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Defining 'health' and 'disease'

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ABSTRACT

How should we define 'health' and 'disease'? There are three main positions in the literature. Naturalists desire value-free definitions based on scientific theories. Normativists believe that our uses of 'health' and 'disease' reflect value judgments. Hybrid theorists offer definitions containing both normativist and naturalist elements. This paper discusses the problems with these views and offers an alternative approach to the debate over 'health' and 'disease'. Instead of trying to find the correct definitions of 'health' and 'disease' we should explicitly talk about the considerations that are central in medical discussions, namely state descriptions (descriptions of physiological or psychological states) and normative claims (claims about what states we value or disvalue). This distinction avoids the problems facing the major approaches to defining 'health' and 'disease', and it more clearly captures what matters in medical discussions.

1. Introduction

How should we define the terms 'health' and 'disease'? This is a central problem in the philosophy of medicine and an important issue in bioethics. There are three main philosophical approaches to defining 'health' and 'disease'. Naturalists (Kendell, 1975; Boorse, 1976, 1977, 1997; Scadding, 1990) desire definitions based on scientific theory. Their definitions attempt to highlight what is biologically natural and normal for humans. Normativists (Margolis, 1976; Goosens, 1980; Sedgewick, 1982; Engelhardt, 1986) believe that our uses of 'health' and 'disease' reflect value judgments. Healthy states are those states we desire, and diseased states are those states we want to avoid. Hybrid theorists (Reznek, 1987; Caplan, 1992; Wakefield, 1992) define 'health' and 'disease' by combining aspects of naturalism and normativism. Their aim is to provide an account of health and disease that captures the virtues but not the vices of naturalism and normativism.

As we shall see, all three approaches to defining 'health' and 'disease' are problematic. Naturalism does not satisfy its own desideratum of providing naturalistic definitions of 'health' and 'disease'. Normativism attempts but fails to capture how the terms 'health' and 'disease' are used by lay people and medical practitioners. The hybrid approach, like naturalism, incorrectly assumes that we can give a scientific account of the natural states of organisms. There is also a more systematic problem underlying the debate over defining 'health' and 'disease'. When discussing controversial medical cases, two factors are salient: the physiological or psychological states of patients, and the values we attach to those states. Naturalists focus on physiological and psychological states—whether an organ or system is normal or properly functioning. Normativists focus on whether a psychological or physiological state is valued or disvalued. The debate is regrettably polarized: naturalism and normativism each focus on only one of the two factors that are important when discussing medical cases. Hybrid theorists do consider both components, but they do so in an overly restrictive way. For the hybrid theorist, disease only occurs when a state is both dysfunctional and disvalued. As a result, the hybrid approach to 'health' and 'disease' too quickly shuts down the discussion of controversial cases.

We could keep looking for the correct definitions of 'health' and 'disease', but this paper advocates a different approach. Instead of trying to find the correct definitions of 'health' and 'disease' we should explicitly talk about the considerations that are central in medical discussions, namely *state descriptions* (descriptions of physiological or psychological states) and *normative claims* (claims about what states we value or disvalue). Using this distinction

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avoids the problems facing the major approaches to defining 'health' and 'disease'. Furthermore, this distinction more clearly captures what matters in medical discussions.

2. Naturalism

Naturalism is the most prominent philosophical approach to defining 'health' and 'disease' (Boorse, 1976, 1977, 1997; Kendell, 1975; Scadding, 1990; Wachbroit, 1994a, 1994b) and Boorse's definitions are the most influential and well developed naturalist definitions. Many have criticized Boorse's approach (for example, Reznek, 1987; Wakefield, 1992; Amundson, 2000; Cooper, 2002). We will turn to some of those criticisms shortly. First let us look at Boorse's most recent account of health and disease:

(1) The *reference class* is a natural class of organisms of uniform functional design; specifically, an age group or a sex of a species.
(2) A *normal function* of a part or process within members of the reference class is a statistically typical contribution by it to their individual survival and reproduction.
(3) A *disease* is a type of internal state which is either an impairment of normal functional ability, i.e., a reduction of one or more functional abilities below typical efficiency, or a limitation on functional ability caused by the environment.
(4) *Health* is the absence of disease. (Boorse, 1997, pp. 7–8)

In (1) Boorse introduces the idea of a reference class. He wants to limit the application of normal function to classes smaller than entire species because what is normal for one class within a species may be abnormal for another class in that species. For instance, normal reproductive capability varies among different age classes of humans. According to (2), normal function is the statistically typical contribution an organ or mental system makes to an organism's biological fitness. For example, the normal function of the human liver is the statistically average contribution livers make to the fitness of individual humans. According the first disjunct of (3), a diseased liver is one that functions below the species-typical or reference class-typical mean. A liver that makes a contribution that is at the mean or higher is healthy. (3) also contains an environmental clause to address diseases that are statistically common, for example, dental cavities, gingivitis, acne, atherosclerosis, and lung irritation. These are diseases that occur in most humans or most humans in a reference class.

