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## The Medical Model, With a Human Face

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### 1. Introduction

Although it has been widely discussed for decades, there has never been a sustained defense of the medical model of disability. The purpose of this paper is to correct this deficit. The medical model, as I formulate it, defines a disability as an enduring biological dysfunction that causes its bearer a significant degree of impairment. I begin, in the next section, by outlining three desiderata for a theory of disability. Then, in Section 3, I explain the medical model's criteria for determining what counts as a disability, and show how it satisfies these desiderata. In Section 4, I respond to several potential objections to the medical model, while in Section 5, I contrast the medical model with the welfarist account of disability proposed by Guy Kahane and Julian Savulescu (2009; 2011). The welfarist account, I argue, faces insurmountable challenges and cannot be salvaged. In Section 6 I turn to Elizabeth Barnes's (2009a; 2009b; 2014; 2016; 2018) mere-difference view of disability. Although Barnes's account also faces a number of problems, elements of her view are, I believe, worth preserving.

I have two main goals in writing this paper. First, the medical model has been widely (if tacitly) adopted throughout the medical professions and throughout society at large, so it would be good to

have a clear explication and defense of the view available, in order to capture the prevailing sentiment about disability. Second, the medical model is often saddled with unnecessary baggage; many writers take it to be committed to saying that disability inevitably makes your life worse, or that society plays little to no role in the hardships that disabled people experience. I will argue that the medical model need not and should not take on either of these commitments. These changes leave us with an updated and improved version of the traditional medical model, an account of the nature of disability that's firmly grounded in the biomedical sciences but purged of any hint of ableist prejudice.

## 2. Desiderata for A Theory of Disability

There are three desiderata that we should expect any successful account of disability to satisfy.

The first and most important desideratum is extensional adequacy:

**Extensional Adequacy:** An account of disability should provide a set of criteria for determining what counts as a disability. These criteria should capture our informed, pretheoretical judgments about what traits do and do not qualify as disabilities.

Some physiological and psychological traits, like blindness, paraplegia, and autism, are paradigm examples of disabilities, while others, like being a woman, being white, or being short-tempered, are paradigm examples of non-disabilities. An account of disability should be able to classify all or virtually all paradigm cases correctly, sorting each into the appropriate category.<sup>1</sup> It's

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<sup>1</sup> Some accounts of disability advertise themselves as being ameliorative (Barnes 2016; Howard and Aas 2018; for background on the ameliorative project, see Haslanger 2000; 2005; 2006), as aiming to revise or reshape our conception of disability in order to advance important moral or political goals. How should we understand the ameliorative project in relation to the extensional adequacy desideratum? A first point is that a theory can be both ameliorative and extensionally adequate, if, for instance, it captures all of our pretheoretical judgments about who should be classified as disabled, but also claims that disabilities should be considered a valuable part of human diversity and a source of pride to the people who have them. My view is that this is what ameliorative accounts should aim for, that they should strive for extensional adequacy, even if they challenge the received wisdom about disability in other ways. To see why, consider what we would say about an ostensibly ameliorative account of disability which redraws the category to exclude blindness and paraplegia. It's difficult to see what valuable moral or political goal this would accomplish; to the contrary, it seems more like this account would be gratuitously insulting people with these conditions, denying a core aspect of their identity, excluding them from social groups organized around disability, and

less clear, antecedently, what we should say about some other conditions, like major depressive disorder or obesity. Whichever account of disability otherwise proves most successful will earn the right to determine whether we should think of these conditions as disabilities or not.

The second desideratum requires that our account of disability be genuinely explanatory:

**Explanatory Adequacy:** An account of disability should identify what features different disabilities have in common, and thereby explain what makes a disability count as a disability.

If we wish to understand disability as a unified kind, rather than as a heterogeneous collection of unrelated medical conditions, there must be some set of characteristics which disabilities (at least) typically share and which non-disabilities (at least) typically lack.<sup>2</sup> Identifying these shared features will provide us with insight into the nature of disability, into what grounds or explains various facts about disability, much as knowing that all atoms of gold contain 79 protons gives us insight into the nature of gold and explains its chemical properties. In order to satisfy the second desideratum, then, an account of disability must be able to identify what features disabilities have in common that distinguish them from non-disabilities.

The third desideratum, unlike the first two, is not purely descriptive. Instead, it imposes a social or ethical constraint on accounts of disability:

**Justifying Aid:** Developed countries devote immense resources to researching, treating, and accommodating disabilities, and to direct payments to people with disabilities. An account of disability should be able to explain why these expenditures are justified.

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threatening their access to aid and accommodations reserved for the disabled. So I suggest that achieving extensional adequacy is in fact an important component of the ameliorative project, that we cannot secure justice for people with disabilities unless we first correctly identify who those people are. Note that the examples given above illustrate the problems with a definition of disability that's too narrow, and so misclassifies genuine disabilities as non-disabilities; Section 5 highlights some of the problems facing a definition of disability that's too broad, and erroneously classifies non-disabilities as disabilities.

<sup>2</sup> I include the qualifier “typically” to accommodate views which conceive of disability as a property cluster kind. Property cluster kinds are defined by a collection of features that their members typically share, rather than by exceptionless necessary and sufficient conditions. For background, see Boyd (1988; 1991).

Here in America, the federal government spends hundreds of billions of dollars each year supporting people with disabilities in various ways. I, along with most of the rest of society, consider this money well spent.<sup>3</sup> Hence, if an account of disability has difficulty explaining why we should devote such vast resources to aiding people with disabilities, that spells trouble for the theory. Let's turn, now, to the account of disability which I believe is best-equipped to satisfy these desiderata, the medical model.

### 3. The Medical Model

According to Tom Shakespeare (2006: 15-19), the medical model of disability was first formulated by members of the disability rights movement to describe a collection of attitudes towards disability, common among medical professionals, which they found objectionable. As a result, while the literature on disability features much discussion of the medical model, it is seldom carefully defined, and even less commonly defended. More often it has served as a foil or contrast to the social model of disability favored by disability rights activists. Traditionally, the medical model conceives of disability as a type of pathology or dysfunction, and emphasizes the harm caused by the direct effects of disability (pain, limited mobility, and so on), while the social model focuses on the harms society inflicts on disabled people, through prejudice, discrimination, and a lack of accommodation.<sup>4</sup> I have

<sup>3</sup> According to a recent Harris Poll (Shannon-Missal 2015), 83% of Americans who are familiar with the Americans with Disabilities Act support it, a consensus cutting across all demographic and political lines. Programs that provide aid and treatment to people with disabilities, like Social Security Disability Insurance and Medicaid, are enormously popular with the general public as well (Schneider et al. 2019). Some disability rights activists quarrel with how this aid is presently distributed (some might also deny that accommodations should be considered a form of aid at all), and would prefer that we divert a larger proportion of this funding to accommodations, and less to other purposes. But, to my knowledge, all views represented in the literature on disability hold that the federal government should continue to spend hundreds of billions of dollars annually for the benefit of disabled people, however it is allocated, and whatever we choose to call it. The justifying aid desideratum requires that an account of disability explain why these expenditures are warranted.

