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Realism and Constructivism in Medicine

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Introduction

The central entity of medical science is the disease. The focus of medical research is finding treatments for the various diseases patients suffer from. Indeed, if medicine is the science “of” something, it is the science of diseases, seeking to understand how they are created, how they behave, and how they can be controlled. It would seem, therefore, that medicine assumes that there are such things as diseases and that understanding medicine philosophically will require understanding diseases.

The question for this chapter is, what sort of things are diseases? When we say that a patient has tuberculosis, is that like saying she has a dog, something out there in the world independent of us, in all senses of the word? When a scientist is studying insulin-dependent diabetes, is that similar to a physicist’s studying neutrinos? Or perhaps having tuberculosis (or, as was once said, “being tubercular”) is more like being American, neither separable from the person nor from the society in which that person lives, with the science of medicine being similarly controlled by social realities, rather than the physical world? These two positions are called realism and anti-realism, or constructivism, respectively, and represent radically different understandings of the nature of diseases.

The question we are addressing here is different from that addressed in Chapter 1. There, the question is, what needs to be true of something for it to be correct to call it a disease? Here, however, we are asking, given that something is a disease, what sort of thing is it, what is its nature? The distinction may be a bit subtle, as both questions can be phrased as “What is disease?” However, as we spend time with our topic, the distinction should become clear. Furthermore, focusing on examples that are uncontroversially diseases, like diabetes, should help keep things clear as well.

Realism and Anti-Realism: The Basics

Let us begin with a somewhat less rough, but still general, understanding of what it is to be a realist or an anti-realist about diseases. First, let me introduce the distinction between types and tokens. Types, roughly, are general sorts of things, and tokens are particular concrete examples of those things. To illustrate, consider a farm that has 12 cows, 7 pigs, and 3 horses.
How many animals are on the farm? One could give two answers. Either one could say there are three animals on the farm (cows, pigs, and horses) or one could say there are 22 animals ($12 + 7 + 3$). Either would be correct. The difference is that in the first case, we are saying how many animal types there are, and in the second, how many tokens.

Now, consider a patient who comes to a doctor feeling ill, with a list of complaints including cough, fever, runny nose, sore throat, and pain in her ankle, all of which started one week before. The physician first has to decide which of these complaints belong to the patient’s primary problem. After ascertaining that the ankle pain began soon after twisting it, and is now mild, the physician will likely set that aside. However, the cough, fever, runny nose, and sore throat will likely be considered part of a single problem. This problem, the particular patient’s disease, is a disease token. The next step for the doctor is to decide what particular condition the patient’s disease token is—in this case, likely an upper respiratory infection. That is, the doctor needs to decide to what type the disease token belongs.

Realists and anti-realists differ over what occurs (or should be occurring) at both of these steps, that of identifying the disease token and the disease type. For the realist, the physician can be correct in his selection of complaints to combine into a single problem/disease token, and if he is, it is the fact that the patient has some underlying physical entity (of some sort) that accounts for these complaints. The process of identifying the features of a disease in a patient is like deciding whether the tail that appears between two mammals belongs to the dog or the man walking it. There is a correct answer, and this answer is determined simply by the way the physical world is arranged. For the anti-realist, however, the doctor has simply made a choice in selecting complaints. The choice may be good or bad, but it cannot be correct in the way the realist has it, as there is no underlying physical entity against which to judge the correctness of the doctor’s choice, nor does the way the world is arranged dictate any particular grouping of patients. It is like asking which side of the road it is proper to drive on—the answer depends not on the way the physical world is arranged but on the convention in the country one is driving in.

When it comes to assigning individual problems to disease types, the disease realist likewise feels that there is a correct answer, underwritten by the way the natural world is organized. That is, disease types form natural kinds—it is a matter of the underlying structure of the world that patients have “the same” disease, just as there is a correct answer, based on the structure of the world, whether two elementary particles are the same—both electrons, say—or not. An anti-realist, again, will deny that there is one naturally correct way to group sick patients into diagnostic groups. Rather, the groupings into which patients are placed are made by people based on various criteria that are, ultimately, chosen, and not driven by the underlying natural world. The process is like deciding which people belong to the same club. Whatever facts of the matter there are, disease types, like clubs, are not determined by the natural world but by human-imposed groupings. One way to put all this is to say that realists believe diseases are discovered and anti-realists believe they are invented.