A number of objections have been launched against Boorse's account and against naturalism more generally. The most common objection is that naturalism does not properly reflect our use of the terms 'health' and 'disease' because naturalism neglects the role values play in determining whether someone is healthy or diseased (Goosens, 1980; Reznek, 1987; Wakefield, 1992; Murphy, 2006, 2008). A stock example used against naturalism is homosexuality. For much of the twentieth century, the American Psychiatric Association (APA) considered homosexuality a disease. Now it does not. The change in classifying homosexuality as a disease was not accompanied by a change in our medical knowledge of homosexuality. What changed, some argue, is whether or not homosexuality is a disvalued state by the APA. Another example, discussed by Murphy (2006), is evidence showing that a specific kind of brain lesion turns a patient into a gourmet. These lesions cause patients to have a strong desire for fine foods (Regard & Landis, 1997). Such brain lesions are dysfunctional brain tissue, nevertheless we do not consider this trauma a disease because we do not think that being a gourmet is harmful to the patient (Murphy, 2006, p. 25). Again, values play an essential role in determining whether a state is a disease state.

A naturalist can dig in his heels and respond to such cases. The naturalist can argue that how we commonly use the term 'disease' is not relevant; it is a theoretical term. A brain lesion is a disease regardless of whether or not we value the outcome because a brain lesion is an instance of biological dysfunction. In the case of homosexuality, the naturalist can say homosexuality never was a disease. The fact that some people changed their minds about whether homosexuality is a disease does not impugn naturalism. Instead of focusing on these sorts of criticisms, I want to focus on a more fundamental problem with naturalism. Naturalists attempt to provide definitions of 'health' and 'disease' that rely exclusively on information from the biological sciences. However, naturalism lacks a basis in biological theory. Thus, naturalism fails to satisfy its primary aim of being naturalistic.

Naturalist accounts assume that biological theory will tell us what the natural traits of humans are. For example, in describing the motivation behind his account Boorse (1997, p. 7) writes that 'To capture the modern extension of "disease", what seemed requisite was a modern explication of the ancient idea that the normal is the natural—that health is conformity to "species design"'. Elsewhere Boorse (1976, p. 62) writes that 'a disease is a type of internal state of an organism which ... interferes with the performance of some natural function'. For Boorse, species design and natural functions are the products of biology. And for Boorse, those natural traits are the statistically normal traits for our species. Here we see that Boorse is using two senses of normality: statistical normality and theoretical normality. Statistical normality is the numerical average state found among the members of a reference class. Theoretical normality refers to the natural or normal traits of the members of a reference class where those traits are identified by the relevant scientific theory. For Boorse, theoretical and statistical normality are supposed to line up: statistically normal traits are the theoretically normal or natural ones.

Let us start with the requirement of theoretical normality. Does biology tell us what are the natural traits for a species, population, or reference class? Boorse often talks of 'species design'. Biological taxonomy is the discipline that sorts organisms into species. Does it tell us what are the natural traits for the members of a species? As many argue, biological taxonomy does not identify any such traits (Hull, 1978; Sober, 1980; Ereshefsky, 2001). In biological taxonomy, species and other taxa are considered first and foremost genealogical entities. Membership in a species turns on having the proper genealogical connections to other members of that species, not qualitative similarity. The problem here for the naturalist is not mere variation. Naturalism can accommodate variation, so long as there is an underlying nature among the members of a species. However, the Darwinian view of species is that species are evolving lineages such that there is no specific qualitative design or nature an organism must have to be a member of a species. If the members of a species share any sort of common nature it is a historical one: sharing a common ancestry and a unique genealogical heritage. Historical connectedness is a far cry from the sort of intrinsic natures Boorse requires.

Sober (1980) makes a similar point concerning genetics. He argues that in genetics no particular traits (phenotypic or genotypic) are considered the natural ones for a population. Sober employs the Norm of Reaction from genetics to make this point. The Norm of Reaction charts an organism's phenotype given a certain genotype in various environments. For example, genetically identical corn seeds are placed in different soils and the resultant phenotypes are then plotted. According to Sober, the Norm of Reaction does not single out any particular phenotype as the natural one for a given species (or gender or age class). Each phenotype is just the result of a particular genotype developing in a particular environment. Similarly, no particular genes are viewed as the natural ones for a population. Genetics just tells us that given the

genetic contribution of parents and various stochastic events (mutation and random drift), offspring will have a particular set of genes. Mutations are just as natural as genes that result from faithful replication. Similarly, no environments are considered the natural ones for a reference class because environments are just inputs that affect ontogenetic development.

