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# 1 The two-stage view and the division of labor

A number of problems or questions have been thought to motivate our interest in the philosophy of psychiatry. I will begin by introducing some of these. I will then turn to two main approaches to answering the questions of the nature of mental disorder and the science of psychiatry. On the one hand we have the critique that there is no such thing as mental disorder, or alternatively that there is little more to mental disorder than a certain kind of social and / or moral norm violation. The idea is then that psychiatry is a form of social control like law and it is not appropriately regarded to be a specialist branch of medicine. On the other hand we have the two-stage view whereby suffering, distress, and / or normative violation is by itself insufficient for mental disorder. In addition to a normative aspect there needs to be something biologically wrong with the person. The sciences of mental disorder and psychiatry as a clinical field are thus conceived of being concerned with discovering and treating that biological wrongness. After considering Wakefield's argument for identifying the biological wrongness with an objective, scientific notion of evolutionary dysfunction we will then be in the position to consider whether it (or an account like it) can assist us with the questions that initially motivated our interest in the account.

I will argue that scientific accounts of biological wrongness seem problematic with respect to the development of a science that is capable of answering the questions that initially motivated our interest in the topic. I will urge that we face up to this and hold some of the normative assumptions up for examination and critique. This is not to say that sciences have nothing to contribute. The sciences are, of course, coming to discover important information that comes to bear on these issues. The next two parts will be concerned to develop a better understanding of the contribution of sciences to the study of mental disorder.

## 1.1 Why should we care: Motivating the problems

We are repeatedly told that we are living in the midst of a mental health epidemic. As many as 1 in 4 are thought to be afflicted by mental disorder at some point in their life. The social cost of mental disorder is thought to be staggering and a number of theorists speak out vocally about the need for it to be increasingly prioritized in government health budgets and individual health insurance plans.

The main issues in the philosophy of psychiatry have been those of defining and classifying mental disorder. Defining disorder involves delineating the boundaries of madness, or differentiating between the sick and the well, the mad and the bad, the just odd, the disgusting, and the morally reprehensible. It involves distinguishing between the non-pathologically grieving - and the depressed, the attention deficient and the naughty, the deformed, and those in search of the more ideal. Some individuals might think they are ill, but really they turn out to be mistaken and they are not. Surely not everybody who believes themselves to be ill gets to be ill. We need to distinguish between the genuinely ill and the fakers and malingerers. We also need to distinguish between the genuinely ill and those who are in pursuit of perfection. This issue seems especially pressing with respect to prioritization of funding for health care and whether or not individuals should receive health insurance reimbursement or government assistance for certain sorts of intervention.

We also need to distinguish between the conditions that are medical disorders and those that are not<sup>1</sup>. Are such conditions as attention deficit, pathological gambling, alcohol addiction, binge eating, pedophilia, and narcissism issues of mental disorder or is something different going on? Is dissociative identity disorder merely a

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<sup>1</sup> Throughout I shall use the term 'condition' as a value neutral way of referring to different states of people. What I mean is probably made clearest by way of example: Having small breasts, being pregnant, having cancer, being homosexual are all examples of 'conditions' in my neutral sense. We would like to know which (if any) of these are bio-medical disorders.

different morphological variant on borderline personality, is it importantly different and / or is there really no such thing? Are apathetic children suffering post-traumatic stress or is something different going on? These issues seem important as they impact on whether or not individuals are due special consideration around failure to meet social obligations such as those to employers or dependents. It seems important in determining whether or not they are justified in adopting the sick role. These issues seem to relate to whether the appropriate attitude towards failure to meet social obligation is one of empathy, pity, and assistance, or whether it is appropriately one of blame, punishment, and condemnation. These issues seem to impact upon whether governments and health insurance plans are under some sort of obligation to provide help or assistance and perhaps parity of treatment funding for mental disorders. Is the appropriate avenue for assistance that of psychiatry, clinical psychology, social worker, religious leaders, self help consumer groups, or some combination?

These issues seem to matter insofar as they impact upon whether an individual does or does not receive treatment and what kind of treatment it is that they should receive. It impacts upon the conception we have of the person who is regarded to be mentally ill. It impacts upon the self-conception of those who are regarded (or not regarded) to be mentally ill. Some people report finding solace in being given a diagnosis and that their diagnosis assists them in their view of themselves and in making connections with understanding others. It also impacts upon from whom they should receive treatment. There are many forms of suffering only some of which are thought to be medical, however. A number of theorists have spoken out against the medicalization of pregnancy and the idea that medical doctors should be authoritative when it comes to managing the condition.

## **1.2 Normativist concerns**

### **1.1.1 Psychiatry as a form of social control.**

The 1960's saw much critique of psychiatry as people started to wonder whether there was a scientific basis to mental disorder or whether psychiatry was more like

law or ethics than medicine in the sense of being an institution concerned primarily with the social control of normative violation. Typical examples of cases that brought these issues to the fore include Soviet psychiatrists who liberally diagnosed individuals with schizophrenia solely on the basis of political dissent. The presence of homosexuality in early editions of the *Diagnostic and Statistical Manual of Mental Disorders*, and the success of lobby groups in its ultimate removal. The suggestion that slaves who desired to escape their owners were suffering with the disorder 'Draeptomania'. While this never came to be adopted in an official system of classification critics started to question whether there was any principled reason to distinguish between such bogus categories as these and other alleged mental disorders such as schizophrenia and bi-polar. The majority of theorists accepted that those with mental disorders were violating social norms. The controversy was over whether this exhausted the nature of mental disorder and psychiatry or whether there was a non-normative, scientific aspect that served to ground psychiatry firmly in the biological sciences.

Some theorists maintained that psychiatry (and psychiatric or mental disorders) were importantly different from non-mental disorders. The idea here was that mental disorders dealt with normative violations in a way that bio-medical disorders did not and that psychiatry was more like law than medicine in the sense of being an institution and practice concerned with policing normative violation. Szasz maintained that this was because there was something special about the mind. He adopted a dualist position about the mind and dualistic arguments to arrive at the conclusion that the mind could not dysfunction the way that bodily or physical systems could since the mind was different in kind. We might well be surprised at Szasz insistence on dualism in the face of the relative success of materialism or naturalization. I will not enumerate or critique Szasz's position here. It is an interesting claim that psychiatry and the science of mental disorder is importantly different because it deals with the mind. Many have thought that there was something specially different about psychiatry precisely because the mental is importantly different. Usually the idea is that there is something special about

mental states such as intending or reasoning. Insofar as psychiatry is concerned with issues of this perhaps it is more problematic in principle than the rest of medicine.

Fulford (2000, p. 83), for example, in writing about the 'naturalization cascade' considers that it is common ground even among naturalizers that some areas of science are more overtly value laden than others. '... psychiatry is more overtly value-laden than more high-tech areas of medicine, medicine more than biology, and biology more than the natural sciences, such as physics'. What naturalizers have in common, however is 'the belief that somewhere deep down in the naturalization cascade there is a value-free foundation, an heuristic holy grail, on which biology, and in turn the theoretical cores of medicine and psychiatry can, in principle, be built up as mature scientific disciplines (Fulford, 2000, p. 83)'.

### **1.1.2 Eliminativism**

In response to the normativist critique some theorists have been led to be eliminativists about mental disorder. Eliminativism has a long history in science. Certain notions such as phlogiston and witches were once considered scientifically respectable but, the thought is, we have come to learn that there is no such thing. Some theorists have been led to conclude that similarly, there is no such thing as mental disorder fairly generally or that there isn't any such thing as particular kinds of mental disorder, or a particular kind of mental disorder (e.g., some theorists have maintained that there isn't any such thing as schizophrenia, rather we have a group of things so are better to speak of 'the schizophrenias').

The idea here is that we take a category like witches or phlogiston. The thought is that witches were thought to have a bunch of properties that enabled us to more or less identify them and thus to learn about them. The thought was that while there were indeed women and some of them had cats and beards and lived a solitary lifestyle. And indeed some of them floated when we attempted to drown them. And yet these individuals turned out not to have special powers. And thus we

conclude that since having special powers (and using them for malevolence) is incredibly central to the concept of witchhood that the appropriate thing to conclude here is that there aren't any witches. And thus since there aren't any witches we should probably stop drowning innocent (insofar as they aren't using special powers for malevolence) women. Whether or not they have black cats. And live by themselves. And float.

Or consider phlogiston. The wonderful magical heat fluid that flows from one substance to another that explains how when a hot object is placed near a cool object the cool object heats up. We could have concluded that phlogiston was a wonderful magical heat fluid that didn't weigh anything (since cooler items don't weigh more). We were led to conclude that there wasn't any such thing as a heat-substance that was transferred in the transfer of heat. And of course, on some accounts, at least, there aren't any such things as beliefs and desires according to neuroscience. And there aren't any tables or chairs (or substances, generally) according to subatomic physics.

In the psychiatry case theorists have typically used eliminativism about disorder to justify their notion that psychiatry isn't legitimately considered a specialist branch of medicine and to support their idea that the institution be eliminated or abolished. Sometimes this goes along with the idea of the abolition of involuntary treatment and the abolition of the insanity defense.

