DRAFT VERSION

Rethinking the concept of disease debate: a pragmatist alternative

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Abstract

In the traditional philosophical debate on the concept of disease, it is most often presupposed that the difference between 'disease' and 'non-disease' can be made by reference to classically definable categories with clear boundaries. I will argue for a shift in the discussion on the concept of 'disorders', and propose an alternative approach which starts from the conviction that 'disease' is not a theoretical concept, but a practical term. Further, I will argue that our use of the term is determined by two interacting factors: value-laden considerations about the (un)desirability of certain physiological and/or psychological states and discoveries of a/the bodily and/or psychological cause(s) which is/are explanatorily relevant in view of possible medical interventions that can prevent, cure, or at least improve undesired states. My pragmatist approach does not lead to a final definition, but results in a more realist view on the way we build, use, apply and change our concept of 'disease' and is meanwhile useful as a basis for critical reflection in medical practice.

Keywords

disease concept, conceptual analysis, scientific practice, pluralism, disease causation, values

1.Introduction

Most of the philosophical literature on the concept of disease starts from a monolithic position, from which it is supposed that the difference between 'disease' and 'non-disease' can be made by reference to classically definable categories with clear boundaries. Nonetheless, we are far away from a consensus on what a disease or disorder[1] precisely is. Conceptual analysis is traditionally conceived of as the philosophical tool that will help us in discovering the correct definition of 'disease'. I will argue that we should reconsider the traditional debate and stop trying the find *the* definition of disease. I will propose a pragmatist approach that will not lead to a final definition, but results in a more realist description of the way we build, use, apply and change our concept of 'disease' and is meanwhile useful as a basis for critical reflection in medical practice.

In section 2, I briefly review the traditional views, their underlying presuppositions and the problems that arise with them. I also explain why it is impossible for philosophers to meet their goal of neatly defining 'disorder' by means of traditional conceptual analysis. In section 3, I will propose and elaborate an alternative approach that leaves the traditional aim of searching for the final, univocal definition behind and starts from the conviction that the concept of 'disease' is a multifaceted, practical term. I will argue that our use of the term is determined by two interacting factors: value-laden considerations about the (un)desirabilty of certain physiological and/or psychological states and discoveries of a/ the bodily and/or psychological cause(s) which is/ are explanatorily relevant in view of possible medical interventions that can prevent, cure, or at least improve these undesired states. I show that this interaction results in different kinds of diseases, and I will link this to Nick Haslam's (2002) approach to "kinds of kinds" of mental disorders. In

[1] Although I am aware of the lively debate on the definition of terms like 'disease', 'disorder', 'sickness', 'illness' and related terms, and on the supposed differences in their meaning (at least in English language), I will sidestep these discussions and use the term 'disorder' and 'disease' interchangeably as broad, general terms referring to all these things we might refer to as a 'disease', or 'disorder', 'illness', 'injury', and so on.

section 4, I deal with possible counterexamples and further worries. I come to final conclusions in section 5.

2. Traditional approaches and unachievable goals

2.1 Traditional approaches

In general, one can discern three kinds of philosophical definitions of 'disorder', namely naturalist and normative definitions (or dysfunction-requiring and value-requiring definitions, cf. Schwartz 2007), and definitions that request a combination of both values and dysfunctions. Details about the different approaches and their shortcomings are abundantly discussed in the literature on the concept of 'disorder' (see e.g. Schwartz 2007, Cooper 2007 and Ananth 2008). For the goal of this paper, it suffices to introduce the reader very briefly to the three kinds of definitions and their shortcomings.

First, naturalist definitions of disease are exclusively based on objective, biological criteria and do not refer to values. The best known approach of this kind is Boorse's (1977). A recent version of Boorse's definition of disease runs as follows: "*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 environmental agents."* (Boorse 1997, 7-8, cited in Schwartz 2007, 49). Normal functionality is hereby interpreted in evolutionary terms. Two important problems for his and similar accounts have been indicated in the literature. On the one hand, biological dysfunction is not a sufficient condition for disease. Homosexuality is the most popular counterexample in this respect: although homosexuals can be said to have a dysfunction in the processes that typically produce sexual attraction for members of the opposite sex and hence further reproduction, most people today are no longer willing to call homosexuality a disease. On the other hand, biological dysfunction seems neither a necessary condition for disease. For example, some diseases such as anxiety and personality disorders, can be said to have a genetic basis that suggests they are adaptive in some way (Cooper 2007, 33-34), which would make them disorders without being a biological dysfunction. Additionally, some symptoms might be disturbing, and consequently be treated as a disease, while actually resulting from a

mechanism that counters biological dysfunction. For example, a mild case of pneumonia can form a means of the body to resist bacteria to prevent a bad respiratory infection (Schwartz 2007, 55). All these examples appear in the concept of disease debate to demonstrate that naturalist definitions fail to neatly account for the meaning of the notion 'disease'.