If neither taxonomy nor genetics specifies the natural states of organisms, where in biology are such states described? Boorse (1997) is well aware that evolutionary-based disciplines emphasize variation over normality. Still he maintains that biology does specify the natural states of organisms. Such specifications, he suggests, are found in physiology texts (ibid., pp. 33 ff). Physiology texts do provide detailed descriptions of organs and organ systems. However, a closer look at physiology texts reveals that such descriptions are not intended to highlight the natural states or even the statistically normal states of organs. Wachbroit (1994a,b), another naturalist, also recommends turning to physiology texts to determine what the normal states of organs are. But Wachbroit's approach to biological normality is different than Boorse's. Wachbroit clearly distinguishes theoretical normality from statistical normality. The former is merely a claim about the theoretically normal or natural state of an organ, with no assertion about whether that state is statistically normal. For example, Wachbroit (1994a, p. 237) observes that the state of a normal heart as specified in a physiology text may not be the statistically normal state of real hearts. Moreover, the authors of such texts may not even intend that their descriptions be statistically normal. For example, the authors of the *Illustrated encyclopedia of human anatomic variation* write, 'What we are trying to convey to interested readers is that the things we describe here are ''normal" even though they differ from mean or usual' (Bergman et al., 1992–1998, quoted in Amundson, 2000, pp. 44).

Perhaps more pressing for Boorse is that physiology texts provide idealized and simplified descriptions of organs, not descriptions of their inherent natures. The role of normality in physiology, writes Wachbroit (1994b, p. 588), 'is similar to the role pure states or ideal entities play in physical entities'. Such ideal descriptions describe organs or systems in unperturbed states. To understand what occurs in an actual organ, say a human heart, we add information to develop a model that usefully corresponds to an actual heart (ibid., p. 589). The role of such ideal descriptions is not to describe the way hearts are in the actual world or ought to be, but merely to serve as a starting point from which more realistic models of hearts are derived. To assert that physiology texts provide the natural states of organs or systems goes well beyond the intended purposes of such descriptions. Idealized descriptions are tools for building more detailed models of organs or systems, not descriptions of natural states.

Underlying naturalism (and the naturalistic component of hybrid theories) is another problematic assumption. Recall that in Boorse's definition, the idea of normal function is described in terms of the survival and reproduction of the individual. Boorse (1997, pp. 9 ff.) and Lennox (1995) argue that 'health' and 'disease' should be defined only in terms of survival and reproduction because the goal of all living things is to survive and reproduce. In other words, Boorse and Lennox assume that biological fitness is *the* goal of human life and all life. One might wonder if that assumption is part of scientific theory. One response to Boorse and Lennox's assumption is that humans have multiple goals, and some of those goals have nothing to do with biological fitness. In fact some of those goals may run counter to individual fitness, such as cases where humans sacrifice their reproductive ability for other pursuits. Boorse responds to this suggestion by saying that the goals that decrease biological fitness are outside the realm of biology—they are 'ethical' or 'welfare' choices (1997, pp. 9–10). This response too quickly assumes that medicine is only concerned with biological fitness. The World Health Organization's definitions of 'health' and 'disease', for instance, cite the 'physical, mental, and social well-being' of the individual (World Health Organization, 1981, p. 83, quoted in Wakefield, 1992, p. 376). Is the WHO's definition part of the scientific literature on medicine? If yes, then Boorse is not giving a neutral, naturalistic reading of the scientific literature.

There is a more fundamental problem with Boorse's claim that biological fitness is *the* biological goal of humans and all organisms. Biologists describe many types of states that organisms have, and many of those states have nothing to do with fitness. There is eating for eating's sake. There is non-reproductive sex. There is the release of endorphins. Biology describes various states organisms can be in, and one type of state happens to concern fitness. Biology does not tell us that surviving and reproducing, versus achieving other kinds of states, are the goals of organisms. That choice comes from outside of biology. By choosing fitness as the goal of organisms, Boorse violates a main tenet of naturalism—that biology and biology alone should tell us what is 'health'. For this reason, and the reasons cited earlier, Boorse's naturalism is not naturalistic. Neither taxonomy, nor genetics, nor physiology describes the natural states of organisms and it is questionable that biological theory tells us that fitness is *the* goal of organisms. Boorse's account of 'health' and 'disease' fails to be naturalistic. This result extends well beyond Boorse's theory, because his account is the foundation of many naturalistic approaches in the philosophy of medicine and bioethics. Furthermore, it is a key component of hybrid accounts of 'health' and 'disease' (see Section 4).