<sup>4</sup> For background on the social model, see Oliver (1990; 1996), Goering (2015), Howard and Aas (2018), and Jenkins and Webster (2021). Although I do not have space to discuss the social model in much detail, I should say that it's not clear to me how big of a difference there really is between it and the medical model. One standard way of presenting the contrast is that the medical model claims that the negative effects of disability are primarily caused by the dysfunctional organ itself, while the social model claims that they're primarily caused by society (Wasserman et al. 2016). But the notion of a primary cause being employed here is at best obscure, and at worst incoherent. The great majority of hardships associated with disability arise

little interest in relitigating these timeworn debates here; the main thing I wish to preserve from the traditional medical model is the thesis that disabilities are, at their core, a dysfunctional condition of the individual's body.<sup>5</sup>

The version of the medical model I will defend is indebted to the work of Jerome Wakefield (1992; 1997; 2007), who has long argued that we should conceive of mental illnesses as harmful dysfunctions of the mind. A distinctive feature of Wakefield's account is that he defines dysfunction historically, in terms of the ways natural selection has shaped the human body and brain throughout our evolutionary history.<sup>6</sup> Although I do not wish to endorse Wakefield's account of mental illness, I follow him in thinking that we can only make sense of the cluster of concepts surrounding health, disease, and disability if we employ a historical notion of dysfunction.<sup>7</sup> Here, then, is what I take to be the best way of formulating the medical model:

**The Medical Model:** *F* is a disability if, and only if, *F* is an enduring biological dysfunction that causes its bearer a significant degree of impairment.

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from a complex interaction of individual and social factors, and I see no hope of sorting these into primary and secondary causes, if any sense can be given to these terms at all. I hope to address the relationship between the medical model and the social model further in subsequent work.

- 5 Some purists may insist that the view I am defending does not count as a version of the medical model, because it is not committed to the (implausible and confused) claim that society plays little to no role in the hardships disabled people experience. But the medical model has been defined so inconsistently and haphazardly over the years that its only truly essential commitment, so far as I can tell, is to understanding disability primarily as a biomedical phenomenon, one that falls within the purview of the life sciences, rather than as a social or moral phenomenon, like other accounts of disability do. For comparison, Fujiura and Rutkowski-Kmitta (2001: 72) write that the medical model's distinguishing feature is its “emphasis on the individual and focus on organ malfunction, anatomical loss, or other physical stigmata,” while Williams (2001: 125) understands the medical model as the approach that takes “the presumed biological reality of impairment [i.e. dysfunction] as its starting point.” Clearly, the view defended in this paper fits both of these descriptions.
- 6 This is sometimes known as the selected-effects account of dysfunction. It contrasts with Boorse's (1977; 1997; 2014) biostatistical model of dysfunction, which defines a dysfunctional organ as one that fails to make its statistically-typical contribution to survival and reproduction.
- 7 Griffiths and Matthewson (2018) defend the use of the historical notion of dysfunction in the philosophy of medicine from a number of common objections, although elsewhere they argue for a view that combines it with Boorse's biostatistical model (Matthewson and Griffiths 2017). Ultimately, while I favor a historical account of dysfunction, this is not one of the medical model's core commitments, and if a different way of understanding dysfunctions proves to be more successful in the long run, the medical model can just use that account instead.

The medical model claims that in order for something to count as a disability, it must satisfy three conditions: first, it must be enduring; second, it must be a biological dysfunction; and third, it must cause its bearer a significant degree of impairment.<sup>8</sup> Let's take a closer look at each of these conditions, in turn.

The medical model's duration condition is fairly straightforward. Heat stroke, a broken arm, and influenza do not normally qualify as disabilities, despite the fact that all three are biological dysfunctions and all cause a significant degree of impairment. The obvious explanation for why is that these conditions are too ephemeral to count as disabilities, and a genuine disability must be enduring.<sup>9</sup> Disabilities need not be permanent; a man who was blind for his first thirty years of life, before having his sight restored by a surgical procedure, once counted as being disabled but no longer does. We must also understand the duration condition broadly enough to include cyclical or recurring conditions like epilepsy and relapsing-remitting multiple sclerosis.

Next, the dysfunction condition. According to the historical or etiological account of functions that I favor, the function of an organ is whatever effect it was selected to produce by natural selection. More precisely, an organ has  $\phi$ -ing as a function iff that organ persists in a population (at least partly) because  $\phi$ -ing was favored in recent rounds of selection.<sup>10</sup> To illustrate, the function of the human eye is to see, because the reason why we today have eyes is that our sighted ancestors continually prevailed over their blind conspecifics in the struggle to survive and reproduce. By the same token, the function of the human heart is to pump the blood and oxygenate the body, because past members of our species

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8 I am using the term “impairment” here in approximately the same way it is used by the Diagnostic and Statistical Manual of Mental Disorders (APA 2013). Proponents of the social model often use the term differently, as a count noun, to mean an atypical condition of the body – roughly what I am calling a dysfunction. Also note that, because an effect can have multiple causes, to say that impairment is caused by a biological dysfunction does not imply that the impairment does not have other (perhaps social) causes as well.

9 One caveat: to count as a disability, a medical condition must be enduring due to factors which are, in some sense, endogenous. Dysfunctions which persist only because they're continually induced by the patient, or by some other party, do not qualify. For instance, a malingerer who repeatedly breaks and rebreaks her left leg each month to get out of work is not disabled (not, at least, so far as her leg is concerned), nor is a man who is in a constant state of cognitive dysfunction because he is dosed with mescaline each morning. I mean for this caveat to apply only to dysfunctions which are sustained by actions, as opposed to omissions. Clearly, if a woman with paraplegia has the option of going in for a surgery which would restore her mobility, but chooses not to, she should still be considered disabled.

10 This is the modern history version of the selected-effects account, adapted from Godfrey-Smith (1994). For background on functions, see the papers collected in Buller (1999).

whose hearts failed to pump their blood had an unfortunate tendency to die before propagating their genes. Dysfunctions can be defined in parallel to functions: an organ is dysfunctional iff it fails to produce an effect it was selected to produce. For example, a pancreas is dysfunctional if it fails to produce insulin, a human hand is dysfunctional if it cannot grasp or manipulate objects, and an immune system is dysfunctional if it attacks healthy tissue.

These concepts of function and dysfunction should be understood as both quantitative and dispositional. Quantitative, because the proper function of an organ often requires its output to meet or exceed some mathematical threshold (which might vary as a function of the organism's other characteristics, including size, age, and sex), as with the pancreas's production of insulin, or the ejection fraction of the heart's ventricles. Dispositional, because the proper function of an organ often depends on certain conditions obtaining elsewhere in the organism's body, or in the organism's environment. For instance, our eyes are capable of vision only in the presence of sufficient ambient light, our digestive tract can only extract nutrients from food on the condition that we've recently ingested some, and our feet can provide traction only on surfaces with a high enough coefficient of friction.<sup>11</sup>

The medical model's third condition is that the dysfunction must cause its bearer a significant degree of impairment, where a dysfunction causes impairment iff it makes it harder to satisfy the ordinary demands of life. By the ordinary demands of life, I mean the demands imposed by activities that almost everyone carries out as a matter of course; for adults, this will include tasks like cleaning and feeding oneself, attending work or school, running errands, maintaining social relationships, and performing basic upkeep on one's home or apartment. Impairment, so defined, can take on many forms, including pain, restricted mobility, problems with cognition or memory, social skill deficits, and difficulty navigating one's environment.<sup>12</sup>

Impairment does not, of course, occur in a vacuum; all impairment arises from a complex

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<sup>11</sup> Compare Boorse (1997) and Kingma (2014) on these points.