At this point, many readers may be thinking that the reality of diseases is obvious, and others that their arbitrary nature is obvious. However, far from being obvious, there are strong intuitions behind both positions. On the one hand, medicine seems to deal with entities that are every bit as real as neutrinos and electrons. A scientist who says “I am studying tuberculosis and trying to discover a new cure for it” seems to be saying something very much like one who says “I am studying protons to try to figure out how to take them apart into quarks.” If diseases are not out there the way protons are, then how can a scientist study them and learn things about them? In a similar way, having textbooks with chapters entitled “Cystic Fibrosis,”
“Insulin-dependent Diabetes,” and “Hepatocellular Carcinoma” makes it seem like these are entities that can be named, studied, and discussed.

On the other hand, anyone who has taken care of patients knows that there are innumerable differences between two patients with the same diagnosis. Indeed, sometimes they seem hardly to be suffering from the same disease. If each case of a disease is different, this seems to belie the notion that all cases of a disease share something, a natural kind to which they all belong. Beyond this, what does it even mean for diseases to be out there in the world? It is difficult to imagine what sort of entity a disease might be. What is there, in front of the doctor, besides the patient?

Realism: The Positions

As we said above, realists believe that in at least some cases, there is a disease present in a patient, and this disease is part of the natural world, not a result of choices the examining doctor makes. The first job of the realist is to explain what sort of entity this disease is. What kind of thing is it that a patient with a disease has?

Realists make claims about the nature of both disease tokens and types. Let us take tokens first. Perhaps the oldest, if least philosophically defensible, form of realism about disease tokens is what we may call concrete realism. This is the position that diseases are non-abstract entities truly separable from the patient. In ancient times, this meant seeing diseases as evil spirits that entered the patient, whereas more recently, this meant indentifying a disease with an infectious agent. Since we no longer believe in evil spirits, and for many reasons, diseases cannot simply be identified with their causes (which may or may not be separable from the patient anyway—consider genetic diseases), this position is difficult to support, though it has certain naïve plausibility.

More acceptable are accounts that see diseases as identifiable parts of the patient in some way. At least three versions of this have been proposed. The first sees diseases as bundles of signs and symptoms (Rather 1959). A second sees diseases as an underlying physical state of the body in question (Virchow 1895/1958). Finally, some see diseases as bodily processes, which, unlike states, take place over time (Whitbeck 1977). Each of these positions can be further modified by insisting that a disease must also have a particular cause as part of its essence.

We can perhaps understand the varieties of realism described in the last paragraph better by applying them to a particular case, insulin-dependent diabetes mellitus (IDDM). This is a form of diabetes where the body cannot process glucose because the pancreas does not produce (adequate) insulin. When untreated, the levels of glucose in the blood rise above normal levels. Symptoms of untreated IDDM include frequent urination, excessive thirst, and weight loss. When untreated for a longer time, the patient develops diabetic ketoacidosis, a life-threatening condition caused by a build-up of byproducts from the metabolism of triglycerides, which is what the body uses as a substitute for the glucose it cannot metabolize. Finally, patients are susceptible to long-term consequences, mostly as a result of damage to blood vessels, including blindness, heart attack, stroke, and loss of limbs. Although the causes of IDDM are unknown, it is thought to be an autoimmune disease with both genetic and environmental risk factors.

According to the signs-and-symptoms view, to have IDDM is to have elevated blood glucose levels, frequent urination, weight loss, etc. For the physical-state view, having IDDM means having the overall physical state of not producing enough insulin, perhaps along with some of the changes this creates in the body at a cellular (or other low) level. Understanding IDDM as a process is a bit harder, but it means focusing not on the state of the body, either at the cellular/molecular or more macro signs/symptoms level, but rather on the process of metabolizing...
triglycerides rather than glucose, as well as the processes by which this altered metabolism causes damage to the body.