3. Normativism

Given the problems with naturalism, should we adopt a normativist approach to 'health' and 'disease'? Normativism has a number of supporters (Margolis, 1976; Goosens, 1980; Sedgewick, 1982; Engelhardt, 1986). Here are two representative quotes:

> All sickness is essentially deviancy [from] some alternative state of affairs which is considered more desirable ... The attribution of illness always proceeds from the computation of a gap between presented behavior (or feeling) and some social norm. (Sedgewick, 1982, p. 32)

> Disease does not reflect a natural standard or norm, because nature does nothing—nature does not care for excellence, nor is it concerned with the fate of individuals qua individuals ... Health ... must involve judgments as to what members of that species should be able to do—that is, must involve our esteeming a particular type of function. (Engelhardt, 1976, p. 266)

Normativists believe that a proper analysis of 'health' and 'disease' should explain our use of those terms. They suggest that we (both lay people and medical professionals) use 'health' and 'disease' in ways that reflect our values. Those physiological or psychological states we desire are called 'healthy', and those states we want to avoid are labeled 'diseased'.

Normativists believe that their approach avoids standard counterexamples to naturalism and thus better reflects our uses of 'health' and 'disease'. Recall the example of a brain lesion that causes gourmet behavior—a case where biological dysfunction is nevertheless viewed as healthy. Naturalism labels this state as diseased, whereas normativism captures the intuition that such a state is not a disease. For the normativist, the desirability of gourmet behavior is the operative criterion, not whether there is proper biological functioning. Another type of case that normativists cite as confirming their view but disconfirming naturalism occurs

when a state is classified as a disease at one time but healthy at another time, as in the case of homosexuality. Normativists charge that naturalists cannot account for such cases because there is no corresponding change in medical knowledge. Normativists argue that their account properly explains such cases because a change in disease designation corresponds to a change in value. A similar argument for normativism and against naturalism cites cross-cultural disagreements over whether a state is a disease, for example, disagreement over whether attention deficient behavior is a disease. In such cases there is cross-cultural disagreement over whether a state is a disease but no biological or psychological variation, just variation in how the state is valued.

By aligning 'health' and 'disease' with what states we value and disvalue normativism opens itself to a handful of problems (Reznek, 1987; Wakefield, 1992; Murphy 2006, 2008). Normativism aims to accurately describe how we use the terms 'health' and 'disease'. However, it is questionable whether normativism achieves that aim. Consider a case where we agree that a state is undesirable but we disagree over whether it is a disease state. Being an alcoholic is generally considered an undesirable state, but it is controversial whether alcoholism is a disease. Normativism cannot explain why there is a controversy here. If there is general agreement that a state is undesirable, then, according to normativism, there should be general agreement that the state in question is a disease. This problem occurs in a number of cases where there is agreement that a state is undesirable but no agreement on whether that state is a disease (for example, PMS and gross obesity). By tying the term 'disease' to the states we consider undesirable, normativism does a poor job of capturing our use of that term.

Consider another reason why normativism fails to capture our use of 'health' and 'disease'. In the nineteenth century, some American doctors held that slaves who tried to escape to freedom had the disease 'drapetomania' (Wakefield, 1992; Murphy 2006, 2008). They believed that the slaves' flight to freedom was a symptom of drapetomania. From our contemporary perspective, we think that it is wrong to call drapetomania a disease. We believe that drapetomania was not a disease then and is not a disease now. But if you are normativist, you cannot say that those American doctors were wrong to call drapetomania a disease. All you can say is that we have different values than those nineteenth century doctors. Consider another case. According to normativism we cannot say that officials in the Soviet Union were wrong when they claimed that political dissidents were mentally ill. All the normativist can say is that we disagree on the desirability of those dissidents' beliefs. The problem for normativism is that it fails to account for the common view that there is more to the term 'disease' than just a statement of our values.