<sup>12</sup> I mean for this definition to exclude conditions causing infertility alone. We do not normally think of infertile people as being disabled; I suggest this is because we see conception and childbearing as extraordinary life activities, despite their immense importance both on a personal level and from the perspective of biology.

interaction of individual and environmental factors, and only a handful of dysfunctions would cause impairment under just about any conceivable social conditions. Hence, in order to determine whether a given dysfunction satisfies the impairment condition, we must first establish what environment should be used as the basis for assessment. Different choices of environment will have substantially different consequences for who counts as being disabled. For example, a profoundly deaf student at Gallaudet University may encounter few hardships so long as she remains on campus, but face serious challenges whenever she leaves the deaf enclave surrounding Gallaudet and enters the District of Columbia's hearing neighborhoods. This means that whether the medical model will classify the student as being disabled or not depends on whether we assess her level of impairment based on her interactions with the dominant hearing culture in our society, or if we instead measure her level of impairment in the environment where she lives, works, and goes to school.

This example illustrates the more general dilemma we face when determining whether the medical model's impairment condition is satisfied. Should we assess an individual's degree of impairment based on how she fares, generally and in the long run, in her interactions with mainstream society? Or should we instead focus on how much impairment the individual experiences in the environments that are typical for her, where she spends the great majority of her time? *Prima facie*, the second option may seem more promising, but it has two significant drawbacks. First, it has the unwanted consequence that disabled people who live in fully inclusive communities, like the deaf student at Gallaudet, no longer count as being disabled, and hence lose their eligibility for government aid and accommodations. Second, it would also lead to a high degree of instability in our classifications of disability, since what environments are typical for you will change each time you move or start a new job. This is not ideal; we would like for an individual's disability status to be more durable than this, if possible. So I suggest that the first option is the better one, that we should determine whether the impairment condition is satisfied based on the individual's level of impairment in her interactions with mainstream society.<sup>13</sup>

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<sup>13</sup> For similar reasons, we should also assess an individual's degree of impairment in the absence of assistive technology. A man with a missing leg clearly still qualifies as being disabled even if he owns a prosthetic limb



A further caveat is in order. In the interests of extensional adequacy, the medical model should also require that the dysfunction cause a significant degree of impairment even after the effects of prejudice and discrimination have been factored out. To see the need for this qualification, consider a society where people with heterochromatic eyes (i.e. eyes of mismatched color) are routinely persecuted as witches. In a society like this, heterochromia would meet all three of the medical model's conditions – it's permanent; it distorts facial symmetry, a key factor in sexual selection, and so counts as a biological dysfunction;<sup>14</sup> and being persecuted as a witch would undoubtedly cause a significant degree of social impairment. Consequently, without the added qualification, the medical model would sometimes classify heterochromia as a disability. But, intuitively, this seems like the wrong result: heterochromia is just too trivial and cosmetic to qualify as a disability, and it seems beside the point that having mismatched eyes might, in certain cultures, place you under suspicion of witchcraft. The lesson we should draw from this example is that in order to count as a disability, a dysfunction must cause impairment directly, so to speak, and not only by way of society's prejudice against the disabled.

It's worth noting that all three of the medical model's criteria are vague to a large degree. It's vague how long a condition must last to qualify as enduring, vague where the threshold falls between low-but-adequate function and dysfunction, and vague how much impairment a dysfunction must cause in order to be considered significant. None of this should worry us, however, for two reasons. First, disability is by no means unique in having vague boundaries. Compare other, familiar kinds like mountain or epidemic – how high must a rocky outcropping rise to qualify as a mountain? How many people must a disease affect before it reaches epidemic status? We do not demand absolutely precise definitions of many scientific kinds, and I see no reason why disability should be held to a higher standard. Second, any account of disability, when fleshed out in sufficient detail, is likely to be vague along many of the same dimensions. For instance, all theories of disability must be able to distinguish between genuine disabilities and medical conditions that are too short-lived to qualify, and there's not

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that, when attached, restores all or nearly all of his mobility.

<sup>14</sup> See Grammer and Thornhill (1994).

going to be any way of drawing this boundary that's at once both principled and sharp. We can impose a time cut-off by fiat if we wish, but wherever we choose to place this cut-off, it's guaranteed to be arbitrary, and no better than countless other choices we might have made instead. Should we require that medical conditions last exactly one year to qualify as a disability? Why not one year and one day? One year and two days? Arguably, imposing a time cut-off like this might even make an account of disability less plausible, just as we would find an account of tallness implausible if it featured a precise boundary separating the tall from the not-tall. Better to accept that some degree of vagueness comes, unavoidably, with the territory.<sup>15</sup>

Now let's see how the medical model fares with the desiderata outlined in Section 2. One of the medical model's chief virtues, I contend, is that it comes as close to achieving extensional adequacy as we can reasonably expect from any account of disability. While it's unlikely that any theory will succeed at perfectly capturing our intuitions, given the inherent messiness of folk-scientific concepts like disability, with few exceptions, our judgments of what traits count as disabilities really do seem to track the medical model's criteria. We can establish this by comparing pairs of traits which are nearly identical, save that one of the traits meets all three of the medical model's criteria, while the other fails to satisfy exactly one. To see how this works, let's start with the medical model's duration requirement. In order to test whether this is genuinely a necessary condition on disability, we can compare having your arm paralyzed for a decade with having your arm paralyzed for a day. Intuitively, the first of these ailments counts as a disability, while the second does not. Since the only difference between the two cases is how long the paralysis lasts, this shows that the medical model is correct in claiming that a trait must be enduring to qualify as a disability. Next, for the dysfunction condition, we can compare a man who has difficulty forming interpersonal relationships as a result of autism with a man who has difficulty forming interpersonal relationships because he's too self-centered to care about the needs and interests of others.<sup>16</sup> Clearly, the first man counts as being

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<sup>15</sup> Matthewson and Griffiths (2017: 461-462) make similar points.

<sup>16</sup> Here and in what follows, when I describe someone using colloquial terms like "self-centered," "short-tempered," and so on, the reader should assume that the individual in question does not have this trait due to an underlying medical condition.

disabled, while the second man does not. Finally, for the impairment condition, we can compare a woman who loses the ability to walk as a result of a benign tumor pressing against her spine to a woman with a similar tumor which does not constrain her mobility. Again, it's quite clear that the first woman should be considered disabled, while the second should not.