### **1.1.3 Aristotelian teleology**

Christopher Megone (Megone, 1998, 2000) thinks that the relevant notion of function and dysfunction for medicine and psychiatry is a blend of fact and value and that two-stage theorists (as we will go on to consider) are wrong in thinking it is solely a matter of fact. Megone defends a broadly Aristotelian view of health and function. There has been a fairly recent upsurge in theorists adopting a broadly Aristotelian view of health. The trouble with this kind of approach is that it seems more regressive than progressive. Aristotle's metaphysics, in particular his

essentialism, isn't something that the majority of theorists take seriously these days. It seems hard to see what sense we can make of something like the Aristotelian view within the context of more modern metaphysics. Lets have a go, however.

Aristotle had a view of essence whereby each thing was itself and not another thing in virtue of essential properties. Essential properties are had by things of one kind and not by things that are not of that kind. On this account essential properties are thus necessary properties for the thing to exist *as* or *qua* that type of thing. For example, to say that water is essentially H<sub>2</sub>O is to say that a molecule of H<sub>2</sub>O that came to lose or gain a hydrogen atom would no longer be a molecule of water. Or alternatively, a substance that appeared to be water that turned out to be comprised of molecules that weren't predominantly H<sub>2</sub>O molecules, would turn out not to be water after all.

Aristotle thought that when we asked about the essence of a person we thus needed to try and figure out what properties persons had that other critters lacked. Aristotle was led to conclude that only persons were rational animals and thus persons were essentially rational animals. This might seem a particularly promising line insofar as it seems intuitive to many that mental disorders have something to do with failures of rationality. It is perhaps more surprising that this line is thought to provide a take on non-mental disorders as well.

Aristotle thinks that the function of a person is what is good for a person *as* or *qua* persons. He thinks that rationality is what is good for persons, and understands rationality as being very broad indeed to include culture and language and indeed, political science. He thinks that this good for persons is health. That illness is disruption to rationality. Either direct disruption in the case of mental illness or indirect disruption in the case of physical illness. For Aristotle essential potentialities don't need to be actualized and thus it doesn't count against the view that there are people who aren't (perfectly) rational. Their personhood is called into question, however. We do wonder about whether children or mentally retarded are persons. Not whether they are homo sapiens - but whether they are persons. Part



of what seems so very problematic about being ill is that one's personhood is diminished.

On the Aristotelian view the person is primary and the parts derive their function from the contribution they should make to the function of the person.

He:

...argues first that there is a quite general connection between the function of a kind and the good of that kind... examples of musicians and sculptors whose good, *qua* musicians and sculptors, is tied to the function of each skill. Given this general claim, if humans *qua* humans have a function, that will determine their good too. Aristotle then cites two considerations in favor of the view that humans as such have a function. First he suggests that if carpenters and tanners have a function, then humans as such should do also; and second, he notes that since eyes and feet have functions, the human being as a whole must do so (NE 1.7, 1097b31ff.)" megone 2000 p 50

One interesting feature of the view is that it presents health as an ideal. An ideal that is equated with rationality. What is meant by rationality turns out to be much broader than we are perhaps typically used to thinking of it. Health, too. Political science. Instead of thinking of disease as a thing (an entity) it is lack of approximation to an ideal.

Megone (2000, p. 49) says that according to Aristotle 'Human beings have a function in the sense that there are goals or purposes that good human beings will realize (actualize). The Aristotelian claim is that the ultimate goal for a good human being as a whole is to live the life of a fully rational animal. The function of the bodily and mental parts of a human is to operate in ways that contribute instrumentally or constitutively to the realization of this goal. Thus a bodily ailment such as a lung condition is, at root, an incapacitating failure of the lung to function in the way whereby it contributes optimally to the life of the fully rational animal'.

Megone thinks that empathy with others, the sense of justice, complex social emotions like honor and pride and envy, capacity for language etc. are what Aristotle has in mind as part of what a suitably rich conception of the fully rational life will include (paraphrased p53) "In particular it makes clear that this claim can be understood only if it is recognized that he has in mind a very rich conception of rationality exhibited by a language speaking, emotionally complex, virtuous, social animal (and an animal also exhibiting the traits of theoretical rationality)." p53.

"the potentialities that are realized (actualized) when a member of a natural kind fulfills its function also constitute the essential potentialities of members of that kind. Thus that cycle of changes that constitutes the function of the human being as a whole (and the basis for determining the functions of parts) also determines what a human being is. As a result, making the supposedly evaluative judgement as to what constitutes an ill or healthy human being is the very same thing as making the supposedly factual judgement as to what constitutes a human being. The judgements are the same. There is no separation of fact and value."54 megone 2000

if humans qua humans had a function or goal that would be a suitable end in itself. role of political science to investigate this goal.

"Contrary to this metaphysical scheme stands the Aristotelian framework in which the scientific investigation of the natural world is an investigation of a world in which facts and values are fused. Correspondingly, the Aristotelian account rejects the fact/value distinction, rejects a Cartesian substance dualism about the mind and the body, and offers a much richer scheme of genuinely explanatory modes of (scientific) explanation that accords with the nature of the natural substances that constitute the world that science investigates. It is not surprising that an Aristotelian account of illness, which is a facet of a natural kind (in this case, human illness), should therefore

reflect this fusion of facts and values and the important role of irreducible teleological explanation within this metaphysical picture." 64

I will now turn to the two-stage view that attempts to defend a value-free biological foundation for psychiatry with respect to appealing to a non-evaluative notion of biological dysfunction. In the last part I will return to the normative objection and a discussion on whether it forces us to eliminativism.

### **1.3 The two-stage view: The science of dysfunction**

Imagine a tribe of hunter-gatherers where each individual contributes towards the hunting or gathering of food on a daily basis. Consider the following four cases:

1. During a hunt one of the members of a tribe is accidentally stabbed in the leg by a spear. When the spear is pulled out the skin is open and there is blood. When the person attempts to walk they scream and cease in their attempts.
2. One of the members wakes up in the morning and when the person attempts to walk they scream and cease in their attempts. The leg doesn't look any different to what it looked like yesterday when the person participated successfully in the collection of food.
3. As above except in this case the persons prior participation in the collection of food was unsuccessful and the person has previously expressed reluctance to participate.
4. As above except in this case the person refuses to attempt to walk.

I think most will find it plausible that the first case is the clearest case of the presence of bio-medical disorder whereas the fourth case is the clearest case of the absence of bio-medical disorder. The following considerations seem to be relevant:

1. The presence of physical abnormality / dysfunction / defect. What this is trying to capture is that in the cases where the skin is open and there is

visible blood we tend to have the intuition that there is something physically bio-medically wrong with this person.

2. The presence of suffering, pain, distress. What this is trying to capture is that the person seems perturbed psychologically and that this is limiting their normal activities.
3. We have some kind of duty or obligation to assist since they would be better off if what was wrong were to be put right.

And thus we arrive at a fairly generic version of the two-stage view. According to the two-stage view there is firstly an objective aspect to disorder (provided by the first condition) and secondly a normative aspect to disorder (the second and third condition). There are a number of different particular versions of the two-stage view as different theorists attempt to cash out the features of each stage in slightly different ways.

#### **1.1.4 The DSM view**

According to the two-stage view there are two individually necessary and jointly sufficient conditions for mental disorder. Firstly, there is malfunction, and secondly, the malfunction has harmful consequences for the individual and / or society. The clinician's handbook *The Diagnostic and Statistical Manual of Mental Disorders* endorses the necessity of the first condition when it states that 'whatever it's original cause it must currently be considered the manifestation of a behavioral, psychological, or biological dysfunction within the individual'. While we will go on to see that Wakefield differs from the DSM by maintaining that inner rather than purely behavioral malfunction is required it is clear that Wakefield and the DSM are similar in regarding malfunction to be necessary for mental disorder. The two-stage view has been extremely influential, partly because it promises, by way of the objectivity of the first condition, to ground psychiatry firmly on a scientific footing. The notion is that scientists can investigate malfunction independently from our normative assessment of harm. It is partly because malfunction is regarded as objective that the two-stage view has been embraced by the majority of psychiatrists.

One advantage of the two-stage view is that the first stage is seen as setting the scientific foundations of the study of disorder such that the scientists can learn about functions and malfunctions and identify them independently of our normative assessment of harm. While harm might be dependent on the values, norms, and activities of particular cultures malfunction is thought to be universal. The sciences can thus get on with discovering the objective facts about function and malfunction independently of our assessment of the normative consequences of the malfunction. There are facts about the individual malfunctioning that are necessary for mental disorder and as such mental disorder is not solely a matter of the individual violating norms. We thus have a picture of the division of labor between scientists on the one hand (engaged in the process of discovering dysfunction) and normative theorists on the other (who consider the notion of harm).

Before offering a definition of mental disorder the American Psychiatric Association (2000, pp. xxx-xxxi) begins with some caveats.

