moreover, we want to think about the distinction between backward-looking approaches (compensation for injustices) and proactive approaches (preventing injustices).

Furthermore, real world cases make it clear that it isn't always obvious which course of action will decrease the need for compensatory resources. It also isn't obvious which course of action will increase welfare. If recommendations are put in place with a premature eye to decreasing the need for compensatory resources, this could have the disastrous result of decreasing welfare without actually relieving the economic situation.

We could replace Dworkin's brute/option luck distinction with something else. We could, instead, focus on socially responsible decision making, together with what kind of society we wish to create. Segall, for example, addresses socially responsible decision making by proposing that we "understand "brute luck" as the *outcome of actions (including omissions) that it would have been unreasonable to expect the agent to avoid (or not avoid, in the case of omissions)*" (2010, 20; emphasis in original).¹⁰ Segall emphasizes that this is about what society can reasonably expect, rather than what counts as reasonable behavior on the part of the individual (2010, 20). Obviously the issue of what counts as a reasonable or unreasonable expectation is a complicated discussion, but one worth having nonetheless. I am concerned about having this conversation in the context of resource allocation, however. It will raise again Anderson's (1999) and Denier's (2005) concerns about practicality, intrusiveness, and judgmentalism. The reason I am concerned is because determining allocations is a practical matter that requires that we reach actionable conclusions. Being mistaken is a serious matter in this context. Consequently, we need to have a further conversation about how to proactively reduce the harm potential of our mistakes (and we will make mistakes).

It is wise to think about this from the terms that Anderson sets up. She points out that the egalitarian literature has lost sight of the political agenda of addressing social injustices by focussing more narrowly on correcting for bad brute luck (1999, 288). If

10. Thanks to Martin Gunderson for bringing this work to my attention.

we focus on correcting for brute bad luck, our attention gets directed to the question of whether the luck is brute or option. If we follow Segall's redefinition of brute luck, then we'll focus on whether society can reasonably expect a certain choice. If, instead, we focus on addressing social injustices, one agenda that comes to the fore is that we need to pay attention to how society generates choices for individuals. This then influences what society can reasonably expect from individuals. Indeed, instead of thinking only about how to place economic pressure on individuals to encourage them to make responsible decisions, we could also pay attention to putting economic pressure on society to make it economically rational to reduce systems of oppression and to generate reasonable choices for its citizens.

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