This argument shows that the medical model's three criteria are each individually necessary for a trait to count as a disability. Unfortunately, there's no comparably efficient test to determine whether they're also jointly sufficient. The only proof of this I can offer is the absence of counter-examples: I know of no paradigmatic non-disabilities which fully satisfy the medical model's criteria, and I challenge the reader to find one.<sup>17</sup>

The second desideratum outlined in Section 2 is explanatory adequacy. To understand how the medical model satisfies this desideratum, let's examine the properties described by each of the medical model's three criteria in greater detail. The medical model conceives of disability as a kind marked by the co-occurrence of two natural properties and one social scientific property.<sup>18</sup> Duration and dysfunctionality are natural properties, just like (say) the property of being arsenic, or the property of being a chimpanzee; they're built-in features of the natural world, in no way dependent on human values or interests. Duration is a fundamental physical quantity, while dysfunctionality is a biological property which is underwritten by the theory of evolution by natural selection and which plays an important role throughout the life sciences.<sup>19</sup> The property of causing a significant degree of impairment, on the other hand, has less of a claim to naturalness than these others, because our interest in it springs not from its role in a well-confirmed scientific theory, but from our concern for the welfare of our fellow human beings. This puts it on a par with other properties studied by the social sciences and by medicine, like the property of alleviating poverty, the property of being college-educated, or the property of causing depression.

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<sup>17</sup> There is one paradigmatic disability which likely fails to satisfy the dysfunction condition, and so serves as an apparent counter-example to its necessity – dyslexia. I discuss this further in the next section.

<sup>18</sup> There's a vast literature on natural kinds and natural properties that I cannot hope to do justice to here, but my thinking on this subject has been influenced by Quine (1969), Lewis (1983; 1986), Boyd (1988; 1991), Kornblith (1993), Laporte (2003), Ereshefsky and Reydon (2015), and Franklin-Hall (2015).

<sup>19</sup> See e.g. Fitzpatrick (2007) or Fahy and Dickey (2010).

We should also seek some assurance that the medical model makes disability a genuine kind, rather than an arbitrary or gerrymandered collection of properties. This is a simple matter, because we already recognize a biological dysfunction causing significant impairment as a kind, or something close to it: this is roughly the combination of properties picked out by the term “medical condition.” From here, it's natural to further distinguish medical conditions by their prognosis – either the condition is terminal, or it will remit in the near future, or it will endure for an extended period of time without remitting or causing death. In this last case, if the condition is enduring, we call it a disability. On the appealing hypothesis that any natural subdivision of a kind is itself a kind, this will suffice to establish disability's metaphysical credentials.

The last of our three desiderata is that a successful account of disability must be able to justify society's aid to the disabled. The medical model offers a compelling explanation for why the federal government should devote hundreds of billions of dollars annually to treating and accommodating disability: we have a primitive moral duty to aid those who face hardships as a result of compromised health, and disabled people qualify for this aid by virtue of experiencing significant impairment caused by a biological dysfunction. When I say that our duty to care for the sick and disabled is primitive, I mean that it can't be fully reduced to more general moral obligations, like our duty to promote the well-being of others, or our duty to aid the disadvantaged.

To illustrate, compare, on the one hand, people who experience impairment as the result of disabilities like paraplegia, deafness, or schizophrenia, and, on the other, people who lead more difficult lives because they're foolish, impulsive, or short-tempered. Most will agree that the conditions on the first list entitle one to aid and accommodations, while the traits on the second list typically do not. Why is this? The answer does not have to do with desert or responsibility: unintelligent people are not generally responsible for being unintelligent, and we do not withhold aid from paraplegics who brought about their own paralysis through reckless driving or misadventure. Nor does it have to do with remediability – schizophrenia and deafness are often more easily treated, with anti-psychotics or with cochlear implants, than a short temper or a lack of intelligence. So far as I

can tell, the only plausible answer to this question is that the conditions on the first list are all biological dysfunctions, while the traits on the second list are not. Hence, unless we accept that we have a primitive duty to assist those who experience impairment caused by a biological dysfunction, we will have trouble explaining the intuition that the paralyzed and deaf have a much better claim to our aid than the foolish and chronically angry.<sup>20</sup>

Existing accounts of the ethics of health care distribution struggle to get the right result here. For instance, Norman Daniels (2008: 155) claims that the distinction between function and dysfunction is merely “a focal point for convergence in our public conception of what we owe each other by way of medical assistance,” as part of the “fair terms of cooperation” we enter into with other members of our society. This cannot be correct, however, because the intuition that the sick and disabled have a stronger claim to our aid than the foolish and short-tempered persists even when we consider strangers living in remote countries or in the distant future, who do not, in any sense, belong to the same society as us. We believe that the sick and disabled are specially eligible for aid on a fundamental moral level, not just as a convenient focal point for public policy.

Some readers might still be skeptical: is it really plausible that biological dysfunctions have intrinsic moral significance, beyond the effects they have on our well-being? Do we really have a primitive duty to aid the sick and disabled that doesn't at some level reduce to a more general obligation to help others when they're in need? On their face, these questions seem troubling. But it's worth considering how we would respond to similar questions asked about other moral duties. For instance, suppose a utilitarian, or a proponent of some other reductionist program in ethics, were to ask us why we should think that keeping our promises is valuable for its own sake, and not just because of its effects on well-being. Or, alternatively, suppose she were to ask us why we should care about treating people the way they deserve to be treated, even if this doesn't make the world better off in the long run. How should those of us who aren't utilitarians reply to these questions?

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<sup>20</sup> Note that it does not follow from the claim that we have a primitive duty to aid the sick and disabled that we never have an obligation to aid those who experience other kinds of hardships. There may, in some cases, be good reasons for society to try to help them as well. But the justification for this aid would have to have a different moral basis than our aid for the disabled.

I take it the standard answer goes something like this: if you've made a promise to help someone, intuitively speaking, it's better to keep your promise to that person than to renege and help somebody else instead, even if both recipients would benefit equally from your assistance. Similarly, if one person is more deserving of your aid than another (perhaps because the second person is a serial killer, or a genocidal tyrant), then, intuitively, it's better to help the person who deserves it more, even if the same amount of well-being would be gained either way. Non-utilitarians see these arguments as sufficient to establish that our duties to keep our promises and to treat others the way they deserve to be treated don't reduce to a more general obligation to promote well-being. Given this, I see no reason why an equivalent argument could not be used to establish that our duty to aid the sick and disabled also resists reduction. Suppose you're faced with a choice between aiding a man who is experiencing impairment as the result of a disability, and aiding a second man who has a harder life because he's impulsive or short-tempered, and that your aid would benefit both men equally. Who should you help? I think almost everyone who considers this case carefully will have the intuition that the disabled man should be given priority. This suggests that a reductive account of our duty to aid the sick and disabled will be no more successful than a reductive account of promises, or of desert.<sup>21</sup>