...although this manual provides a classification of mental disorders, it must be admitted that no definition adequately specifies precise boundaries for the concept of "mental disorder". The concept of mental disorder, like many other concepts in medicine and science, lacks a consistent operational definition that covers all situations. All medical conditions are defined on various levels of abstraction - for example, structural pathology (e.g., ulcerative colitis), symptom presentation (e.g., migraine), deviance from a physiological norm (e.g., hypertension), and etiology (e.g., pneumococcal pneumonia). Mental disorders have also been defined by a variety of concepts (e.g., disease, dysfunction, dyscontrol, disadvantage, disability, inflexibility, irrationality, syndromal pattern, etiology, and statistical deviation). Each is a useful indicator for a mental disorder, but none is equivalent to the concept, and different situations call for different definitions.

There are several issues that are raised by this section of the DSM. Firstly, the APA is explicit about attempting to offer an operational definition that enables clinicians to identify which individuals are mentally disordered. The APA is also explicit about attempting to offer an operational definition that justifies which conditions are included in the DSM as mental disorders. We may well wonder whether the above definition can do the work that is required of it. On the other hand we may have sympathy that if we needed to offer a satisfactory definition of 'life' before biological science could get up off the ground then we might well still be waiting.

The American Psychiatric Association continues on:

Despite these caveats, the definition of *mental disorder* that was included in DSM-III and DSM-III-R is presented here because it is as useful as any other available definition and has helped to guide decisions regarding which conditions on the boundary between normality and pathology should be included in DSM-IV. In DSM-IV, each of the mental disorders is conceptualized as a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. In addition, this syndrome or pattern must not be merely an expectable and culturally sanctioned response to a particular event, for example, the death of a loved one. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunction in the individual. Neither deviant behavior (e.g., political, religious, or sexual) nor conflicts that are primarily between the individual and society are mental disorders unless the deviance or conflict is a symptom of a dysfunction in the individual, as described above.

Rachel Cooper (2005, 2007) maintains that the definition was instead provided in the attempt to justify why certain conditions were included. Cooper has noted that the attempt to define mental disorder occurs at the time in which the APA was under considerable pressure from gay rights activists and anti-psychiatry lobby groups for the APA to justify how they decided that certain individuals / conditions were mentally disordered. In particular, the attempt was to ground psychiatry (or to justify psychiatry's status) as a specialty within medicine, and to directly counter the concern that psychiatry was in the business of confining and treating people who were merely in violation of social and moral norms as some anti-psychiatrists maintained. The DSM definition addresses this latter issue quite specifically in the last sentence.

It is to be understood that inclusion here, for clinical and research purposes, of a diagnostic category such as Pathological Gambling or Pedophilia does not imply that the condition meets legal or other non-medical criteria for what constitutes mental disease, mental disorder, or mental disability (xxxvii).

This carving off of the scientific concerns from the extra-scientific concerns is similar to Murphy's take when he focuses his book on the scientific notion of mental disorder rather than the extra-scientific notion that comes up in issues to do with moral and legal responsibility. Murphy also places treatment as an extra-scientific concern. I don't think that we can separate out these two stages of theory that occurs prior to application. This begs the question with respect to assuming an answer to the questions that interested us rather than discovering an answer to those questions.

The DSM definition includes many of the notions that different theorists have attempted to use to account for disease. It attempts to incorporate the literature. It joins the criterion that have been offered with disjunction. The problem with this definition is that it is hopelessly unclear how to apply it to particular cases. For

example, consider homosexuality. If we want to know whether homosexuality is a disorder or not we can apply the criterion to it and see if it fits. The problem is that the definition is fairly unclear. On the one hand a good conceptual analysis is as vague and approximate and rough and ambiguous as the term was initially. On the other hand it is hard to see how it is particularly useful to us.

#### **1.1.5 Wakefield's 'harmful dysfunction' analysis**

Wakefield maintains that it follows from our pre-theoretic concept of bio-medical disorder that there are two individually necessary and jointly sufficient conditions for disorder as follows:

1. There is evolutionary dysfunction to a mechanism
2. This dysfunction results in harm to the individual and / or to society

He thinks that it similarly follows from our pre-theoretic concept of *mental* disorder that:

1. There is evolutionary dysfunction to a *mental* mechanism
2. This dysfunction results in harm to the individual and / or society

We can see from the above account that Wakefield is a two-stage theorist both about bio-medical disorder in general and about mental disorder in particular. The first of the two conditions is intended to be non-normative or non-evaluative, while the second of the two conditions is intended to be normative or evaluative. Wakefield's focus has been on providing an account of the first condition and defending it against critique. He doesn't argue for the relevant notion of harm being normative or evaluative the way that he argues for the relevant notion of dysfunction being objective. This is because the burden of proof has been thought to be on theorists who maintain that there is an objective notion of dysfunction that



can show psychiatry to be grounded in medicine to be grounded more generally in the biological sciences.

Wakefield is of particular interest to us not only because of his account of evolutionary dysfunction but also because he has systematically articulated and defended his view over a period of 20+ years (See, for example 1992a, 1992b, 1993, 2000, 2003, 2004). (add 2011 reference and see if there is one earlier than '92)

Wakefield maintains that his position is “black box essentialist” and he explicitly contrasts it with a descriptivist (or “Roschian”) cluster view. The following is a reconstruction of Wakefield’s argument for evolutionary dysfunction being necessary for bio-medical disorder:

1. [P1] It follows from our concept of mental disorder that there is a dysfunction to a mental mechanism (in some pre-theoretic sense of dysfunction) that results in harm to the individual and / or to society.
2. [P2] It follows from our pre-theoretic notion of dysfunction that there is an historical process that fixes biological functions and dysfunctions. The nature of that process is to be discovered by science.
3. [P3] Scientists have discovered that the relevant historical process for fixing biological functions and dysfunctions is evolution by natural selection.
4. [C] Bio-medical disorders are evolutionary dysfunctions of a mental mechanism that result in harm to the individual and / or to society.

Wakefield starts out by appealing to our common-sense concept of bio-medical disorder that we have in virtue of being competent speakers of our language. He thinks that reflection upon this concept will lead us to see the truth of the two-stage view<sup>2</sup>.

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<sup>2</sup> One issue with putting things this way is that we may now wonder what to make of theorists who deny the two-stage view. Do they have a different concept of disorder since they weren’t led to the two-stage view that Wakefield thinks follows from our

The first premise in the reconstruction of the argument consists in something that is meant to follow conceptually or analytically from our concept of mental disorder. The notion is that in order to grasp the notion of mental disorder one must grasp that there is something wrong or dysfunctional about a person who has one. 'Disorder exists only when an internal mechanism is dysfunctional, specifically in the sense that it is incapable of performing one of its natural functions (Wakefield, 1999, p. 375)'.

He also maintains that 'at this stage of the analysis, natural function is used in an intuitive sense that has existed for millennia, not in a technical evolutionary sense'.

Wakefield draws an explicit analogy between his approach to 'mental disorder' and the causal-historical approach to natural kind terms such as 'gold' and 'water' that was defended by theorists such as Kripke and Putnam in the 60's<sup>3</sup>. A popular view in semantics is that there are two aspects to meaning; what we may (roughly) call a 'primary intension' or an 'A intension' or a 'description' or a 'meaning' on the one hand, and what we may (roughly) call a 'secondary intension' or a 'B intension' or a 'real nature' or a 'referent' on the other.

The primary intension is thought to consist in something along the lines of a description or a list of features that are cognitively significant and that form part of the meaning of the term / the content of a concept. In the case of 'water' / WATER the A intension consists in something along the lines of the colorless, odorless,

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concept? Perhaps these theorists have difficulty seeing what follows from their concept or perhaps they have a different concept or perhaps Wakefield is wrong in thinking that the two-stage view follows from the concept of disorder. How do we decide? I will return to this issue.

<sup>3</sup> Wakefield doesn't discuss some of the more modern controversies within the two-dimensional semantics framework such as the nature of the a-priori, issues of concept individuation etc.

potable, drinkable stuff that falls from the skies and fills the lakes etc. In the case of 'gold' / GOLD the A intension consists in something along the lines of the yellowy, shiny, malleable, valuable metal. Now, while it is thought to be contingent that the terms 'water' or 'gold' have the A intension that they have, it is thought that in order to grasp the concept of WATER or GOLD one does need to grasp the A intension. That is what it is to understand the meaning of the terms or to have grasped the relevant concept. As such, it is thought to be a-priori, or a conceptual or analytic truth that the A intension of WATER or GOLD is the description that is listed in the A intension.

Kripke and Putnam went on to argue that while this is one aspect to meaning, there is also another aspect to meaning - reference - that served to link the term or the concept on to something that mind-independently exists in the actual world. The B intension is thought to be discovered by science by way of their discovering what the realizers or the A intension are in our world. In the case of 'water' scientists discovered that the colorless, odorless, potable, drinkable stuff that falls from the skies and fills the lakes etc around here was  $H_2O$ . In the case of 'gold' scientists discovered that the yellowy, shiny, malleable, valuable metal around here has atomic number 79. The notion then is that certain kinds of terms - natural kind terms - function to track the reference or the B intension. So in Putnam's famous twin-earth scenario if there is a world (not the actual world) in which the watery stuff (the A intension) turned out to be XYZ, then the watery stuff on that world would not be 'water', WATER, or water. Conversely, if it turned out that if there is a world (not the actual world) in which  $H_2O$  is black and tarry then the correct way to describe the world is that their 'water', WATER, or water is black and tarry. This is because 'water', WATER and water is necessarily or essentially  $H_2O$  *given that* 'water' functions as a natural kind term (which is to say *given that* 'water' tracks the B intension) and that  $H_2O$  is the B intension / nature on this world.