Alternatively, some authors propose normative definitions as the best approaches to the meaning of 'disorder'. These definitions incorporate value-laden criteria for disease. Two kinds of values have been taken into account: subjective values (such as a threat to personal well-being in the account of Goosens (1980)) and objective values (e.g. in the account Culver and Gert 1982[2]). Value-requiring accounts are often criticized for incorporating too many conditions as diseases. As is stated by Schwartz (2007), in the case of subjective values that are culturally relative, one is able to call everything 'a disease' which is undesired from a cultural point of view, as Schwartz (2007) then illustrates by the examples of masturbation and 'drapetomania' (i.e., the 19th century disease characterized by 'the desire of slaves to escape'). Also definitions referring to objective values might still incorporate too much, because an objective value is not sufficient, neither necessary for disease. Pregnancy, for example, would be a 'disease' according to the definition of Culver and Gert. (Schwartz 2007, 50-52) .

Thirdly, some people have advocated hybrid approaches to the notion of 'disease', arguing that the notion should explicitly incorporate both a naturalist and a normative component. The best-known proposal of this kind is Wakefield's '*harmful dysfunction'* approach:

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 from the inability of some internal mechanism to perform its natural function, wherein a 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, 384).

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[2] Their definition runs as follows: "*A person has a malady if and only if he has a condition, other than his rational beliefs and desires, such that he is suffering, or at increased risk of suffering, an evil (death, pain, disability, loss of freedom or opportunity, or loss of pleasure) in the absence of a distinct sustaining cause."* (Culver and Gert 1982, 81).

An account such as Wakefield's avoids problems that result from taking dysfunction as a sufficient condition (cf. the homosexuality example above), though it does not avoid problems resulting from taking dysfunction as a necessary condition (cf. the examples of pneumonia and personality disorders above). Further, the value-criterion leads again to problems resulting from cultural relativity.

As I said, I will not go into detail about the different accounts and their shortcomings. They have been written about at large in the literature. This brief overview should suffice to give the reader a feel of the traditional debate on the concept of 'disease'. In the next section, I will comment on the general goals and presuppositions underlying the traditional debate and on the problems that arise with them.

2.2 Unachievable goals

Although I touched only briefly upon some problems resulting from different kinds of disease definitions proposed in the literature, it should be clear by now that all of these definitions *do* fit our intuitive notion of disease to a considerable extent. In that sense, it would be unfair to argue that their different criteria are totally irrelevant. But on the other hand, none of the traditional definitions can live upon its promise of neatly defining what a 'disease' is. All kinds of definitions have been refuted in the literature on the basis of counterexamples. Authors nonetheless keep arguing and counter arguing about the 'right' definition of 'disease'. The way they do, uncovers their general underlying presuppositions. Namely, that it should be possible to find a single, clearly delineating definition of what a 'disease' is; that on the basis of such a definition one would be able to clearly discern diseases from non-diseases; and further, that all human conditions gathered under this definition will be of a single, uniform kind. Additionally, most philosophers hold that their definition should be seen as a general definition, embracing both physical and mental disorders. But all this seems too much to expect from a single, monolithic definition. The counterexamples to disease definitions in the literature precisely demonstrate that the definitions are too narrow to cover all diseases, and/or, on the other hand, too broad to exclude non-diseases. This is not surprising, but results from general problems for conceptual analysis.

Schwartz extensively argued for this:

As scientists have acquired better and better understanding of diseases and their causes, they find not a unifying microstructure, as for gold or water, but variation. While many have sought an essence that all and only diseases share, this quest has been blocked at every step by variability and heterogeneity. Any definition that would draw a sharp line through all conditions, determining for each whether it is a disease or not, looks like the imposition of a decision, rather than the application of a discovery.