Before moving on, there's one final feature of the medical model I wish to emphasize: it in no way implies that people with disabilities always, typically, or often have worse lives than people without disabilities. This doesn't follow from the dysfunction condition: one of your organs can fail to perform the function it was selected to perform without causing you any appreciable harm, as with ordinary cases of heterochromia (conceivably, some dysfunctions might even make your life better off, on balance). Nor does this follow from the impairment condition: to say that an individual experiences impairment just means that they have difficulty carrying out some everyday tasks unaided, and it's entirely possible to maintain a high level of well-being even if you rely on assistive technology,

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<sup>21</sup> In the end, while I do believe that our obligations to aid the disabled spring from a primitive duty to assist those with health problems, the medical model is not wedded to this claim, and it's possible there may be other rationales that will allow it to satisfy the justifying aid desideratum as well. The key point is that we feel a much stronger obligation to aid people with medical conditions than to aid those who experience other sorts of hardships, which suggests that biological dysfunctionality must be morally significant, whatever the underlying explanation for its significance turns out to be.

or the help of others, when carrying out some everyday tasks. The medical model's principal aim is to capture and explain our judgments of disability and non-disability – it just isn't in the business of prognosticating anyone's future happiness or quality of life. This is as it should be. Whether a particular disability tends to make your life worse is a complex empirical question which can only be answered by careful social scientific research into the lives of people affected by that disability, informed by their testimony. It cannot be settled by a definition.

#### 4. Objections to the Medical Model

In this section, I respond to a pair of objections Elizabeth Barnes (2016) has raised against the medical model, and discuss dyslexia as a potential counter-example to the medical model's dysfunction condition. Barnes's first objection (2016: 14) is that an account of disability couched in terms of biological dysfunction overgeneralizes: "there are many departures from normal functioning," she writes, "which are not disabilities."<sup>22</sup> She gives the example of the champion Olympic swimmer Michael Phelps, whose swimming prowess is partly the result of his unusually lanky body or "marfanoid habitus." Barnes suggests that, because Michael Phelps's physique is so abnormal, the medical model will classify him as being disabled. But this is clearly the wrong result: "[m]arfanoid habitus is not (by itself) a disability, even though it's a departure from normal functioning." Hence, according to Barnes, the medical model's criteria are not sufficient for a condition to count as a disability, which means the medical model falls short with respect to extensional adequacy.

Happily, the version of the medical model I have defended is not committed to saying that Michael Phelps is disabled. First, Phelps's physique, however unusual, is not dysfunctional in the sense outlined above – no organ in his body fails to perform the function it was selected to perform (not, at least, so far as I am aware). Second, Phelps's marfanoid habitus also does not cause him any evident impairment.<sup>23</sup> Since Phelps fails to satisfy two of the medical model's criteria, the medical

<sup>22</sup> Note that Barnes's objections are aimed at a version of the medical model where the function of an organ is understood non-historically, in terms of a species-typical or statistically normal contribution to survival and reproduction. The question of whether Barnes's objections succeed against their intended target would take us too far afield, so I will not discuss it here.

<sup>23</sup> Barnes (2016: 15) notes that individuals like Phelps with marfanoid habitus are at "higher risk of various

model does not classify him as being disabled after all, so Barnes's first objection is unsuccessful.

Barnes (2016: 15) goes on to suggest that the medical model might also wrongly classify homosexuality as a disability, and "it's a requirement of any successful theory of disability that it can distinguish between being disabled and being gay." But, upon scrutiny, this second objection fares no better than the first. Both the ontogenesis and phylogenesis of homosexuality are poorly understood (Bailey et al. 2016), so it's not clear at present whether we should see homosexuality as a biological dysfunction in the historical/etiological sense. What is clear, however, is that any impairment caused by homosexuality is solely the result of prejudice and discrimination; gay people do not have any difficulty satisfying the ordinary demands of life where they are not persecuted. So, even in the event that homosexuality does turn out to be a biological dysfunction, the medical model still will not count it as a disability for the same reasons it does not count heterochromia as a disability.

The most compelling objection to the medical model I am aware of is that it may fail to classify dyslexia (along with its sister disorders, dysgraphia and dyscalculia) as a disability. This is because literacy appears to have emerged too recently in our evolutionary history to have engaged natural selection to any significant degree; the ability to read and write is more likely a byproduct of our facility for processing spoken language.<sup>24</sup> If so, that would mean that a condition which impairs only literacy will not qualify as a biological dysfunction, and hence should not, according to the medical model, be considered a disability.<sup>25</sup> This is a serious problem, since dyslexia is a paradigmatic learning disability, and state and local governments spend hundreds of millions of dollars each year on special education for students affected by the condition. Consequently, if the medical model fails to classify dyslexia as a disability, that will count against its success in fulfilling both the extensional adequacy

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cardiac problems." This still will not be enough for the medical model to classify Phelps as disabled: a risk of dysfunction is not a dysfunction, and unrealized risks cause no impairment. The medical model would classify Phelps as being disabled only if he were presently experiencing persistent heart problems as a result of his physique – appropriately so, because he would then be disabled.

<sup>24</sup> We cannot say for certain that there's never been any selection for the ability to read and write, of course, especially over the past few centuries as literacy rates have risen dramatically around the globe. But it's worth considering how a proponent of the medical model should respond if, in the end, it turns out that literacy has never been targeted by selection.

<sup>25</sup> Kingma (2013) raises a similar objection against historical accounts of dysfunction in the context of mental illness.



and justifying aid desiderata.

I have two points I wish to make in response to this objection. First, I believe that the medical model has a compelling justification for denying that dyslexia is a disability, if indeed the language-processing regions of our brains were never selected for the ability to read and write. When we teach children literacy, we're demanding that their brains perform a task that they're not biologically prepared to perform, and when, predictably, a substantial minority of these children fail to carry out this task to our satisfaction, we pronounce them to be disabled. This strikes me as unreasonable, no different in principle than classifying incompetent driving or a poor aptitude for technology as disabilities. Literacy is so ancient and so ubiquitous that it's easy to mistake it for a natural function of the human brain, but we readily recognize driving and computer use as unnatural activities for humans to engage in, so we're far less inclined to see learning deficits in these areas as disabilities. And we can imagine a dystopian society that imposes even more unreasonable demands on its citizens, for instance, a society where everyone is obliged to master advanced calculus or to run ultramarathons, and a failure to do so causes significant impairment. I don't think there's any temptation to say that inhabitants of such a society who struggle to live up to its demands are disabled – advanced calculus and ultramarathons are just too remote from the evolved functions of the human body for this to be plausible. But it's not clear what principled difference there is between these outlandish-seeming cases and the classification of dyslexia as a disability in our own society. If we're unwilling to count a man who struggles with multiple integrals as disabled, on the grounds that human beings are not biologically prepared to learn advanced calculus, to be consistent, we must say the same thing about dyslexia as well. Hence, there are good theoretical reasons for thinking that the medical model is technically correct to exclude dyslexia and similar disorders from the ranks of disabilities.

That being said, the classification of dyslexia as a disability is well-established in medical practice, so it may make sense to grandfather the condition in as a disability, even if it does not, strictly speaking, meet all of the medical model's criteria. Still, I am wary that the same reasoning which today underwrites classifying dyslexia as a disability will someday be used to classify incompetent driving

and computer illiteracy as disabilities as well, when, intuitively, they are not. So we should resist granting any further waivers to the dysfunction requirement.