The second premiss of Wakefield's argument is also meant to follow conceptually or analytically from our concept of mental disorder. Wakefield maintains that it simply follows from our concept that the nature of the bio-medical dysfunction that he

arrived at in premise one is something that is for science to discover. This is, in effect, to treat the relevant sense of 'bio-medical dysfunction' to be a natural kind term whose essential nature (reference or B intension) is to be discovered by science.

In the second stage, Wakefield maintains that 'the seemingly anthropomorphic notion of the function of a biological mechanisms is analyzed in straightforward scientific causal terms... The language of function is used to indicate that certain effects of biological mechanisms are so complex, beneficial, and intricately structured that they cannot be accidental side-effects of random causal processes but, like the intentionally designed functions of artifacts, must somehow be part of the explanation of why the underlying mechanisms exist and are structured as they are... Assertions that certain effects of a mechanism are useful do not offer any explanation of the mechanism; the usefulness could be due to chance. In contrast, function attributions implicitly make an explanatory claim, namely, that the mechanism is the way it is partly because of its usefulness. Disorders, then, are failures of mechanisms to perform their natural functions, where natural function is understood in the aforementioned explanatory sense.'

He then maintains that 'strictly speaking, these two steps complete the conceptual analysis of disorder. However, this analysis does not explain how an effect (e.g., pumping, seeing) could explain its own cause (the heart, the eyes), nor does the analysis provide a criterion by which one can scientifically distinguish natural functions from other effects in a manner more precise than that afforded by commonsense intuitions. The analysis inevitably leads to the question, what kind of underlying process could possibly be responsible for such seeming design in natural systems without any designer? To answer this question, there needs to be a scientific theory of how such explanatory effects can come about. The attempt to answer this question leads to a third step in the argument: Evolutionary theory provides the only plausible scientific account that presently exists of how the natural functions of a mechanism can explain the existence and structure of the mechanism... The third, theoretical argument leads to the conclusion that disorders

are failures of mechanisms to perform functions for which they were naturally selected’.

The third premise consists in an empirical claim that is meant to be revisable in the face of future empirical evidence. The notion is that as the best current chemical theory holds that water is  $H_2O$  and that gold has atomic number 79 that the process for fixing biological functions and dysfunctions is evolution by natural selection. The conclusion thus follows analytically from the premises: *Given that* our notion of BIO-MEDICAL DISORDER entails BIOLOGICAL DYSFUNCTION(as asserted in premise one); and *given that* BIOLOGICAL DYSFUNCTION is a natural kind term (which is to say that it tracks the B intension as asserted in premise two); then *given that* science tells us that BIOLOGICAL DYSFUNCTIONS are fixed by evolution by natural selection (as asserted in premise three); it follows analytically or conceptually from those premises that BIO-MEDICAL DISORDERS are (at least) failures of evolutionary function.

The “black box essentialist” account I (Wakefield, 1997, 1999b, 2000) present is one flavor of such essentialist views; the name and a few nuances are mine but the basic ideas are derived from the noted philosophers. The proposed concepts are essentialist because category membership is ultimately determined not by observable properties (e.g., for water, clear, thirst-quenching liquid) but by the hypothesized theoretical property or “inner nature” that explains the observed features (for water,  $H_2O$ ). The proposed concepts are black box because, rather than defining concepts by specific theoretical properties (e.g., “water is  $H_2O$ ”, such concepts postulate a theoretical explanatory structure and remain agnostic on its identity, which may be unknown (e.g., “Water is anything that has the same substance-essence as the clear thirst-quenching liquid in the lakes and rivers”). This essentialist definition uses the prototype properties not as universal criteria for the construct but only to indirectly refer to its essence. Thus, the definition allows things very different from the prototype set, such as ice, steam, or  $H_2O$  atoms floating in space, to be water. The description based on the prototype sample allows us to fix

the reference of the construct term by a “closed” concept, and all other propositions remain “open” but are not part of the concept (Wakefield, 2004, p. 79).

Wakefield is thus led to identify mental disorder with a failure of an internal mechanism to perform its evolutionary function. Our concept of water is such that it is transparent, potable etc. Our concept of water is also such that water is a substance. Best scientific theory then tells us the underlying property of the substance that is responsible for the properties that featured in our concept. The essential property of water is thus the property that the scientists have discovered. Wakefield similarly thinks that our concept of mental disorder is such that it is a harmful dysfunction. Our concept of harmful dysfunction is also that there is a causal process that fixes the functions and dysfunctions. Best scientific theory then tells us that the underlying causal process is evolution by natural selection. The essential property of mental disorder is thus the property that scientists have discovered.

Black box essentialism can also be used to identify kinds of mental disorder as follows:

Roughly, “schizophrenia” might be defined as follows: Take as the prototypical set those who Bleuler originally picked out as clear cases of schizophrenia, when he defined the concept; an individual then falls under the concept of schizophrenia if he or she possesses the underlying psychopathological structure that was shared by most of that prototypical set and explains the symptoms that led to their being placed in the set (Wakefield, 2004, p. 81).

On scientific discovery:

But isn’t it possible, however remotely, that temperature could turn out not to be mean kinetic molecular motion after all, or that water could yet turn

out not to be H<sub>2</sub>O? We could wake up tomorrow, for example, and find that chemists had discovered that their instruments had been systematically mis-calibrated and their instruments' readings misinterpreted, and that the liquid in the familiar lakes and rivers has as its molecular structure not H<sub>2</sub>O but, say, XYZ. If that happened, we would surely not conclude that there is no water in the lakes and rivers... Rather, we would conclude that water is not H<sub>2</sub>O after all, but XYZ showing that even theoretical reductions get their legitimacy... from whether they in fact match out pre-theoretical concept (Wakefield, 2004, p. 81).

Two-stage theorists attempt to distinguish the normative aspect of disorder and separate it out from the non-normative aspect. The basic idea behind such an approach is to isolate out a scientific theoretic core that is common to psychiatry, medicine, and the biological sciences more generally. This aspect is thought to exist prior to, independently of, and upstream from issues of normativity or other application. This aspect can be investigated and learned about independently from the normative aspect. While the normative issues are important we can put them to one side and get on with developing the science of psychiatry. The status of psychiatry as a specialist branch within medicine is assured, however, since the subject matter – that of mental disorder – forms a subset of bio-medical disorder more generally. There is more to mental disorder than normative violation. Much ink has been spilt as theorists have attempted to provide a more precise specification of the nature of the non-normative aspect. Theorists have turned to work that has been done in the philosophy of biology on naturalizing norms with respect to naturalistically respectable accounts of talk of 'function' and 'dysfunction' in evolutionary biology.

More recently theorists have turned to physiological accounts of function and the idea of diseases or disorders as (at least partly) due to disruptions or failures of homeostasis. The idea here is that insofar as we grant that function and dysfunction talk is scientifically respectable in evolutionary biology and physiology medicine and

psychiatry inherit that scientific respectability. The notions of disease and dysfunction in medicine and psychiatry are no more problematic than they are in medicine, physiology, and evolutionary biology. We can thus proceed with the science of disorder in the face of the anti-psychiatry critique.

#### **1.1.6 Evolutionary dysfunction**

Philosophers have been interested in naturalistic accounts of mental functions and dysfunctions in the hope that it would help us naturalize intentionality or mental content / representation. The idea is that if there is a scientifically respectable notion of function and dysfunction perhaps this can be utilized to account for mental representation / misrepresentation. The following is a bit of a journey of the history of accounts that have been offered. A criterion of adequacy is that an account of function must also be able to account for dysfunction and (importantly) distinguish both of those from dif-functions (different functions).

One way of naturalizing normality vs abnormality is to employ the statistical notions. If normal just means statistical average then there are objective facts about normality or abnormality that are non-normative or statistical. There is controversy over whether mental retardation is merely a statistical notion or whether there are mechanisms that result in mental retardation. While intelligence is described on a bell curve there are clusters of people who are found at the low end of the range and it could be the case that certain mechanisms are responsible for the clustering. Hypertension is also a controversial example. It is unclear whether we are best to think of hypertension as a disorder that is defined in terms of heart rate at the high end of the statistically normal range or whether we focus our attention on these people because they are prone to disorders or dysfunctions. It seems clear that only some statistical abnormalities are relevant and it seems possible that in the cases that are statistically deviant their status as a disorder is dependent on something other than the fact that the conditions are statistically deviant. It would seem possible that the entire population could suffer from parasites or broken limbs, for



example, yet the fact that such conditions were statistically normal would not seem to change our intuitions about the conditions pathological status.