This means adopting any precise account will impose at least some changes on our currently non-reflective and relatively unprincipled way of distinguishing disease for health. Choosing a definition will partly involve deciding which changes from current practice are acceptable. (Schwartz 2007, 59)

Traditionally, conceptual analysis can have two goals: or it aims for a descriptive account that tries to line up nicely with our intuitions, or it aims for a revisionist account that clears out the inconsistencies in our intuitions. The problems for such a conceptual analyses of 'disease' are clear. It seems impossible to discover a univocal essence of what it means to be 'diseased' and hence, to give a justified descriptive conceptual analysis. Consequently, privileging just one or another of the available analyses in the literature as the 'right' one automatically results in a revision of the everyday use and meaning of the concept in light of this decision. In other words, any conceptual analysis of disease resulting in a monolithic definition seems to lead to a revisionist account instead of a descriptive one. The question that follows is whether we really want to revise the concept or whether we prefer a description of the concept's actual use. When considering this, we should recognize that it is unclear on what basis one can privilege one account above the others as the single one to be used. The only possible justification seem to be the intuitions one already had beforehand about whether or not certain example diseases are 'true' cases of disease or not. In other words, presuppositions with respect to what diseases are will always form the basis for building and/ or accepting a specific definition. Indeed, one cannot deny that all proposed definitions are based on presuppositions on what is a disease and what not, and hence that an a priori definition on the basis of which one can subsequently decide what

is a disease and what not, cannot be given.

To overcome this deadlock, one could decide to give up the whole enterprise of the conceptual analysis of 'disease'. A couple of authors actually have been arguing for this. One of them being Schwartz, who actually proposed to bite the bullet and to "*let there be variability and free choice*" (Schwartz 2007, 61). His main argument is that the desiderata of a traditional conceptual analysis cannot be fulfilled and consequently, that the one correct definition cannot be discovered. Hesslow (1993) gives a different argument for leaving the traditional debate behind. He argues that too much emphasis on the conceptual issues muddles the really important ones:

Diseases are to the clinicians what gardens are to gardeners or cars to garage mechanics. These terms are handy to point to a certain area of competence, but the gardener does not need a definition of "garden" to help him decide what to do about plants on a balcony and the garage mechanic does not need a definition of "car" to be able to decide if he should try to fix a lawnmower. "Disease" is a useful terms, because, like "car" it gives a brief simple reference to a certain class of things which to some extent *coincide with an area of competence. It is not identical to this area, however, and a deeper understanding of what this area is requires knowledge of the competence itself and how it can be used, rather than of the objects on which it is normally used. (Hesslow 1993, 13)*

A similar argument can be found in Kincaid (2008), who states that we do not need nicely defined natural kinds for good science. Medicine is precisely such a science in which we understand causes in a piecemeal way, and in which we focus particularly on these causes that we can manipulate, doing well without complete theories and nicely delineated natural 'disease' kinds.

The argument of the latter two authors hint at another argument, namely that 'disease' is a practical concept. Miller Brown (1985) extensively argues for this. He states that philosophers are wrong in thinking that they can delineate the nature of disease as a theoretical concept. The conviction that it is possible to make a theoretical contribution to medicine denies the nature of medicine as a *practical* discipline:

However understandable and even useful this philosophical search for fundamental similarities among diseases, it seems to assume that philosophical definition will make a contribution to

medical theory. ... This is a mistake, I think, which lies in the assumption that there is a theory of medicine to which such analyses can contribute. (Miller Brown 1985, 324)

Theory in medicine, as in electronics, is borrowed from fundamental sciences like biology, chemistry, and physics. Research in medicine, when it is not biology, chemistry, and physics, is a kind of technological enterprise allied to these sciences and only rarely leading directly to development in theory. ... As a practical discipline, medicine and its concepts of 'disease' and 'health' are bound up with medical practice and the interests of doctors and patients as well as with the advances of science. And it is this fact which adds to the complexity and variety that confounds efforts to find simple definitions. (Miller Brown 1985, 326)

I agree with Schwartz (2007) and Miller Brown (1980) that we should recognize the complexity and variability of the disease concept and that this implies that we should stop trying to discover the correct definition of disease. I also agree with the view of Hesslow (1993) and Kincaid (2008) that we do not always need a nicely delineated definition of disease (as a natural kind) to achieve good medical knowledge and make good medical decisions. However, I do not believe that these arguments form good reasons for totally dismissing the more general goal that philosophers have set themselves when they were looking for a definition of disease, i.e., to give a basis for reflection about our actual use of the 'disease' notion. Schwartz', Hesslow's, Kincaid's and Brown's point of view are of no help when we are in need of a basis - or at least a point of comparison - for evaluating our attribution of disease labels. After all, 'diseases' are not like 'gardens' and 'cars' in the sense that deciding whether or not to think about certain physical and psychological states as 'diseases' has important personal and social consequences. One could argue that changes in disease labels follow rather naturally from changes in medical knowledge, medical practice, and sociocultural values. Further, one can also assume that practitioners are very well aware of the diversity in diseases and disease kinds and that they know very well how to do good science without being clear on how to clearly define 'disease'. However, this does not alter the fact that it is important to think critically about disease labels and for example, about the danger of medicalization and disease mongering. After all, also practitioners might tend to classify people's problems too often as diseases. For critical reflection about these matters, we do need a

framework which can form a basis for discussion, rather than that we can just take it for granted that there is variability and/ or that medicine knows how to do good science without a clear concept of 'disease'.