## 5. Comparison to the Welfarist Account

The choice of which account of disability we should accept is ultimately comparative, so it will be helpful to contrast the medical model with other prominent views, beginning, in this section, with Guy Kahane and Julian Savulescu's (2009; 2011) welfarist account of disability. Here is how Kahane and Savulescu (2011: 45) define the term:

**The Welfarist Account:** 'Disability' should refer to any stable physical or psychological property of subject *S* that leads to a significant reduction of *S*'s level of wellbeing in circumstances *C*, excluding the effect that this condition has on wellbeing that is due to prejudice against *S* by members of *S*'s society.

By a "stable physical or psychological property," Kahane and Savulescu mean any enduring trait an individual might have. To accommodate the wide range of competing philosophical accounts of well-being, they leave the meaning of that term open; for our purposes, we can make do with our rough, pretheoretical grasp of the concept. The variables *S* and *C* are intended to relativize the notion of disability to a specific person and a specific set of life circumstances – whether a trait counts as a disability or not depends, in Kahane and Savulescu's view, both on the person and the environment they find themselves in. To put this all in more familiar terms: according to the welfarist account, a disability is any enduring trait you have which makes your life significantly worse overall, given your circumstances, and once the effects of prejudice and discrimination have been factored out.

Kahane and Savulescu's account shares the medical model's duration condition, together with its caveat concerning the effects of prejudice. But it differs from the medical model in two important respects: first, the welfarist account lacks a dysfunction condition, and second, rather than requiring that a disability cause impairment, as the medical model does, the welfarist account instead requires

that a disability reduce your overall level of well-being.

Does the welfarist account satisfy the desiderata outlined in Section 2? The account does succeed, in a way, at meeting the explanatory adequacy desideratum: it provides a suitable rationale for why it makes the classificatory judgments it makes. Unfortunately, the classificatory judgments it makes are also wildly implausible, so the account fails catastrophically at satisfying the other two desiderata.

When it comes to extensional adequacy, the welfarist account is at once too strict and too permissive; too strict because not all disabilities make your life worse overall, and too permissive because not every stable property which reduces your well-being should be counted as a disability. For the first objection, consider that many people with paradigmatic disabilities – deafness and congenital dwarfism, for instance – report that their lives are just as fulfilling as the lives of non-disabled people, and would refuse to consent to a medical procedure to remove their disability, if one were available.<sup>26</sup> It's conceivable that some of these people may be mistaken about how their disabilities have affected their quality of life, but it strains credulity to suggest that every last one of them is wrong. Hence, because deafness and dwarfism do not uniformly make your life worse, the welfarist account will sometimes classify these paradigmatic disabilities as non-disabilities. Not only is this counter-intuitive on its face, it also makes the welfarist account's classifications seem gerrymandered and unnatural, since it entails that some deaf people are disabled while others are not, even when they live side-by-side in precisely the same environment.

This is only the beginning of the welfarist account's troubles. Since the account lacks a dysfunction condition, it allows any enduring trait that makes your life significantly worse to count as a disability. Being short, overweight, or unintelligent will all sometimes qualify, as will laziness, timidity, and irritability, along with just about any other character defect you can name. If being a woman makes your life significantly worse overall – due to recurring menstrual cramps, say – the welfarist account will then classify being a woman as a disability, and menstruation to boot. Likewise,

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<sup>26</sup> For deafness, see Tucker (1998); for dwarfism, see Little People of America's (n.d.) "Position Statement on Genetic Discoveries in Dwarfism."

if having white skin and living in Miami causes you frequent sunburn or skin cancer, then being white is for you a disability. Indeed, by the welfarist's lights, virtually all of us will turn out to be disabled, and the great majority of will count as being disabled many times over.<sup>27</sup>

The welfarist account's problems with extensional adequacy ramify when it comes to justifying aid. From the welfarist perspective, the way that society currently allocates resources to people with disabilities makes little sense. Rather than wasting money on sign-language interpreters and closed captions for deaf people who are not harmed by their lack of hearing, and so do not, according to Kahane and Savulescu, count as being disabled, our society should instead be funneling aid to people with real disabilities, that is, to menstruating women and short-tempered buffoons. And surely some of the resources currently earmarked for retrofitting buildings to make them wheelchair accessible would be better spent installing escalators and moving walkways to accommodate the lazy, spoiled, and indolent among us. In sum, because the welfarist account has such bizarre implications about what traits count as disabilities, it has no hope of justifying government expenditures on disability in anything like their present form.

Kahane and Savulescu (2009: 16) acknowledge that their account has untoward consequences. "The welfarist account is revisionary," they write, "[I]t preserves some aspects of the existing concept, and rejects others. As such, it faces a number of objections. The way it departs from common use will sometimes run against people's intuitions." But, they argue, our existing notion of disability is so deeply defective that their account should be preferred, even if it does fare poorly with the extensional adequacy and justifying aid desiderata. It seems to me, however, that roughly the reverse of this is true: the medical model of disability I have defended gives us a perfectly serviceable account of the concept, while Kahane and Savulescu's revisionary theory, which counts race, sex, and character defects as disabilities, which makes the great majority of us multiply disabled, and which would have us redirect federal funds from the deaf and blind to the lazy and vicious, is of little conceivable use to

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<sup>27</sup> I suspect that any account of disability which dispenses with the dysfunction condition will encounter many of the same problems, which should help to underscore just how important the condition is for satisfying the extensional adequacy desideratum. Gregory (2020) raises similar objections to the welfarist account.

anyone.

## 6. Comparison to Elizabeth Barnes's View

Elizabeth Barnes, in a series of papers (2009a; 2009b; 2014; 2018) and a book (2016), has defended what she calls a mere-difference view of disability. Barnes's mere-difference view, unlike the medical model and the welfarist account, is not primarily concerned with supplying a set of necessary and sufficient conditions for determining what counts as a disability. Rather, the core of Barnes's view, as I understand it, consists in the following claim:

**The Mere-Difference Thesis:** Disability does not, in general, make your life significantly worse (or better) overall, once the effects of prejudice and discrimination have been factored out.