One might attempt to defend normativism by saying that surely normativists believe that there is more to labeling a state as diseased than merely whether we disvalue that state. Surely normativists label only undesirable states that are biological (or psychological) as disease states, where 'biological' (or 'psychological') refers to some non-normative fact about the world. However, that is not the normativist's position. For example, Engelhardt (1986, pp. 189 ff.) recognizes that some states are considered medical states whereas other states are considered religious, legal, or moral states. His explanation why a state is considered a medical state has less to do with biological considerations than 'ideological' reasons: 'disease explanations are often favored in order to classify a state of affairs as a disease state for social or ideological reasons' (Engelhardt, 1976, p. 262; see also Engelhardt, 1985, p. 192, and Margolis, 1976, p. 252). Engelhardt cannot say that some nineteenth century physicians were objectively wrong to consider drapetomania a disease. He can only say that we have different values or ideologies than those physicians. In sum, normativists argue that their position accurately describes our uses of 'health' and 'disease'. However, normativism does not capture the common view that there is more to deciding whether a state is a disease than normative considerations.

4. Hybrid theories

Let us turn to the hybrid approach to defining 'health' and 'disease'. The hybrid approach attempts to overcome the problems of normativism and naturalism by using both normativist and naturalist elements in its definitions. The hybrid approach has been suggested by several authors (Reznek, 1987; Wakefield, 1992; Caplan, 1992). Wakefield's account is the most prominent version of that approach. According to Wakefield (he uses the term 'disorder' for disease):

> A condition is a disorder if and only if (a) the condition causes some harm or deprivation of benefit to the person as judged by the standards of the person's culture (the value criterion), and (b) the condition results in the inability of some internal mechanism to perform its natural function, wherein natural function is an effect that is part of the evolutionary explanation of the existence and structure of the mechanism (the explanatory criterion). (Wakefield, 1992, p. 384)

A central motivation for the hybrid approach is to reign in normativism (Reznek, 1987, pp. 165 ff.; Wakefield, 1992, pp. 376–377). As we just saw, one charge against normativism is that it allows that all undesirable states are disease states. Hybrid theorists respond that the term 'disease' should only apply to disvalued states with the proper biological etiology. Another cited virtue of the hybrid approach is that it overcomes standard objections to naturalism by requiring that a disease state be both biologically dysfunctional and disvalued. For example, the brain lesion that causes gourmet behavior is not a disease on the hybrid approach because it is not disvalued. Hybrid theorists avoid counterexamples to normativism and naturalism by narrowing the range of cases that the word 'disease' can be applied to. But this solution creates its own problems. By narrowing the range of what counts as 'disease', hybrid theorists offer an overly restrictive approach to health and disease.

Consider a state where there is no evolutionary dysfunction yet we disvalue that state. The function of the clitoris is described as providing a woman with the capacity for having an orgasm. However, that capacity was not selected for in an evolutionary sense (Lloyd, 2005). The male penis and female clitoris are homologous traits. In our evolutionary past, there was selection for male ejaculation and hence male orgasm, but there was no selection for female orgasm: it is a byproduct of selection for male orgasm. So a woman's capacity to have an orgasm lacks an evolutionary function. Because a woman's inability to have an orgasm is not an instance of evolutionary dysfunction, the hybrid approach cannot classify that inability as a disease. The problem for the hybrid approach is that we may want to discuss whether a woman's inability to have an orgasm is in need of medical treatment. Because Wakefield equates health with no disease, controversial cases fall on the health side of the health–disease dichotomy. A woman's inability to have an orgasm is a healthy state (no dysfunction), as is a brain lesion that causes gourmet behavior (not disvalued). Nevertheless, it is an open question whether such states should be considered healthy or diseased states. Because of its restrictive nature, the hybrid account too quickly shuts down the discussion of controversial cases. An appropriate account of 'health' and 'disease' should be sensitive to the controversial nature of such cases and, better yet, explain why they are controversial. As it stands, the hybrid approach is too blunt an instrument to account for our uses of 'health' and 'disease'.

Another problem with the hybrid approach concerns its naturalist component. Wakefield's hybrid account requires an evolutionary account of function. He tells us that the sort of evolutionary explanation he has in mind concerns an organ's ability to perform 'a naturally selected function' (Wakefield, 1992, p. 384). In our discussion of Boorse on 'normal function' we saw that evolutionary biology does not tell us what the natural states of an organism are. One might then attempt to find an account of normal or natural functions in physiology. But functional ascription in physiology has little to do with adaptation and selection (Schaffner, 1993; Murphy 2008). Wakefield's account requires an evolutionary account of normality, but there are no norms in evolutionary biology and the norms of physiology are not evolutionary.

Another way that Wakefield's hybrid theory fails to achieve naturalism is its choice of biological fitness as *the* goal of organisms. Natural functions, according to Wakefield, are the result of natural selection. Nature selects those traits whose effects promote organismic fitness. Here we run into the problem highlighted in Section 2: among the various biological activities that organisms perform, why assume that 'health' should be defined in terms of biological fitness? The point is not to argue against such an alignment, but to highlight that the choice of aligning health with biological fitness is not dictated by biological theory. It is a choice that comes from outside of biological theory. Hybrid accounts of health and disease are faulty in the same way that naturalist accounts are faulty: they fail to achieve their naturalistic aims.