What follows? I think we should reconsider the debate on the concept of disease and think about how to achieve a more fruitful view that forms a useful basis for reflection. This means that we should stop performing conceptual analyses in the traditional way, and opt for an alternative which no longer presupposes that a single, monolithic (descriptive or revisionist) definition should be found and that we can start from scratch in performing conceptual analyses. On the one hand, the new approach should be based on how the notion is already used in practice, but it should not uncritically adopt this. On the other hand, the new approach should be directional, but not determining. This implies that we should go pluralist (but not just 'freely') and pragmatist. Foremost, an alternative approach should provide a good basis for reflection on our intuitive and practical use of the disease notion.

3. A pragmatist alternative

3.1. Basic idea

I already stated that the different criteria used in traditional conceptual analyses are clearly not totally irrelevant and *do* seem to bear on how we conceive of 'disease'. I even believe that we do need values and facts as criteria in an alternative approach. However, my view on the way in which values and facts stand to each other in determining what we label as 'disease' will differ from traditional views. In the following sections, I will offer a kind of *'etiological'* approach of our disease concept, in which value considerations and fact considerations will interact. In doing this, I build further on the following distinction of Ereshefsky (2009):

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). (Ereshefsky 2009, 221)

This can also be related to the following quote of Miller Brown (1985), in which he implicitly clarifies the relation between normative and descriptive considerations in the *practical* use of the disease notion:

If medicine begins, as I think it does, in crisis and treatment, then it begins with a variety of circumstances which may characterize illness and disease (which are, as it were, the criterion characteristics of 'disease'): the involuntary occurrence of pain, suffering and illness, gross physical dysfunction, disfigurement or progressive debility, statistically abnormal structures or processes, the discovery of causal agents of such conditions, the development of techniques for changing undesirable or unwanted conditions, or the disruption of social roles. The physician relies on biology and other fields to find the causal, not conceptual, factors which correlate and explain such circumstances and characteristics. (p. 326, my emphasis)

Miller Brown mixes up the value criteria with the more objective criteria in the above list. However, the final sentence of this citation makes a very important point, which sheds a light on how value criteria and fact criteria interact. This led me to the following, general view on disease, which I will further elaborate in the following sections:

'Disease' is not a theoretical concept, but a *practical* term. Our use of the term is determined by two *interacting* factors:

A) Value-laden considerations about the (un)desirabilty of certain physiological and/or psychological states.

B) Discoveries of a/ the bodily and/or psychological cause(s) which is/ are explanatorily relevant in view of possible medical interventions that can prevent, cure, or at least improve undesired states.

3.2. Undesirable states

The value criteria traditionally cited in normative analyses of disease are not determining, but nonetheless needed in the first place for (loosely) indicating the kind of states we are talking about when using the 'disease' concept. We cannot start assembling facts about diseases and disease causation if we do not have at least a basic idea of the bodily and psychological states

we are talking about when using the word 'disease'. This means that traditional criteria such as the occurrence of harm, pain, suffering, dysfunction, abnormalities, etc., refer to important grounds for considering a certain state of mind and/ or body *eligible* for being labeled 'disease'. This is not to claim that these criteria determine what diseases are. The question they help to answer is not the one they were traditionally supposed to answer, namely "what is a disease?" The question they answer, according to my view, is rather "why is a certain state eligible for being considered as a disease?" Contrary to what Murphy (2006)[3] tries to argue, this is an important first question without which the scientific part of the endeavor can just not take a start. This is also related to the practical nature of medicine: what we want medicine to achieve (i.e. preserving us from undesired states) guides this science in its development and application. In other words, the goals of medicine as a science are essentially value-laden. Certain states are conceived of as eligible for being disease states on the basis that we disvalue them because they deviate from certain idealized states of our body and mind. If medicine recognizes them as real diseases (on the basis of knowledge about the underlying causes, cf. section 4.2), this automatically implies that they should ideally be preventable or curable by medical means, which then becomes the goal that medicine sets itself. It is very important here to see that it is not nature but we ourselves who make the basic distinction between desirable and undesirable states on the basis of value-laden criteria. However, this does not alter the fact that there will be some real differences in causal processes underlying these distinctions. As Miller Brown (1985) stated in the last sentence of the above citation, it is the task of medicine to investigate these underlying facts, and to decide whether they are of a kind that can justify a 'disease' label. This brings us to the B part of my analysis.