Barnes (2014: 93) combines this with four additional theses about disability:

- (a) Disability is analogous to features like sexuality, gender, ethnicity, and race.
- (b) Disability is not a defect or departure from “normal functioning.”
- (c) Disability is a valuable part of human diversity that should be celebrated and preserved.
- (d) A principal source of the bad effects of disability is society’s treatment of disabled people, rather than disability itself.<sup>28</sup>

A first thing to notice is that, apart from (b), the medical model does not require us to reject any of these claims. The medical model does not have any implications about whether disability makes your life worse overall, whether disability is a valuable part of human diversity, or whether society mistreats people with disabilities. It simply addresses a different set of issues. As it happens, I

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<sup>28</sup> Barnes adds that proponents of a mere-difference view need not be committed to all of (a) through (d).

wholeheartedly agree with Barnes's theses (c) and (d), although I stress again that this is not a consequence of the medical model – it's just my own considered opinion on the matter.<sup>29</sup>

Thesis (a) is true in part and false in part. Disability is analogous to race and sex in the sense that people with disabilities face entrenched prejudice and discrimination in modern society, and their rights and privileges need to be protected with special vigilance. But on a biological level, there are important differences between disability, on the one hand, and race and sex, on the other. Sex is an adaptive polymorphism; in our species, the ratio of men to women is kept very near to parity by the continual operation of natural selection.<sup>30</sup> The diversity of human skin color, meanwhile, is an adaptation for handling the different levels of sun exposure that our ancestors encountered while living at different latitudes along the Earth's surface. Disabilities, in contrast, are not the product of natural selection at all. They're dysfunctions caused by mutations and genetic drift, or by damage to bodily tissue sustained over an organism's lifespan. This difference is crucial and should not be elided; as I've argued in previous sections of this paper, it's part of what makes conditions like blindness and paraplegia count as disabilities, and distinguishes them from non-disabilities like being white or being a woman.

Thesis (b), on the other hand, is straightforwardly false, as a matter of biological fact. The function of the eye is to see, because the eye was selected to see; an inability to see is *ipso facto* dysfunctional, and similarly for other disabilities. Ascriptions of function and dysfunction like these are a central achievement of contemporary evolutionary theory, and a part of everyday scientific practice throughout biology and medicine. Hence, for those of us who make a policy of deferring to natural scientists as authorities in their areas of expertise, the suggestion that typical disabilities do not count as biological dysfunctions is a non-starter. So we should reject (b), and proponents of mere-difference views, if they are wise, will discard it as well.

In light of the restrictions imposed by these five theses, Barnes (2016: 46) proposes the

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<sup>29</sup> More cautiously: for (c), I believe that if members of (say) the deaf community wish to preserve their disability by intentionally conceiving deaf children, they should face no opprobrium for doing so. See the famous case described in Mundy (2002).

<sup>30</sup> The *locus classicus* for this claim is Fisher (1999).

following definition of disability, which she intends to fulfill the extensional and explanatory adequacy desiderata:

A person, *S*, is physically disabled in a context, *C*, iff

- (i) *S* is in some bodily state *x*
- (ii) The rules for making judgements about solidarity employed by the disability rights movement classify *x* in context *C* as among the physical conditions that they are seeking to promote justice for.<sup>3132</sup>

In Barnes's view, what determines whether a bodily state counts as a disability is whether it's one of the conditions that the disability rights movement seeks to promote justice for – or, more precisely, whether it's one of the conditions that they would seek to promote justice for, if they applied their own principles diligently and fairly. Because Barnes's definition makes the extension of the kind disability depend on the disability rights movement's solidarity judgments, it treats disability as a social construct, rather than as a biomedical phenomenon.

Whether this definition satisfies the extensional adequacy desideratum is not immediately clear, since the rules mentioned in (ii) depend on the solidarity judgments of the entire disability rights movement, taken in aggregate, and Barnes does not think it will be possible to spell these out in terms of precise necessary and sufficient conditions. I suggest, however, that Barnes's definition of disability

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<sup>31</sup> While Barnes's account combines this definition with the five theses listed above, in principle these components of her view are separable, and someone could accept her definition while rejecting her other claims about disability, or vice versa.

<sup>32</sup> Note that Barnes intends for this definition to be rigidified around the present-day disability rights movement in the actual world. In other words, whether someone counts as being disabled in the past, the future, or in counterfactual circumstances is supposed to depend on what the actual disability rights movement today believes, not on what they did, will, or would believe. This maneuver is needed to forestall obvious counterexamples. Suppose, for instance, that disability rights activists a century hence implement a rule excluding paraplegia from their conception of disability. Would this make it the case that people with paraplegia living in the 22<sup>nd</sup> century do not count as being disabled? No; if this scenario came to pass, the future disability rights movement would simply be mistaken. The unrigidified version of Barnes's definition gets the wrong result here – it defers to the disability rights movement's rules no matter how outlandish they become. The rigidified version, in contrast, does not have this problem.

will succeed at capturing our judgments about what conditions count as disabilities only to the extent that it ends up being parasitic on the medical model, that is, only insofar as the classificatory rules employed by the disability rights movement turn out to be more or less equivalent to the medical model's criteria. We saw in Section 3 that each of the medical model's criteria is indispensable for extensional adequacy, so wherever it and Barnes's definition come apart, Barnes's definition is liable to fall into error.<sup>33</sup> This means that the best outcome Barnes can hope for is that members of the disability rights movement are themselves tacitly committed to the medical model. At minimum, this is an uncomfortable result for Barnes's account, since it suggests that the constructivist component of her definition is unneeded. If members of the disability rights movement are just going to apply the medical model's criteria to determine what counts as a disability in any case, why add the extra step of defining disability in terms of their attitudes? Surely, as a general methodological rule, we should prefer a realist account of a kind to a constructivist one, other considerations being approximately equal.

For an analogy, take terminal illness. Suppose that just about everyone, including both medical professionals and activists for the rights of the terminally ill, understands a terminal illness as a biological dysfunction that will cause the patient's death in the near future. Would it make any sense, under these circumstances, to define terminal illness in terms of the activists' solidarity judgments? It seems to me that the answer is no. If a realist account of a scientific kind is available, it's hard to see the motivation for rejecting it in favor of a constructivist account with the same extension. Constructivism is more appropriate for phenomena like race or gender, where it's questionable whether there's a scientifically-legitimate kind anywhere in the vicinity of our folk concepts. It's not needed for disability, since disability, like terminal illness, is a proper object of study for the medical sciences.<sup>34</sup>

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<sup>33</sup> To be clear, Barnes (2016: 10) explicitly endorses the extensional adequacy desideratum, so I am only holding her to her own standards here.

<sup>34</sup> This claim was defended in Section 3, where I argued that both terminal illnesses and disabilities are natural subdivisions of the more general class of medical conditions: a terminal illness is a medical condition that will cause the patient's death in the near future, while a disability is a medical condition that endures for a long period of time without remitting or causing death. Since medical conditions in general are a proper object of study for the medical sciences, it follows that the major subdivisions of the class of medical conditions,



Barnes's account does have one major problem with extensional adequacy, even if it otherwise turns out to be extensionally equivalent to the medical model: she intends it to apply only to physical disabilities (2016: 2-3), and explicitly excludes psychological and intellectual disabilities from consideration. She introduces this restriction on grounds of simplicity, writing:

The task of saying what (if anything) disability is, or what its connection to well-being is, gets complicated enough given the heterogeneity of things we classify as physical disability. Including cognitive and psychological disability in the mix increases that complexity (and heterogeneity) exponentially.