5. An alternative approach

We have spent considerable time discussing the three main approaches to defining 'health' and 'disease'. All three approaches are problematic. Naturalism, the most widely accepted approach in philosophy and medicine, fails to satisfy its desideratum of being naturalistic. Normativism fails to achieve its desideratum of accurately describing how we use the terms 'health' and 'disease'. The hybrid approach too quickly shuts down the discussion of controversial cases, and its naturalistic component fails to be naturalistic. Throughout our discussion of these definitions two types of considerations were salient: the physical or psychological states of patients, and the values we attach to those states. This distinction suggests an alternative approach to the debate over 'health' and 'disease'. Instead of using the terms of 'health' and 'disease' when discussing controversial medical cases, we should explicitly talk about the considerations that are central in medical discussions, namely, state descriptions and normative claims. As we shall see, using the distinction between state descriptions and normative claims avoids the problems facing the major approaches to defining 'health' and 'disease'. Furthermore, this distinction more clearly captures what matters in medical discussions.

Let us start by clarifying the distinction between state descriptions and normative claims. *State descriptions* are descriptions of physiological or psychological states. A measurement of the amount of calcium in a patient's tissues is a state description. The description that a patient's red blood cells are rupturing is a state description. There are also psychological state descriptions that describe how a patient feels or provide a more technical description of a patient's psychological state. In an effort to avoid normative assumptions as much as possible, state descriptions do not explicitly employ such notions as natural and normal. It may be impossible to eliminate normative elements from many state descriptions in the medical and biological sciences. But at least we can avoid overt uses of such words as 'normal' and 'natural' that often carry implicit normative assumptions. For similar reasons, state descriptions are free of functional claims. The divide between function and dysfunction is controversial, and functional ascription in the medical sciences often carries normative assumptions (Wachbroit, 1994b; Cooper 2002). To avoid such controversies and assumptions, state descriptions make no claims about whether a physiological or psychological state is functional or dysfunctional.

Normative claims are explicit value judgments concerning whether we value or disvalue a physiological or psychological state. We often make overt value judgments when deciding which states to avoid, diminish, or promote. For example, we disvalue the rupturing of blood cells, we value having legs that can walk, and we are indifferent, at least from a medical perspective, whether people are gourmets. When these value judgments are made explicit they fall under the heading 'normative claims'.

There are several reasons for using the distinction between state descriptions and normative claims. One reason is that using this distinction would help clarify discussions of controversial medical cases. Consider the case of deafness. Many consider deafness a disease and believe that, if possible, deaf people should be given the ability to hear. This can be done for some deaf people with cochlea implants. However, some in the deaf community argue that deafness is not a disease (Buchanan et al., 2000, p. 281). They argue that deafness has advantages over hearing. Being deaf heightens other senses, it reduces noise pollution, and it allows one to have the benefits of being part of the deaf community. The debate over deafness is framed in terms of 'health' and 'disease', but framing the debate in those terms masks points of agreement and disagreement between the two sides. Both parties agree that there is a physiological state involving hearing, but they disagree over whether such a state should be valued or disvalued. Using the distinction between state descriptions and normative claims makes clear where the disputants agree and where they disagree rather than lumping two central aspects of the debate under the heading 'disease'.

A similar point can be made concerning debates over other controversial medical categories. From 1900 until the early 1960s, the APA considered homosexuality a disease. After that, the APA no longer considered homosexuality a disease. What changed? Did our knowledge of sexual preferences change? Did the values associated with certain types of sexual preferences change? Two sorts of issues should be delineated: one concerns state descriptions, and the other concerns normative claims. There are a host of questions concerning homosexuality as a physiological or psychological state. For example, there is the question of whether homosexuality is even a single, uniform category. Then there are explicit normative issues concerning the values we attach to sexual preferences. Delineating these two types of questions provides a clearer approach to investigating sexual preferences as opposed to discussing whether a particular preference is a disease. The same reasoning applies to disagreements over whether obesity, criminality, and ageing are diseases. We can disambiguate those debates by separating state descriptions from normative claims.