The problem of offering a naturalistic or scientifically respectable account of biological function and dysfunction has long been a concern for philosophers and for philosophically inclined biologists. In the 1960's a number of philosophers attempted to naturalize talk of function and dysfunction in biology by appealing to evolution by natural selection as the naturalistic process that fixes functions and dysfunctions. The thought is that if talk of 'function' and 'dysfunction' in biology can be successfully translated into talk of evolutionary functions and dysfunctions then biologists use of the terms are unproblematic from a scientific point of view.

The basic thought here is that evolution by natural selection requires only three things. The first is that there be variation in some trait. The second is that there be competition for resources such that some variations of the trait result in greater relative fitness than others. The third is that that variation in the trait be heritable such that the offspring are more likely to have the variant of their parents than the other variants in the population. The thought is then that if that obtains evolution by natural selection could result in the population coming to be fixated on certain variants of the trait. Having a heart that pumps blood, for example, could be such that individuals that lacked that variant would be at such a disadvantage that it would surely make sense to say that they had a dysfunctioning heart in the evolutionary sense.

The thought is that there are types of organisms in an environment that have variation in the tokens they have of some kind of trait. If some variants of the trait result in greater relative fitness than other variants and if that trait is more likely to be inherited by future generations of that organism then that trait can come to proliferate over the other variants. In this way certain features can come to be fixated in organisms (e.g., the majority of people are born with hearts and brains and limbs etc).

Three things are often thought to be required for evolution by natural selection to occur. Firstly, there needs to be a trait that has different forms or variants. Secondly, some forms or variants need to be 'better adapted' to their environment such that they result in that variant surviving better than others. Thirdly, there needs to be a mechanism of heredity such that the 'better adapted' traits survive better than others in the sense that the proportion of variants alters due to the offspring of one variant being more likely to resemble their parents than the parents of others. If these three things obtain then evolution by natural selection will occur - which is just to say that the relative frequency of the traits will ??

The notion of biological function has inspired a great deal of controversy within philosophy. Some theorists maintain that appealing to the process of evolution by natural selection is not enough to fix biological functions and malfunctions. One would need to add a clause to the effect that eyes enable us to see under 'normal conditions', for example, but it is unclear how one is supposed to go about specifying 'normal conditions'. One can't simply appeal to conditions that were statistically frequent in our evolutionary pasts, for example, as it would have been dark around half the time and yet we wouldn't say that a person had a malfunctioning eye if they couldn't see in the dark.

Evolutionary theories appeal to certain kinds of special causal properties that are meant to fix functions and dysfunctions. The idea here is that evolutionary processes fix 'natural' functions. Or that there is something special about these particular causal properties and processes. The idea is that whatever it was about past tokens that resulted in their outperforming alternative variants such that they proliferated is the function.

M has the function of causing behaviour B\* iff

- 1) M has been naturally selected in virtue of causing B\*

Critics have rightly pointed out that M could have been selected for B in our evolutionary past, but be maintained in current populations in virtue of causing C. One example of this would be that the mechanism that subserve language were selected for one function in our evolutionary past, and yet they seem to have an acquired function of subserving language now so that if language was impaired due to their failure this would be a genuine instance of malfunction. Wakefield responds to this objection by clarifying the role of evolutionary history by natural selection:

an effect is a function only if it plays a continuing role in explaining the maintenance into the present generation (i.e., continued existence) of the mechanism in the species. A former function that ceased exerting selective pressure long ago is not currently a function because it has no role in explaining current species-typical structure. 979 2003 dysfunction as factual.

Thus Wakefield's revised view thus seems to be that:

M has the function of causing behaviour B\* iff

- 1) M is maintained in the population (by natural selection) in virtue of causing B\*

The biological notion of function is thus thought to be fixed by objective facts about the mechanisms and facts about evolution by natural selection.

Thus, according to Wakefield a clinician is justified in maintaining that X is mentally disordered iff

- 1) The clinician judges that according to the best theory of B\*, B\* is caused by a malfunctioning mechanism

‘the HD analysis is an analysis of the concept of disorder, not a theory of the mechanisms or dysfunctions underlying disorders’. p978 2003 dysfunction as factual.

Systemic capacity theories think that there is a notion of function and dysfunction in physiology (for instance) that is scientifically respectable but not evolutionary. The idea here is that there is a sense in which Harvey understood the function of the heart centuries before Darwin. In other words, the discovery that there was a closed network of arteries, capilleries, and veins and that the heart served to pump the blood around this closed network told us something important about the function of the heart (to pump) without appealing at all to evolution by natural selection.

## **1.4 Biological wrongness and the division of labor**

### **1.1.7 Natural norms**

One of the features of the natural world that biologists have been charged with explaining is the adaptedness of a number of its features. For instance, birds have wings which are adapted to flight and fish have gills which are adapted to underwater. Or eyes seem adapted to seeing. Or consider Darwin’s Finches where different beaks are adapted to support different foraging patterns. Adaptedness was traditionally explained by appealing to the intentions of an intelligent designer God. Creationists commonly cited this feature of the natural world as something that could only be explained by appeal to the intentions of an intelligent designer creator God. One of the successes of modern biological science has been the provision of an alternative, naturalistic account of how evolution by natural selection could result in the emergence and fixation of adaptive traits.

Since evolutionary processes have been useful to explain adaptive morphological features it seems only natural to suppose that they might also be useful to explain psychological features. Evolutionary accounts of the evolution of mind proliferated. Several assumptions of Evolutionary Psychology (cosmides and Tooby) were that the mind is massively modular. Assumptions of cognitive psychology. Assumptions of cognitive-neuropsychology.

While there is no one characterization of modularity that all theorists would embrace or no list of standard features that all theorists would accept features that are typically thought to be central to modules include informational encapsulation, xxxx Modularity might be something that comes in degree. For instance, informational encapsulation might be a property that comes in degrees as more or less information is available to or from more or less channels.

Once upon a time in our deep evolutionary pasts there weren't any norms. Today there are. One might then have a view whereby a successful naturalization project involves telling the story of how these norms emerged. On the other hand theorists have noted that you 'can't derive an 'ought' from an 'is' or, alternatively, that it doesn't follow from any description of the way things are any prescription of the way that things should be. We might thus have serious concerns about evolutionary accounts of norms insofar as they attempt to derive prescriptive conclusions from descriptive premises.

Naturalistic theorists are fond of drawing our attention to naturally emergent properties such as that of liquidity. It might not seem obvious that liquidity would inevitably derive from certain arrangements of atoms – and yet this is precisely what liquidity is. Similarly, it might not seem obvious that norms arise from certain kinds of naturalistic processes and yet it might turn out that that is precisely how certain norms came to be.

Here theorists are fond of attempting to distinguish between hypothetical and categorical imperatives. Hypothetical imperatives are of the sort 'if you desire to

maximize y then do x'. They say that these can successfully be naturalized. Categorical imperatives of the sort 'do x' can't be naturalized, however. Let us suppose (for the sake of argument) that categorical imperatives cannot be naturalized. One might well say 'so much the worse for categorical imperatives' (e.g., there aren't any such things insofar as they can't be naturalized). One might say that it turns out that the best candidates for categorical imperatives aren't really categorical after all.

What about bio-medical and mental disorders? What is good for a person? Health? Flourishing? Ideal views. Consider plants. Nutrient deficiencies. Death. Causes of death. Suicide. Coma etc (anorexia).

It has long been noted in philosophy that you 'can't get an 'ought' from an 'is' or, alternatively, that it doesn't follow from any description of the way the world is what (if anything) should be done. Or, again, it doesn't follow from any description of the world what prescription there is for the way forwards.

This idea doesn't sit very well with naturalization, however. The whole idea of naturalization is to show how norms arose.

Fulford talks of 'event horizons' or places where theorists have introduced normativity in their account of disorder. While different theorists use their terms slightly differently (and indeed different theorists often focus on slightly different terms) most have some idea of which notions they consider to be normative and which notions they consider to be non-normative. And where in their little nested hierarchy they place the event horizon for the introduction of norms or values. For instance, we might think that mental and bio-medical disorder are normative notions but that they can be grounded in the non-normative dysfunction – in which case the event horizon occurs between those terms. An event horizon must occur somewhere, however.

Kantians think that norms or values can't be naturalized for something like the above considerations. Other theorists think that they can be naturalized, however. What we have is some kind of emergence. For example, liquidity is an emergent property that can be explained by the nature and interaction between smaller bits that comprise the liquid that are not themselves liquid. In this way values can be naturalized by appeal to something logically or perhaps causally prior that is not itself normative.

We need to consider again the work that the dysfunction criterion is meant to do: We start with a candidate phenomenon. We then want to know whether the candidate phenomenon is really a disorder or not. If there is a biological dysfunction within the individual then yes, we have a case of disorder. If there is not a biological dysfunction within the individual then no, we do not have a case of disorder.

There are different ways in which we can query the above account. The first is to maintain that it is OVER-INCLUSIVE. This is to say that some biological dysfunctions that cause some normative violations are not disorders. The other is to say that it is UNDER-INCLUSIVE. That is to say that some disorders are caused by other things. It isn't necessary for disorder at all. Some disorders don't involve dysfunction. Dysfunctions (perhaps) come far too cheap.