As it happens, this restriction is somewhat more important to Barnes's account than she recognizes – it's needed to preserve the mere-difference thesis from refutation. Consider mental illnesses like major depression, anorexia, and schizophrenia. It is not, I think, terribly plausible that these are all mere differences that make your life no worse overall.<sup>35</sup> Hence, if Barnes's view were extended to include psychological conditions like these, the mere-difference thesis would likely come out false, since all three illnesses are quite common, especially depression, which has a lifetime prevalence as high as 20% in the United States (Hasin et al. 2018). Barnes, in other words, has boxed herself in; her commitment to the mere-difference thesis makes it impossible for her to give an adequate account of disabilities affecting the mind.<sup>36</sup> This means the medical model, which is better able to classify paradigmatic psychological disabilities like autism and Down syndrome as disabilities,

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including disabilities, will be as well. None of this is to deny that disability also has important social and psychological dimensions, and that these will often fall under the purview of other disciplines, particularly sociology.

35 For reference, the DSM-5 (APA 2013: 160-161) criteria for major depressive disorder include "depressed mood," "markedly diminished pleasure in all, or almost all, activities," and "feelings of worthlessness or excessive and inappropriate guilt." If feeling sad, guilty, and worthless all of the time does not significantly reduce your well-being, it's difficult to imagine what could.

36 I should note that, of these three psychological disorders, only schizophrenia is what I would consider a paradigm disability. So Barnes could partly avoid this problem by denying that major depression and anorexia should be considered disabilities, without seriously harming her ability to satisfy the extensional adequacy desideratum, which only requires an account of disability to get the right results about paradigm cases.

has a large comparative advantage in extensional adequacy over Barnes's mere-difference view.<sup>37</sup>

The biggest difficulty for Barnes's view, however, arises in connection with the justifying aid desideratum, because it's not obvious why our society should spend as much money as it does treating and accommodating disabilities if they are indeed mere differences. For the medical model, society's duty to aid the disabled flows from our more general obligation to assist people with health problems, but, as we saw in Section 3, we have no comparable duty to aid the merely different. If Barnes rejects the medical model's thesis that disabilities are biological dysfunctions, what is it about people with disabilities that makes them eligible for special treatment?

It seems to me that the most plausible response available to Barnes is that our obligation to aid the disabled stems from society's duties to ensure that the basic human needs of its citizens are met, that they're able to participate as equals in civic life, and that they have equal access to opportunities in education and employment. I do not think that this will be enough, however. Suppose that a recent amputee is on the market for a prosthesis, and Medicaid can either pay for a cheap model that will allow the man to get around with moderate difficulty, or it can spend a little more for a state-of-the-art prosthesis which will fully restore the man's mobility.<sup>38</sup> I believe that Medicaid should be willing to underwrite the high-end model, unless the cost is truly prohibitive. And I think this is so even if the cheaper prosthesis would still ensure that the man's basic human needs are met, allow him to participate as an equal in civic life, and offer him unfettered access to opportunities in education and employment.<sup>39</sup>

There's only one viable justification I can see for why Medicaid should be willing to pay for the

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37 Howard and Aas (2018: 1127) also criticize Barnes's account for its handling of psychological disabilities. Barnes's assumption that there is a clear distinction between physical and psychological disabilities is open to challenge as well. Many disabilities, like Down syndrome, have both physical and psychological features, and often the distinction between the two types of disability appears to be more conventional than scientific, a product of our limited understanding of the brain's higher functions. Compare Murphy (2006: 53-60) on these points.

38 I am alluding here to real events; in 2015, the Center for Medicare & Medicaid Services proposed cost-saving restrictions on Medicare reimbursement for prosthetic limbs. The proposal was retracted after an outcry by advocacy groups and prosthetics manufacturers (Dickson 2015).

39 Begon (2021: 954-956) considers a similar objection to her own view, which conceives of disability as an inability to perform those tasks that we're entitled to be able to perform, as a matter of justice, due to an impairment of bodily functioning. Begon ends up biting the bullet and accepting that her account has counter-intuitive consequences on this score, so she cannot offer much help to Barnes.

more expensive prosthesis: when one of our fellow-citizens is experiencing impairment as the result of a biological dysfunction, we have an obligation to finance care that will restore him as nearly to full health as possible. But this reasoning requires us to think of disability in terms of dysfunction, so it's not available to proponents of a mere-difference view. This case illustrates a more general problem for Barnes's account: a significant fraction of the federal government's medical spending on people with disabilities exceeds the level needed to ensure their basic needs are met, that they are able to participate as equals in civic life, and that they enjoy the same access to opportunity as the rest of the population.<sup>40</sup> The medical model has a ready explanation for why this aid is justified, while Barnes's view does not.

To recap, I've identified four potential objections to Barnes's account of disability:

1. Barnes rejects the notion of a biological dysfunction, despite its wide use throughout biology and medicine, which naturalistically-oriented philosophers will see as an inappropriate encroachment on territory belonging to the sciences.
2. In order to achieve extensional adequacy for physical disabilities, Barnes's definition of disability must parasitize the medical model's criteria, which calls into question whether a constructivist account of disability is really needed.
3. Barnes's view can't be extended to include psychological disabilities without compromising the mere-difference thesis, which means that it leaves out a large number of paradigmatic disabilities, including Down syndrome and autism.
4. Because it conceives of disabilities as mere differences rather than as biological dysfunctions, Barnes's view has trouble justifying society's aid to the disabled.

Note, though, that most of these points of disagreement concern the concept of a biological

<sup>40</sup> This is not to say that federal funding for people with disabilities does not fall short in other respects; undoubtedly it does. One well-known example of this is the asset limit for Supplemental Security Income (SSI): according to the Social Security Office of Policy (n.d.), under current law, if a disabled person manages to save up more than \$2,000 in her bank account, she loses her eligibility for SSI payments. Incredibly, the \$2,000 limit was set in 1984, and has not been adjusted for inflation since.

dysfunction and its relationship to disability. This means that there's no real conflict between the medical model and the social and political dimensions of Barnes's view, which, I take it, are its most central commitments. This is good news on all fronts. It's good news for Barnes, since it suggests that the core of her account is compatible with a robustly scientific definition of disability, one that's already been adopted throughout the medical professions, as well as by the general public.<sup>41</sup> It's equally good news for the medical model, since it shows that it can be separated from the ugly and retrograde political views that have often been associated with it in the past. Proponents of the medical model can happily take on board Barnes's claims that disability is a valuable part of human diversity, that many disabled people are harmed more by discrimination, prejudice, and a lack of accommodation than by the direct effects of their disability, and that disabilities can be a source of pride for the people who have them. Although the medical model has historically served as a *bête noire* for disability rights activists, time brings change, and I suggest that today there is nothing stopping us from combining a biomedical perspective on the nature of disability with the social and political goals of the disability rights movement.

## 7. Conclusion

The medical model has long been seen as rooted in bigotry against disabled people, or as a tool of their oppression. Stripped of its outdated baggage, however, it becomes clear that the medical model not only offers us a scientifically-informed account of disability, one that fares better than a pair of prominent competitors at satisfying the extensional adequacy, explanatory adequacy, and justifying aid desiderata, but that it's also compatible with the most progressive and empowering political attitudes towards disability.

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<sup>41</sup> See Lim (2018) for a hybrid account that combines Barnes's definition of disability with the requirement that disabilities must also be medical conditions that limit our ability to pursue our legitimate interests.

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