3.3. Disease causation

As I explained, medicine studies the facts underlying disvalued bodily and psychological states. However, it is not the goal of medicine to give the full and complex description of the whole

[3] Although Murphy's (2006) approach to mental diseases has some clear parallels with the approach to 'disease' that I will propose in this paper, I disagree largely about some of the basic claims of and intuitions behind his view. I cannot go into details here, but in general, I take Murphy's view to be too naively positivistic.

causal setting that leads up to a disvalued state, since the details might even differ between different persons that seem to be in a similar disvalued state. As Kincaid (2008) pointed out (cf. citation above), medicine is a practical science focusing primarily on manipulable causes. This means that medicine does not focus on the whole causal explanation but makes causal selections of relevant factors. Hence, whether (a) certain cause(s) should be selected as *the* difference-making cause(s) between the desired and the undesired state is decided on the basis of their *explanatory relevance for medicine*. In line with Broadbent (2009)[4], I am convinced that a contrastive model of disease causation is the best one to describe how medicine conceives of disease causes. Contrasts make clear what medical science focuses on: explanatorily relevant causes. It is true you need a contrast to find these. However, in contrast with Broadbent (2009), I maintain that the choices of these contrasts are not neutral, but guided by what we already conceive of as desirable and undesirable states beforehand.

The medical discipline's selection of certain causes as explanatorily relevant, implies the conviction that medicine should ideally be able to prevent, cure or improve the resulting disvalued state, and that our biomedical knowledge would also support such an intervention. Whether medical practitioners really *can* intervene in the right way depends of course on the stance of the medical know-how and is subject to developments in medical knowledge. It is true that the difference-making causes are actually not always known in cases where medicine nonetheless intervenes, for example when prescribing psychopharmacological drugs to intervene in 'mental diseases'. In such cases, it is the (accidental) finding that certain treatments work to change certain disvalued states, that led to the conviction that they have a specific bodily cause which is directly influenced by the treatment, and which medicine should be able to specify in the future. This way of reasoning can nonetheless be dangerous, and can give rise to medicalization on the basis of what is sometimes called the 'treatability fallacy'.

3.4. Interaction

[4] I do not agree with Broadbent's (2009) arguments for rejecting a multifactorial model, since I am convinced that he confuses the neutral description of causal processes leading to a 'disease' with the causal selection of certain factors as '*the* causes' in view of the specific interests of medicine.

On the one hand we have our considerations about desirable and undesirable states, on the other hand, we have medical knowledge about underlying causes that lead to certain states. However, these two factors do not stand apart, and should not simply be summed up to have a 'disease' (as in the case of traditional hybrid theories). The two factors do not form a unidirectional two-step recipe for finally deciding whether or not certain states deserve the label 'disease'. It is crucial to see the ongoing interaction between these two factors. Finding explanatorily relevant difference-makers for a state that we consider as eligible to be called 'disease', and which make it possible medically to intervene, will form an important confirmation of the 'disease' status. The reverse is also true. Finding a clear causal difference-maker for a certain kind of deviance which we were not readily inclined to consider as a possible 'disease', might form a basis for a change in our value considerations. On the other hand, a lack of clarity on explanatorily relevant difference-makers for an eligible state will heighten doubt on the aptness of the 'disease' label. Whether or not we label a certain state as 'disease' hence results from an ongoing interaction between people's value considerations and the medical knowledge that can confirm the special status of certain disvalued states on a scientific basis. This can also clarify the variability in the disease concept that lead, for example, also to historical changes and cultural differences.