Hesslow (1993) provides another reason why we should stop looking for the correct definitions of 'health' and 'disease'. He believes that using such terms is a needless distraction in medical debates. Hesslow (ibid., p. 1) writes, 'The health/disease distinction is irrelevant for most decisions and represents a conceptual straightjacket'. He offers an analogy. A person brings her car to an auto mechanic and complains that her car is defective because it does not accelerate as quickly as her friend's car of the same make and model. The mechanic replies that there is nothing defective with the car: the valves in the different cars are just adjusted differently. The car owner and the mechanic then engage in an argument over whether the car is defective. Hesslow suggests that arguing over whether the car is defective is an unnecessary and

needless distraction. The owner should just tell the mechanic that she would like the car's acceleration increased. Hesslow maintains that arguing over whether someone has a disease is like arguing over whether a car is defective. Using the terminology suggested here, we should identify the physiological or psychological state under discussion and express whether that state is desirable or not. Once we frame the discussion in terms of state descriptions and normative claims we get to the issues that matter and the terms 'health' and 'disease' become superfluous.

Another benefit of recasting the debate in terms of state descriptions and normative claims is that it avoids many of the problems facing the major approaches to health and disease. Recall that a problem with naturalism and the hybrid approach is their reliance on the concepts of natural and normal. Naturalists and hybrid theorists assume that science and not values are the basis for deciding the natural or normal states of humans. Yet as we saw in Section 2, biological theory does not highlight any particular traits as the natural ones for humans. The proposal offered here avoids this problem because state descriptions do not employ the concepts of normal or natural. Suppose a patient has a form of gout such that she has a certain amount of calcium in her tissues. The state description is the measure of the amount of calcium in her tissues. There is no claim about whether it is unnatural or abnormal or pathological. Similarly, a state description of a psychological state does not overtly rely on the concepts of normality or pathology.

State descriptions also avoid using the concepts of function and dysfunction. Philosophers are divided on how functional talk in biology should be properly understood. Some offer an evolutionary account of functional ascription, others suggest a non-evolutionary mechanistic approach, and still others see function talk as merely heuristic (Buller, 1999; Ariew et al., 2002). Naturalism and hybrid theories are caught in the middle of this controversy. Worse yet, as Wachbroit (1994b) and Cooper (2002) argue, we often lack sufficient empirical or theoretical grounds for determining the function of a biological or psychological system, so we use normative grounds for assigning a function to a given system. Naturalism and hybrid approaches run the risk of disguising normative functional ascriptions as descriptive ones given the centrality of 'normal function' in their definitions. State descriptions avoid that risk because they are free of functional claims.

Let us turn to the problem with normativism described earlier. Normativism has the goal of describing and explaining our common uses of 'health' and 'disease'. In an attempt to satisfy that goal, normativists argue that 'disease' is a term that merely reflects our values and ideologies. But given that approach to 'disease', normativism cannot account for such cases as alcoholism where we agree that a state is undesirable yet we disagree over whether we should call it a 'disease'. For normativists, if a state is disvalued it is a disease state. However, we tend to think that there is a difference between undesirable states that are diseases and other types of undesirable states. Thus normativism aims to capture our common uses of 'disease' but fails to do so. The approach offered here does not have that problem because it does not attempt to capture our uses of 'health' and 'disease'. Instead it suggests that we reframe discussions of controversial medical cases in terms of state descriptions and normative claims.

Stepping back, there are three reasons for using the distinction between state descriptions and normative claims. First, talking in terms of state descriptions and normative claims clarifies discussions of controversial medical cases. Second, by framing debates in such terms we get to the issues that matter in medical discussions, thus rendering the terms 'health' and 'disease' superfluous in such discussions. Third, using the distinction between state descriptions and normative claims avoids the problems facing the major approaches to defining 'health' and 'disease'. Undoubtedly the suggestion that medical discussions should be framed in terms of state descriptions and normative claims is a controversial one. Let us look at several concerns one might have with this proposal.

One worry is that this paper advocates cleansing the English language of the terms 'health' and 'disease'. That is not being advocated. The proposal suggested here is this: when health care professionals, social scientists, or humanists discuss controversial medical cases, those discussions should be framed in terms of state descriptions and normative claims rather than in terms of health and disease. This type of suggestion is neither radical nor new. Biologists adopt a similar approach when talking about such controversial concepts as 'species' and 'gene' (Ereshefsky, 2001). For example, biologists disagree on how to define the term 'species'. So in technical discussions, such as professional publications or conference presentations, biologists often clarify what they mean by 'species'. After such clarifications, the term 'species' becomes superfluous. In public forums and general biology texts, however, biologists do not hesitate to use the term 'species' without clarification. What is being suggested here for 'health' and 'disease' is similar to the situation with 'species'. In technical discussions concerning health care issues we would be better off talking in terms of state descriptions and normative claims rather than in terms of health and disease. Doing so would clarify such discussions and would render the use of 'health' and 'disease' unnecessary. In more public forums, the terms 'health' and 'disease' would still be used. The proposal given here does not attempt to reform our use of language but instead offers terminology to help clarify technical discussions.