Sometimes the attempt to naturalize function and dysfunction is characterized as an attempt to naturalize norms. The idea here seems to be that function and dysfunction are normative notions but that a successful naturalization of them will be an explanation that appeals to purely natural (non-normative) properties and processes. Other times the attempt to naturalize function and dysfunction is characterized as an attempt to show these notions to not be normative insofar as a successful naturalization of them will be an explanation that appeals to purely natural (non-normative) properties and processes.

Sometimes evolution by natural selection is claimed to be the naturalistic process that naturalizes the notions of function and dysfunction. The thought seems to be

that insofar as evolution by natural selection can fix functions and dysfunctions of biological phenomena (e.g., eyes, hearts etc) these norms have been successfully naturalized. Other times the success of the above is claimed to have shown us that evolutionary functions and dysfunctions aren't normative after all. The idea here is that they are purely naturalistic, respectable phenomena. Either way, we can see how the notion of evolutionary function and dysfunction is supposed to legitimize our regarding people to be functioning or dysfunctioning in a way that isn't problematic. There are mind-independent scientific (e.g., biological) facts about function and dysfunction and it isn't a matter of our expressing disapproval or moral indignation etc.

The notion here is that we begin with some feature of biological systems that we would like to explain. We might want to explain vision, for example, or the circulatory system. What we then do is discover how there are mechanistic components that contribute to the explanandum. In the case of vision we discover that there are parts to the eye (e.g., the cornea and the lens) and that they each seem to contribute differently to the explanandum - vision. The systemic notion maintains that the functions are fixed by the contribution that the component part makes with respect to the relevant output of the system that was our initial explanandum. This is thought to account for functions and dysfunctions in physiology in particular where physiologists often make no reference to evolution by natural selection.

The obvious move to make is to maintain that functions attach to trait types rather than trait tokens. A token of the type can thus be a functional token or a dysfunctional token. Davies has argued that in order to do this we need some independent way of characterizing types.

Cummins offered his systemic account of function as an analysis of what was going on in at least some areas of physiology. While evolutionary biologists may at times make use of an evolutionary notion of function it seemed clear to Cummins that there was a notion of function in play that didn't explicitly make reference to



evolutionary considerations and he attempted to analyze this. Many theorists have found Cummins notion of systemic function to offer a plausible analysis of function talk in physiology in particular. One might thus think that this notion of function might be more relevant to medicine and to psychiatry.

There has been much controversy over whether Cummins has offered a genuine rival to the evolutionary account of function. One might consider something like an ecosystem, for instance, and then take the systemic approach by attributing functions to components of the ecosystem such as clouds and predators etc. Theorists have argued that there needs to be some non-arbitrary way of fixing the relevant systems. Systems can't be arbitrary mereological fusions, for instance. Thus one way of restricting the range of systems that the systemic notion employs is to use evolution by natural selection. Similarly, one might argue that the evolution by natural selection is more fundamental than systemic analysis because the systemic analysis only works in virtue of evolution by natural selection operating over the systems.

This alternative view of function arose as a development of the work of Cummins. The basic idea is that there seems to be a sense of biological function that is not essentially historical. In order to see this we just need to consider the obvious truth of the claim 'Harvey understood the function of the heart centuries before Darwin'. The idea here is that when Harvey came to understand that the heart functioned as a pump within the circulatory system we learned something about the function of the heart even though we didn't learn anything at all about the general or specific historical processes that have resulted in hearts. While for the evolutionary theorist the questions 'how did x come about' and 'what is the function of x' are to be given the same answer for the systemic theorist these questions come apart while the questions 'what is the function of x' and 'what role does x play in some greater system' are equivalent.

On the systemic capacity account functions are assigned to components in virtue of the role that they play in the production of an output in some greater system. If one

wants to give a systemic account of some trait or variation on a trait then firstly one appeals to some system that produces the phenomena that one wants to explain. Once one has the relevant system then one proceeds to analyze the system into components and assign functions to the components in virtue of the role they play with respect to the production of the phenomena that one wants to explain.

Davies maintains that it is important to note that assignment of function to components is relative in two respects. Firstly, which components are relevant is going to partly depend on what phenomena the researcher is interested in offering an account of. Secondly, which features of the components are functions is going to partly depend on what phenomena the researcher is interested in offering an account of. Despite these two aspects of the systemic capacity view being partly determined by the interests of the researcher Davies maintains that there are also several features of systems that are not dependent on the interests of the researcher.

We have already seen that systemic capacity analysis involves appealing to two distinct levels. There is the level of the phenomena and the system that produces it and there is the lower level with the components and their functions. Davies maintains that systems must consist in two distinct levels and once we hit a level at which the outputs are basic where the 'system' cannot be analyzed into further components then we have reached the end of the systemic capacity chain of explanation. Aside from this bedrock we can often reiterate the systemic capacity framework down - explaining the workings of the circulatory system, the heart, certain kinds of tissue, certain kinds of cell, and so on.

Davies enumerates the systemic view as follows:

1. I is capable of doing F,
2. A appropriately and adequately accounts for S's capacity to C,
3. A accounts for S's capacity to C, in part, by appealing to the capacity of I to do F.

4. A specifies the physical mechanisms in S that implement the systemic capacities itemized in A.

While the majority of theorists attempt to show systemic capacity functions to be grounded in evolutionary functions or to show that the different accounts are involved with different explanatory projects Davies argues that evolutionary functions turn out to be a certain kind of systemic capacity functions. He maintains that by viewing a population as a system and viewing members of a population as constituents of the system we can offer a systemic capacity analysis of the phenomena that we want to explain in a way that captures all the verdicts of the evolutionary view. He also maintains that it is an advantage of the systemic capacity view that it can help us understand what is going on with evolutionary explanation or modeling of other phenomena that the evolutionary function view can't explain such as drift. Davies seems right to be putting pressure on the evolutionary view to move from the adaptation assumption to other phenomena that is of evolutionary 'interest' even if it isn't straightforwardly explained by evolution by natural selection.

While it might be thought to be a feature of Davies view that it can be applied to phenomena that the evolutionary view (at least in its simple version) can't explain it might be thought to be a vice of the view that it is over-inclusive. While Davies has no trouble applying the view to artifacts that produce things such as assembly lines intuitions are divided as to whether we want a unified account of artifacts alongside biological phenomena. While Davies briefly considers Godfrey-Smith's concern that the systemic capacity and evolutionary views are both important because they pick out importantly different causal chains at different levels of analysis he moves on from the objection and doesn't consider it further. I don't see the problem in reserving the term 'proper function' for solely functions arising from evolution by natural selection or for solely functions arising from the historical analysis of biological phenomena. Hard to know where to draw the line on mental phenomena but hard to distinguish psychiatry from neurology at any rate.

One problem with attempting to ground medicine and psychiatry in the systemic rather than the evolutionary notion of function is that the systemic view (as enumerated by Cummins, anyway) doesn't allow us to differentiate dysfunction from the absence of function. Cummins enumeration is that the function of some part mechanism  $x$  is fixed by the causal contribution makes towards the output of the system. So the function of a heart valve might be (roughly) to regulate blood flow as the casual contribution the heart valve makes to the hearts pumping of blood is to regulate blood flow. The trouble is that if the valve fails to regulate blood flow then this view doesn't provide us the resources to say that the valve is malfunctioning. This is because if the valve doesn't play that causal role then it simply fails to have that function rather than it dysfunctioning.

Other theorists have attempted to develop the systemic notion of function in such a way that it can account for dysfunctions. One way of going about this would be to make use of a type and token distinction. On this view the function of the heart valve is to regulate blood flow because this is what mechanisms of the valve type do with respect to contributing towards the hearts pumping of blood. Because the functions are type-functions rather than token-functions a token valve that failed to regulate blood flow could be described as malfunctioning because it is not playing its type function.

The problem with this view is that we need some independent way of stating how tokens get to be members of a type. If we are attempting to explain how the type has the function that it does then we can't say that a token is a member of a type in virtue of exhibiting the type function because part of what we are trying to explain is how the types have their function. We don't seem to have grounds for saying that a token is a dysfunctioning member of a type rather than saying that insofar as the token doesn't play its usual contributory role it fails to be a member of a type. And thus it lacks a function rather than dysfunctioning.

Davies develops a systemic view of function and he simply acknowledges that it doesn't have the resources to handle dysfunction talk - but then he maintains that

the evolutionary notion can't adequately account for dysfunction either so that is no reason to adopt the evolutionary notion over the systemic notion. While it might not be an adequacy constraint on function talk in general that it can account for dysfunction it does seem that insofar as medicine and psychiatry attempt to ground their subject matter in dysfunction an adequate account of medical functions must be able to account for dysfunctions, however. If Davies is right that neither the systemic or the evolutionary notion can allow for dysfunction then this will have very skeptical implications for medicine indeed. While Davies does talk about medicine a little he doesn't seem to realize the role that dysfunction talk is supposed to play with respect to grounding medicine and psychiatry in particular in the natural sciences. He thus doesn't realize how significant his finding that neither can account for dysfunction would be with respect to medicine and psychiatry.