3.5. Disease kinds

There is more to say. There will always be different extents to which A (the value considerations leading to an eligible 'disease' state) fits B (the scientific knowledge concerning the relevant cause(s) of this state). This can lead to different kinds of diseases according to the kind of causal explanation that can be given for some eligible state. Nick Haslam (2002) proposed a very interesting classification of psychiatric diseases which fits in nicely with this idea. In his proposal for a pluralist view of psychiatric classification, Haslam (2002) started reasoning from kinds of categories in psychiatric disorders. This results in a conceptual taxonomy, based on the analysis of the kinds of causes which are involved in different categories of disease, of the resulting degree to which boundaries of different categories can be objectified, and of the degree to which

pragmatic considerations are in play. Haslam (2002) applied his theory in terms of kinds of categories to the domain of mental diseases. In what follows, I will give an overview of his different kinds and give also examples of physical diseases which fit in these categories, showing that Haslam's approach can be generalized to 'disease' in general.[5] I use Haslam's approach as an example of how different kinds of diseases might be discerned on the basis of different kinds of causal explanations, without claiming that the account is exhaustive.

The first two kinds of disease categories discerned by Haslam are what I like to call 'continuous disease categories'. In both cases, there are no real discontinuities separating the diseased and the non-diseased individuals. Haslam's first continuous kind is the 'non-kind'. In this disease category, one encounters characteristics that are normally distributed among people. The distribution results in continua along which individuals differ only by degree. Each binary distinction on this continuum discerning non-diseased from diseased individuals would be arbitrary and artificial. The continua result from the fact that the degree to which each individual is characterized by certain traits is determined by the accumulation of many small causal influences, leading to a normal distribution among the population. The degree of someone's inclination to be happy and optimistic or rather unhappy and pessimistic, to be active or rather lazy, to be patient or rather nervous, and so on, all result from such normal distributions. Even if an individual's characteristic should be situated at an extreme end of a continuum, this is the result of normal distribution and hence does not form an objective reason to label this individual 'diseased'. Haslam (2002) gives the example of neuroticism. According to Haslam, neurotics should not be called diseased individuals, just as we should not be inclined to call, e.g., an extremely lazy person or an extremely patient person mentally 'ill'. The same holds for physical traits: being very large, having flap-ears, having a lot of freckles and so on, all result from normal distributions of traits. Generally, we will not be inclined to call the people having these traits 'diseased'. However,

[5] What makes a physical disease physical and what makes to the contrary a mental disease mental, forms a basis for discussion on its own (see e.g. Brülde & Radovic 2006). However, I like to start from the intuitive distinction between both to explain the framework that I want to adopt. It suffices to state here, that I follow Brülde and Radovic (2006) in their statement that we make the distinction on the basis of the kind of symptoms involved and/or the kind of (supposed) internal causes of diseases, although this does not happen in a clear and principled way.

there are traits (both mental and physical) that result from normal distributions but that we will nonetheless find eligible to be labelled 'disease' in certain extreme forms, while in fact there is no objective reason to do so.[6]

The second continuous kind of diseases discerned by Haslam is the practical kind. Also in this kind, a clear diagnostic threshold is missing. Nonetheless, some scientific findings justify the imposition of a boundary which is conceived to be necessary for practice. A pragmatic distinction for diagnosis will be imposed, such that those whose condition is severe enough for clinical attention will fall in the 'diseased' group, and those whose condition is milder will not be included in this 'diseased' group. As an example of a mental disorder falling into this kind of disease category, Haslam (2002) refers to depression. He also gave some examples of physical conditions which should be situated in the practical kind disease category, namely obesitas and high blood pressure (Haslam 2002, 206-207). High blood pressure does not directly lead to disease symptoms (except when the pressure is extremely high), but nonetheless leads to heart and vascular diseases in the long run. An individual with a systolic blood pressure of 12 mm/Hg has a higher chance to get a heart infarct than an individual with a systolic blood pressure of 10 mm/Hg. The difference in chance is nonetheless not very big. However, the chance to get heart and vascular problems increases rapidly once one has a systolic blood pressure of 14 mm/Hg and higher. That is why a systolic blood pressure of 14 mm/Hg is taken as the threshold for diagnosing with hypertension. A similar example is hypercholesterolemia. The rule here is "the lower, the better": the lower one's cholesterol level, the lower the chance that one will get a heart or vascular disease. However, medical practitioners look at the point where the risks start to raise rapidly. This is the case from 190 mg/dl. Hence, this is taken to be the practical threshold which justifies considering treatment. Although the diagnostic boundaries in the above examples are still debatable, thorough reasons exist for imposing them, and the agreement on these diagnostic

[6] Haslam takes this as an argument for claiming that we are simply misguided if we are inclined to label any extreme traits that result from a normal distribution 'diseased'. I do not think that things are so straightforward though. In some cases, it might be clear what medical means can be used to 'treat' the undesired state, although it is for sure not always clear whether it is appropriate to see the state as a 'disease'. However, this does not form a problem as such. It is important to know that we are in a 'grey zone' for disease labelling when talking about states that fit in Haslam's 'non-kind' category and hence, that we should be very careful in the weighing of values and scientific knowledge in such cases.

boundaries seems widely accepted.