Another concern is that the account offered here does not explain the common view that some undesirable states are medical disorders whereas other undesirable states are not medical disorders. I have argued that this is a problem for normativism because normativism aims to capture our common uses of 'disease' and 'disorder', yet normativism fails to account for the common distinction between undesirable states that are considered diseases and other types of undesirable states. As mentioned earlier, the account offered here does not attempt to provide definitions of 'disease' or 'disorder'. So it is under no obligation to explain our common uses of 'disease' and 'disorder'. Nevertheless, a distinction can be added to the distinction between state descriptions and normative claims that helps illuminate why some undesirable states are medical conditions and other undesirable states are not medical conditions. The distinction is a sociological one (Cooper, 2002, offers a similar suggestion). After providing a state description and deciding whether the state in question is desirable or not, there is a sociological question concerning which aspect of society treats (successfully or not) such states. If treatment falls under the expertise of health care workers, then it is a medical condition. If it does not fall under the purview of health care workers, then it is not a medical condition. Simply put, whether an undesirable state is a medical state depends on how the division of labor is drawn in a society.

A final concern with the account offered here is that the distinction between state descriptions and normative claims is a false dichotomy. Many argue that science, especially the human sciences, is infused with normative values. For example, many argue that much research in biology and medicine has a gender bias (Okruhlik, 1994). Even some descriptions of the behaviors of sperm and egg during fertilization are arguably value-laden (sperm are active fertilizers and eggs are passive receptors). In another area, some argue that our medical account of disability incorporates societal values concerning what is a high quality life (Amundson, 2005). By definition, able-bodied people are assumed to have a higher quality of life than disabled people. Even the terms 'able-bodied' and 'disabled' beg the question in favor of the able-

bodied. Given the infusion of values in various descriptions of medical and biological states, one might question whether there is a viable distinction between state descriptions and normative claims.

The suggestion that we use the distinction between state descriptions and normative claims is not an attempt to resurrect the fact–value distinction. Many state descriptions in the medical and biological sciences undoubtedly rely on implicit normative assumptions. That is not being denied. State descriptions, as articulated in this paper, contain no explicit normative components. By using the distinction between state descriptions and normative claims we make normative assumptions as obvious as possible. Once values are seen as entering a discussion, any talk of values is highlighted as a 'normative claim': that way, discussions concerning values will be explicitly normative. State descriptions will never be completely value-neutral, but we can do our best to label value judgments as such when they are identified. Recall that naturalists and hybrid theories employ concepts like normal and natural. Those concepts are often value-laden, yet naturalists and hybrid theorists treat them as descriptive. According to the suggestion offered here, we avoid the use of 'normal' and 'natural' in state descriptions. In doing so, we avoid one way that normative concepts get disguised as descriptive ones. We cannot get rid of bias in science, but we should try to eliminate it or highlight it whenever we see it. Naturalist and hybrid definitions of 'health' and 'disease' do not do that. Switching to talk of state descriptions and normative states makes the use of values more explicit. That is an improvement.

6. Concluding remarks

Most philosophers, medical practitioners and lay people think that health and disease are real categories in nature. They believe, in more philosophical terminology, that 'health' and 'disease' are natural kind terms. Natural kind theorists typically assume that natural kind terms should reflect divisions in nature as specified by our best scientific theories. This is just the tactic naturalists and hybrid theorists adopt. In an effort to define 'health' and 'disease' they turn to biological theory to determine what is natural and theoretically normal. As we saw in Section 2, biological theory does not distinguish natural states from unnatural states. Nor does biological theory distinguish theoretically normal from abnormal states. The naturalist foundations for 'health' and 'disease' are not found in biological theory. The best evidence that a kind term refers to natural kind is confirmation of the existence of that kind by the relevant science. We have no such confirmation for naturalist definitions of 'health' and 'disease'. Given our best scientific theories, we have reason to doubt that health and disease are natural kinds.

Finally, here is one last reason why we should frame medical discussions in terms of state descriptions and normative claims. It is important to distinguish the current state of the world from how we want the world to be. Accordingly, we should distinguish current human states from the human states that we want to promote or diminish. When someone says that a person has a disease, is she describing the state the person is in, or is she saying, at least in part, what state she would like the person to be in? It is hard to know unless one conducts a careful interview of the speaker. The terms 'health' and 'disease' mask the distinction between the states we are in and the states we desire. Talking in terms of state descriptions and normative claims does a better job of capturing that important distinction.

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