The obvious way to provide an account of dysfunction is to see functions as properties of types. On this account a type (e.g., hearts) have a functional property (e.g., functioning as a pump). Particular tokens or instances of hearts can thus be functional or dysfunctional hearts depending on whether they function as a pump or not. What is needed for this style of account is for there to be properties that are sufficient to make a particular instance a member of the kind but where the functional property itself is not needed in order for the instance to be a member of the kind. If the functional property was needed for kind membership then we wouldn't have dysfunctional hearts because an alleged heart that didn't have that property would not be a heart after all.

In defending the systemic account of function as being primary (where evolutionary functions are thought to be a subset of systemic functions) Davies offers an argument that seems to create a problem for naturalistic accounts of function more generally. While we considered briefly above that a number of theorists think that attempts to naturalize function are doomed to fail because of problems with dysfunction being normative and biology being non-normative Davies maintains that while it is commonly thought to be a virtue of evolutionary accounts of function that they can offer a naturalistic account of dysfunction he maintains that evolutionary

accounts fail to do so. It is thus no objection to the systemic view that it cannot either. Davies doesn't seem to explicitly consider the role that dysfunction has played in attempts to naturalize bio-medical disorder. As such it is hard to know whether he would be happy or unhappy with this implication of his view. It is worth considering whether one can get dysfunctions out of the evolutionary notion of dysfunction (or an alternative naturalistic account of systemic). This will better help us understand the role and limits of sciences contribution to fixing what conditions are bio-medical disorders.

Davies has fairly recently raised a couple of objections to the evolutionary view that are worth considering. If Davies objections are well founded then there would seem to be significant problems with appealing to the evolutionary view that haven't been properly unpacked in the literature. Davies notes that one of the great appeals of the evolutionary function view is that theorists have done much in order to show that it can provide an account of malfunction or dysfunction. The main objection to the systemic function view is that the systemic view does not have the resources to account for dysfunction. Davies maintains that despite this common wisdom the evolutionary view is not able to provide an account of dysfunction. He maintains that as such it is no objection to the systemic view that it cannot. If Davies is right that neither the systemic or the evolutionary view can offer accounts of dysfunction then this will create a significant problem for the two-stage view insofar as the appeal to evolutionary and / or systemic functions is supposed to provide an account of biological dysfunctions which is supposed to be what science discovers about psychiatric and mental disorder. Davies also maintains that the evolutionary view can be shown to be a particular kind (or variant on) systemic capacity functions. The main objection to this line has been that one can account for dysfunction but the other cannot. This part is less relevant for here. If we can't get dysfunctions then that seems very problematic. Davies does not seem to have considered the implication of this or how theorists have attempted to use the terms in medicine and psychiatry.

Firstly, the notion of a 'set point' or 'set point range' is introduced. The notion is attributed to Cannon. The thought was that in studying cells he noticed that the internal temperature of the cell was fairly invariant to change despite the alterations in external temperature. He noticed that the internal temperature tended to not move much around a fixed point. The average???? Was the set point. The degree of variation is the set point range. What happens when the internal temperature varies outside the set point range? Sickness and death. Whatever staves off death. Whatever preserves the characteristics of life. Important to note that thermoregulation isn't a characteristic of life, but perhaps there are subsidiary functions that are required for those characteristics to be present. Death seems to be an objective measure (while there is trouble characterizing death 'around the edges' we have a fairly intuitive understanding of the notion in the majority of cases). 'Health' or 'well functioning' is harder. There seems to be another level of functions (of which thermoregulation is one). Other things thermo regulate of course and in explaining this a little more we turn to considering the philosophers favorite example of a thermostat.

We are now in the position to see how anatomy, physiology, levels of analysis, characteristics of life, the notion of a set point are inter-related from the perspective of anatomy and physiology. While anatomy and physiology come apart they seem to relate to and constrain each other in important ways. While philosophers often think that H<sub>2</sub>O could have a different chemical constitution and play the same qualitative role it is interesting to note that the question takes on a different problematic aspect when considered from the perspective of the properties of the atoms and how they confer properties on the molecules which in turn confer properties on the observable interactions. They are more tightly bound from the perspective of different levels in science than philosophers have often supposed with variations to lower levels not conferring much in the way of change to variations at higher levels. Philosophers who have taken the sciences seriously seem less inclined to multiple realizability intuitions. Might be that they are missing something of philosophical importance here or might be that philosophers are missing something about what scientists have to show us about the way the levels

are related in science (much less multiple realizability for scientific kinds than philosophers have supposed).

Despite Wakefield's taking the evolutionary approach to be the only *scientific* game in town, the evolutionary view is not without its critics and we are far from a consensus on the correct analysis of function and dysfunction talk in biology, general medicine, or psychiatry. The systemic capacity view provides another way of understanding function talk in biology. The systemic capacity account is different from the evolutionary view in that it makes no essential reference to historical processes and instead attempts to ground functions in component capacities of systems. While the systemic capacity account originally offered by Cummins did not have the resources to account for dysfunction many theorists have thought that the approach could be adapted so as to do so. While evolutionary theorists often consider the main virtue of the evolutionary approach to be that it provides a naturalistic account of dysfunction this has recently come under fire by Davies who defends a modified version of the systemic capacity view. He argues that the evolutionary view is not really an independent theory and that evolutionary functions turn out to be a particular kind of systemic capacity function. He also argues that neither the evolutionary nor the systemic capacity view have the resources to offer a naturalistic account of dysfunction. If this is correct then it seems that we are left with a significant problem. In particular, if Davies is correct that neither view has the resources to offer an account of biological dysfunction then this would seem to undermine the two-stage views assumption that the role of science in bio-medicine and psychiatry is to discover facts about biological dysfunction. In what follows we will consider both the evolutionary and systemic capacity views of function and then turn to problems that each view has in providing a convincing account of function. We will then consider how each fares with respect to providing an account of dysfunction and end with some thoughts on the role of science in discovering facts about bio-medical and psychiatric disorder.

Thus far most of the discussion has focused on the problem of fixing functions and very little has been said about dysfunction or malfunction. Something clearly needs



to be said about dysfunction as there is a third option that any theory must be able to rule out: the problem of distinguishing the functional from the non-functional from the malfunctional. While some theorists might not consider it a criterion of adequacy on a theory of function that the theory have the resources to account for dysfunction (as opposed to dif-function or non-function) given the role that dysfunction is supposed to play in medicine and in psychiatry being able to account for dysfunction must be a condition of adequacy on any account of function that purports to be relevant for general medicine or psychiatry.

There seem to be two ways that we can approach the problem on the evolutionary view. The first is to consider traits where the idea is that traits are binary (all or none) and mutually exclusive. On this view where we have a case of stabilizing directional selection for one trait then we might consider we have the best case of selection against the other traits and thus the other traits are dysfunctional. A similar alternative would be to consider there to be different values within a variant. Similarly, where we have a case of stabilizing directional selection for one of the variant (or values of the variant) then we seem to have the strongest case of selection against the alternative variants or values. Both of these seem to amount to a similar thing. The main issue that arises here is how we individuate or type traits or variants on traits. We have already considered above the considerable problems that arise when we try and assign function to traits or variants of traits. Similar issues seem to arise when we try and assign dysfunction to traits or variants of traits. But perhaps this whole approach to the issue is misguided. Maybe what we really need is a type and token distinction.

The usual way that evolutionary theorists talk about dysfunction is to distinguish between a type that has a function (or a variant that has a function) and particular tokens of that type or variant that lack the function. On this account the function of the type heart is to pump blood because pumping blood is what resulted in past hearts proliferating such that there are token hearts now. A heart can malfunction by not pumping.

Davies objects to the above characterization maintaining that the evolutionary view does not have the resources to account for malfunctioning instances of types. Davies argument for this is that evolutionary theorists individuate types according to their functions. Since the functions are thought to be necessary and sufficient for membership in the type it is thus impossible for an instance to both be a member of the type (possess the necessary and sufficient condition or function) and yet lack the function and hence dysfunction. Davies thus maintains that instead of a heart malfunctioning all the evolutionary view gives us the resources to say is that the instant that does not pump is not a heart after all and thus it doesn't have the function to pump and thus is isn't malfunctioning or dysfunctioning so much as lacking the function that we wanted to assign.

Davies argument relies on the evolutionary theorist individuating types according to the function that the theorist assigns to the type. Insofar as types possess their function as a matter of necessity he seems correct that a instance of a type cannot malfunction. Despite his maintaining that this is the way that every evolutionary theorist has individuated types it seems that there is another way that seems more licenced by the evolutionary view. He also admits that evolutionary theorists individuate types according to their etiology. This seems naturally at home with the evolutionary view and it is important to note that the best theory we have of species membership is etiological rather than morphological (where morphological might be thought to be more in line with the systemic capacity view).