Haslam (2002) argues that in those cases where one can discover real discontinuities, one should further discern three different kinds of 'discontinuous disease categories' of which only one can be understood in an essentialist manner. The first of these three kinds is the fuzzy kind class. Fuzzy kinds do not result from specific causal factors that are absent or present. A more complicated constellation of causal influences needs to be supposed to explain the intermediate ambiguous subset in the fuzzy kind category. Many of these causal constellations resulting in a fuzzy structure are developmental or dynamic. In any case, an essentialist causal model cannot explain the fuzzy structure of this kind of diseases. Haslam (2002) illustrates this kind with borderline personality disease. Arteriosclerosis is a possible example of a physical disease in the fuzzy kind category. When becoming older, the walls of our blood vessels thicken because of fat deposition and, later on, the hardening of these fat layers. In the long run, this causes the formation of blood clots and consequently heart infarcts, brain thrombosis, and mortifying of limbs. Most children will be non-members of the disease category of arteriosclerosis, since arteriosclerosis hardly occurs among children. Elderly persons that suffered for example a heart infarct or brain thrombosis are clear members. But in between these two groups are a very ambiguous group of individuals including those which only have a very light form of arteriosclerosis, or more severely suffer from arteriosclerosis but nonetheless do not have clear symptoms because the flow of blood to their organs is still satisfactory.

The second kind of disease category with real discontinuities but nonetheless not understandable in an essentialist manner, is what Haslam (2002) calls the 'discrete kind':

"Simply put, a discrete kind is a category in which membership is dichotomous, the category boundary being objectively discoverable rather than conventional or pragmatic, but which is not grounded in a single defining or causally determining essential property" *(Haslam 2002, 210).* Haslam (2002) thinks melancholia (also called nuclear, endogenous, endogenomorphic, or melancholic depression) to form a good example of a disease falling in this kind of category. Research supports a taxonic understanding of melancholia, which explains the disease according to a threshold model: "According to this model, melancholia emerges as a quantitatively distinct

form of depression when a threshold value on an underlying depression continuum is exceeded: at this point a distinct pathologic process is somehow triggered" (Haslam, 2002, 212). An example of a group of physical diseases falling into this category, are autoimmune diseases. Diagnosing an autoimmune disease requires that a lot of conditions are fulfilled. First, autoantibodies should be present. But given that a lot of healthy people have autoantibodies, this is not enough to diagnose autoimmune disease. One should proof that the autoantibodies cause inflammations, that these inflammations are of a particular kind and that they affect particular organs that can explain the symptoms. Just having autoantibodies is hence clearly not the essence of an autoimmune disease.

The last kind of disease category that Haslam discerns, is what he labels the 'natural kind':

It is at least conceivable that a categorically distinct psychiatric syndrome might occur only when a specific, causally efficacious pathologic process, mechanism, or structure is present. For instance, if a particular genetic mutation were invariably and exclusively associated with a constellation of psychiatric symptoms and had a preponderant causal role in their production, this mutation would seem to qualify as an essence in both the sortal and the causal senses (i.e., being a defining feature and causally responsible for the kind's observable properties). (Haslam 2002, 212)

As a mental disease that might possibly be viewed as a dichotomous kind disease, Haslam (2002) refers to William's syndrome. As Haslam argues, unambiguous examples of mental dichotomous kind disorders are not easily found. They are more easily found in the domain of physical disorders. Infectious diseases form a good example.

Haslam's kinds of disease categories nicely illustrate that the more complex and unclear the relevant, causal explanation for possible 'disease' states is, the more doubt might arise about the appropriateness of a disease label. It makes clear how we can evaluate the reasonableness of a 'disease' label for a specific undesired state by critically reflecting on the knowledge we have on explanatorily relevant causes, of the similarities and differences with other diseases of the same category and/ or diseases in the other categories, and of pragmatic considerations that should be taken into account. This will not lead to final decisions or final definitions, but will force us to

critically think about the meaning of ‘disease’, and to be consequent in the use of this notion.