Davies argument that the evolutionary view does not have the resources to account for dysfunction relies on traits being types according to their function. The problem is basically that IF traits are typed according to their function THEN an instant that fails to exhibit the function fails to be a member of the type and hence we do not have the resources to say that the instant is a malfunctioning or dysfunctioning member of its type. Davies claim seems correct in the sense that if having some function F is both necessary and sufficient for F's being classified as a member of the functional kind K then if F were to lack the necessary and sufficient condition for being a member of kind K then it would simply stop being a member rather than

being a dysfunctioning member. By analogy if we consider an instant of gold and we then apply a proton gun and remove one of the protons then the instant isn't a malfunctioning or dysfunctioning or abnormal instance of gold in virtue of having one less proton. Rather, the thing to say would be that the instant that was a member of the kind gold is no longer a member of the kind gold - rather it is a member of kind (whatever has one less proton than gold).

In response to Davies objection one needs simply note that it will not do to individuate kinds functionally rather some other criteria must be used for kind individuation. While Davies writes that all evolutionary accounts appeal to functional kinds there is an ambiguity with respect to what is meant by 'functional kind' here. In particular, by functional kind one could simply mean 'kind with a function' where the conditions for kind membership come apart from the function that is attributed to members of the kind.

Earlier we considered four broadly different approaches to accounting for function and dysfunction including: teleological, bio-statistical, evolutionary, and systemic. We can also consider different notions within each of those as there are different ways of specifying statistical normality / abnormality, for instance. I am not wanting to get caught up in the issue of whether these are simply different notions or whether these are rival accounts of the same notion. What seems important is which (if any) version of any of these notions can be made to work to do the work that is required of it for psychiatry.

In order to assess which (if any) can do the work that is required we need to return to the issue of what work is required. The idea seems to be that firstly we observe that behavior is deviant or problematic (in some yet to be specified way). This isn't sufficient for disorder, however. It is widely thought that if that was all there was to it then psychiatry would in fact be illegitimate. What makes psychiatry legitimate, however, (the practices of treating and incarcerating including involuntarily) is that there is some relevant dysfunction that is the cause of the deviant behavior.

While theorists can agree that we can define up any notion of function and dysfunction we want they can simply say that this doesn't impact upon what notion is employed in medicine / psychiatry or (perhaps more importantly) the issue of which notion should be employed in medicine / psychiatry. Theorists are fond of maintaining that there is a 'natural' notion and it is this notion that is important.

For instance, sometimes we read of theories of 'natural norms'. We can ask what this theory of 'natural norms' is supposed to be.

#### **1.1.8 The proposed division of labor**

Theoretic science. Proceed independently from the clinical science and independently from normative concerns. Clinical laboratory science. Progress in genetics, neuroscience etc.

Clinical science. Proceed independently from the clinical science and the normative concerns insofar as it focuses on hypothetical imperatives if you want to stop x behavior then provide y drug.

Ethics. Proceed independently in asking whether we are justified in intervening against will and the rights duties etc.

Each of these three aspects considered to be fairly independent with not much of a meeting. Instead of this view I think we need to see them as being integrated. Or: If we want the findings of one to be relevant to the findings of others (as I think we do) then we need to see them as being integrated from their foundations. It won't do to have theorists utilizing radically different notions.

#### **1.1.9 Rethinking the division of labor: The problems as explanandum.**

Murphy maintains that the malfunction assumption does for psychiatry what the adaptationist assumption does for evolutionary biology. He goes on 'which is to say that sometimes the malfunction assumption is false, sometimes we don't know whether it is true or false but that does not impugn diagnosis'. One thing that concerns me about the malfunction assumption, however, is that it is supposed to be what grounds psychiatry as a non-evaluative science and that it seems to recommend a methodology for modelling mental disorders. The methodology seems to be that we model 'normal' or 'functional' biological or psychological processes and then we explain disorders by appealing to breakdowns in the model. Much work in the cognitive neuro-sciences and the bio-medical sciences has been done utilising this approach. We have explanations that characterise delusions as being the result of some kind of breakdown in belief formation and / or retention mechanisms; we have explanations of autism as a theory of mind deficit and so forth. The malfunction assumption can't make much sense of other projects that have been done, however. Instead of working with the malfunction assumption some theorists have worked with a function or adaptationist assumption where certain traits (such as histrionic or psychopathic) may be modelled as evolutionary adaptive strategies. Some theorists have attempted to characterise disorders such as depression, schizophrenia, and anxiety as evolutionary adaptive strategies that result in harm in present environments because environmental circumstances are far removed from those in savannah life.

While I'm not going to look at the plausibility of particular theories that have been offered my main point here is that the malfunction assumption does not seem to be required in order for us to study mental disorders scientifically. Instead of attempting to model mental disorders as deviations from some standard one could simply describe the causal processes that seem relevant for some behavioural output while remaining neutral on whether that behavioural output is adaptive or maladaptive. Science can thus model the causes of certain kinds of behavioural symptoms even in the absence of the malfunction assumption. What seems harder to do in the absence of the malfunction assumption, however, is to say what it is about certain conditions or people that means that they are disordered.

Attachment and psychodynamic (neurobiology of shared emotion, attachment). Telescope sciences instead of microscope sciences. Where are we headed as a society? What do we value? Rising populations support greater division of labor. Greater division of labor allows for superspecialists who maybe aren't so much generalist. Idea of neuroplasticity and plasticity (adaptiveness) as being something very specific. Maybe in terms of individual development... Acquiring specific skills. But maybe individuals can then be relatively fixed.

See what happens when segments of the economy collapses. E.g., a meatworks closes. How well do those workers fare at alternative employment? Specialist vs generalist.

The issue of normative violation / harm seems important insofar as this seems to be epistemically the first step. We have this intuition that there is something wrong with the individual and we want to know what is wrong. Is it that they are mentally disordered or they are bad or what is going on. Sceptics maintain that we start with this intuition and then we 'cast about for something to medicalize' and it does seem that something like this is what is going on. We then find something – a candidate for dysfunction. The problem with accounts of dysfunction is that they seem very liberal indeed – fairly much everyone would be dysfunctioning in some way. There is a story to be told. Such stories seem to come cheap. Fairly persuasive. Of course one might maintain that this is so but that things really are very much tighter than that. We are mistaken...

Many theorists have the intuition that there are objective facts about who is and who is not mentally disordered that are for the natural sciences to discover. Geneticists and neuroscientists, for example, are working to discover the relevant facts so we are better able to diagnose or identify individuals with disorders. So we are better able to prevent the development of disorder and to treat it effectively. Newspaper headlines proclaiming 'science has discovered the biological basis of schizophrenia) are surely premature but the idea is that there is such a biological

basis to be found and it is only a matter of time. If we aren't sure whether we are sick or not we can go to a doctor who can do some diagnostic tests and perhaps send away for some and tell from the results data whether or not there is anything medically wrong with us.

Fulford (2000, p. 79) states that:

Medicine has been successful precisely through its identification with science. No one wants to be a loser, therefore. Everyone wants to join the winning team. Psychiatrists (such as Kendell 1975) want to naturalize mental illness in terms of disease so that they can join the medical team of medical science; medics (such as Campbell, et al. 1979) want to naturalize disease in terms of dysfunction so that they can join the winning team of biological science; biologists (Allen, et al. 1998) want to naturalize dysfunction in terms of function so that they can join the winning team of natural science; natural scientists, on this model, are the winning team.

In considering evolutionary models to be dynamic or temporal such that they capture population dynamics over time the possibility arises that psychiatric disorders may have been adaptive in the evolutionary sense at some point in the past but that due to recent alterations in our environments they are no longer so. This notion brings out an interesting point that variants are only adaptive in relation to other variants and also in relation to the environment that the variants are in.

Homo Sapiens have radically reconstructed their environments. We build buildings, work in high rise office blocks in front of computers, live in inner city apartments, and negotiate public transport systems or navigate our own motor vehicles. We have complex social structures of banks and educational schools and government departments. What is required in order to be considered 'not significantly impaired in ones social, occupational, or educational functioning' are obviously different in at least some respects from the conditions our ancestors operated under in the pleistocene. While a phobia of falling might significantly impair one who is expected

to live and work in high rise apartments and fly around the world for business and / or family a phobia of falling might have positively benefited those who lived in environments where heights were usually cliffs where wind was particularly strong. Similarly, while social aloofness and communication with non-apparent things might impair ones negotiation with social services, potential employers and educators such behavior might result in a very different outcome in a society where such behaviors result in a person being revered as a holy prophet or healer with special gifts.

Cooper's gets us to think the about the notion of a weed where a weed is (roughly) an unwanted plant. The notion of a disease or a disorder seems to be like this. While there can be a science of plants there can't really be a science of weeds. There isn't anything that weeds have in common that is aside from our interests. Medicine is similar to this. It is interest dependent. Consider cancer from the pov of the cancer or disease as being centered on the organisms welfare rather than our own. Medicine and psychiatry is indeed importantly dependent on our interests and values. With respect to morphology and with respect to behavior. Psychiatry is more about behavior than medicine. It seems more intentional. We want to distinguish those with different sorts of intentions. This is seriously problematic. The notion of mental disorder is primarily a moral notion. Secondly law and medicine. Different sorts of intervention on incapacity – on failure to do that which we think people should . Of ocurse more must be said about the relevant norms. But the point is that more must be said about the relevant norms not that we are waiting on evolutionary biologists discoveries about which conditions are caused by dysfunctions.



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