4. Possible counterexamples and further worries

In section 3, I proposed an alternative framework that provides us with a tool that can help us evaluating the rational basis for ‘disease’ labeling. This view certainly does not lead to a final definition which can clearly demarcate diseases from non-diseases. However, I am convinced that it gives a more realist description of the way we build, use, apply and change our concept of ‘disease’ than any traditional conceptual analysis can. Let me nonetheless have a closer look at some possible counterexamples and counterarguments for my pragmatist view.

First, some people might worry about the fact that what is a ‘desirable’ state is highly contextual and subjective and that a single odd desire of a single individual might consequently be enough to upset my view in that it might make the odd desired state eligible to be called ‘disease’. However, it should be clear that I do not talk about individual preferences here, but about a kind of desires that we almost generally agree upon. To clarify this distinction, it is good to think of individual preferences as bidirectional (state 1 can reasonably be considered undesirable in view of state 2, but meanwhile state 2 can also reasonably be considered undesirable in view of state 1). The preference for one of both states will vary largely among individuals in the case of individual preferences. General preferences for certain desirable states are, on the other hand, desires for unidirectional changes which we highly agree on (cases in which we largely agree on the fact that or state 1 is desirable in view of an undesirable state 2, or that state 2 is undesirable in view of state 1, but they can not reasonably be desirable together). Let me give some examples to clarify this. Some woman have small breasts, others have larger breasts. Some of the woman with smaller breasts, desire to have larger breasts and the reverse. Are both ‘having small breasts’ and ‘having large breasts’ eligible for disease states? No, since it is clear that we conceive it reasonable that women’s desires about this vary and hence that this concerns individual preferences. Compare this to the fact that some women have breast cancer and others have not. In this case we generally agree upon the fact that not having breast cancer is the desired state. People arguing for the reverse will be found irrational. It is nonetheless clear that

we can apply our medical know-how to fulfill individual preferences, as is often the case with plastic surgery. Such a use of medical know-how is, however, not the result of a central concern of medicine and does not imply that we have to do with a ‘disease’.

A related counterexample that has often been used in the literature is the case of unwanted pregnancy. Cooper (2002) defends that unwanted pregnancy can be a disease on the basis of her analysis of the ‘disease’ concept. I think her approach forces her to conflate individual preferences with general ones. Being pregnant is not generally conceived of as an undesirable state. Even a person who became unintentionally pregnant and does not like to be in that state, might be supposed to agree that being pregnant is not an undesirable state as such. Not being able to become pregnant when sexually active at a fertile age is a state for woman that is to the contrary eligible for being labeled a ‘disease’, since we generally agree that this is an undesirable situation. However, this stands apart from how specific individuals think about it when they are in that situation (hence, whether or not they also want to become pregnant).

Some people are also happy to learn to live with their ‘disease’ without medical interventions. This is for example the case for the part of the deaf community that does not support cochlear implants. That most people think we have good reasons to label some state ‘disease’, does not need to imply that medical science should necessarily intervene. Further, if a society at a certain point in time agrees upon the fact that it is not straightforward to consider a certain state as eligible for being a ‘disease’ state, this might form a reason for no longer viewing certain groups of people as ‘diseased’. This would be the case for deaf people if we would all agree with the argument that deafness is not problematic and harmful, but only results in another way of living.

Lastly, some states, such as teething (also a popular example in the concept of disease debate), cause suffering and seem therefore eligible for being a ‘disease’ state. The causes for the suffering are also clear in this case and can be medically intervened on by taking the teeth away. It is clear that we will not do this. That is why I added the condition that the desirability of a medical intervention should be supported by our medical knowledge. For this reason, teething cannot be stated to be a ‘disease’, since we know it is useful to get teeth, although that might result in pain. It also implies that medical practitioners will not intervene on the level of the cause,

but they might nevertheless consider to use the medical know-how to conquer the symptoms of teething (such as pain). The latter shows again that medical knowledge can be used more broadly than only for the prevention and treatment of diseases. That a medical intervention can improve a certain disvalued state, hence does not necessarily imply that it concerns a 'disease' state.

5. Conclusion

I gave an alternative approach to the concept of 'disease'. In doing this, I did not elaborate a traditional conceptual analysis, but tried to offer a pragmatic framework. My approach does not lead to a final definition but is meant to be more closely tied to the way we build, use and apply the concept 'disease'. It is also meant to be useful as a basis for reflection in medical practice. I do not want to claim that this approach offers the final word for the concept of disease debate. My main goal was to propose an alternative framework that can show how the debate might evolve in a more fruitful way. So I hope that it makes readers rethink the way we traditionally debate about the concept of 'disease' and might help in leading us to a more fruitful concept of disease debate.

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