The other part of the realist position, their approach to disease types, is that disease types form natural kinds. That is, the external world provides a correct sorting of these tokens into groups, or kinds. There are many accounts of natural kinds in the philosophical literature, and discussing them is beyond the scope of this chapter. However, any of the major accounts, such as Putnam (1975), Kripke (1980), Boyd (1991), or Ellis (2001; 2002), should work here. In terms of IDDM, the realist claims that the collection of all cases of IDDM form a natural kind. Thus, for a realist, diseases form natural kinds, and the entities that these kinds comprise are of one of the sorts described in this section—a bundle of signs and symptoms, an underlying physical state, or a bodily process.

### Realism: Arguments For

What are some arguments that count in favor of realism? Of course, arguments against antirealism are implicitly arguments for realism, and vice versa, so dividing up the arguments to be presented in this chapter in “for” or “against” one position or the other is somewhat arbitrary. It is, however, necessary in order to keep track of what is happening. Therefore, I have divided the arguments using the following criterion. If an argument could be understood based just on the presentation of realism, it is discussed here. If it makes more sense in the context of anti-realism, it will follow that section.

The first argument we will consider is based on Putnam’s (1979) “no-miracles” argument. Generally speaking, this argument for scientific realism says that if the terms of our scientific theories, such as “quarks,” do not refer to real entities forming natural kinds, then we cannot explain the fact that our theories successfully describe the world. In the case of medicine, this would mean that the explanation for our success in developing new treatments is that we correctly identify parts of the world, diseases, whose features are fixed by nature and are the same in each particular case. We can then study them, learn how they behave, and develop treatments. Anti-realists, the argument goes, can provide no such story; medicine’s success, for them, must be accounted a miracle.

A somewhat related argument, made by Temkin (1961), notes that many advances in medicine, such as the development of the rabies vaccine by Pasteur, were made by people who had no contact with patients (and, indeed, were not even physicians). If diseases are merely conventional groupings of sick individuals, how, the realist asks, could Pasteur have developed a treatment for a disease without any contact with such individuals. Only if rabies exists independent of any patient could Pasteur have cured it from his lab.

There are several responses to Temkin’s argument. First, although Pasteur did not treat any patients personally, he was aware of many and could thus have become aware of whatever conventions defined them. Second, in the case of rabies at least, while Pasteur did not work with human patients, he had animal patients. Finally, in arguing that realism means that scientists have something they can study in a lab separate from a patient, we seem to be arguing for concrete realism, which, as we saw, is a difficult position to take.

The next argument for realism is somewhat technical in nature. Rezek (1987) argues that our criteria for distinguishing related diseases from one another make it such that it must be true that diseases are natural kinds. He uses the case of gout and pseudogout as an example. These two diseases both result in inflammation of joints from deposition of crystals. Originally, anyone with inflammation and crystals was considered to have gout. However, it was then noted that two different types of crystals, urate and calcium pyrophosphate, could cause the inflammation. At that point, Rezek argues, medicine had two choices. Either continue to
treat gout as a single disease with two possible natures (caused by urate or calcium) or divide it into two diseases. The fact that medicine chose to reserve “gout” for the cases with urate crystals and started calling cases with calcium pyrophosphate crystals “pseudogout” proves that diseases are natural kinds. Otherwise, why would medicine break up a perfectly useful diagnosis just because it was discovered that it could not be considered a single kind?

Again, there multiple responses to this argument, but we will note just one here. Doctors may have felt that it was simply more useful to divide these two “types” of gout, perhaps because different treatments might work for the two groups. That is, the division could just as easily have been driven by pragmatic concerns as by beliefs about the underlying reality.

A final argument for realism looks at the persistence of certain diseases over time (Rather 1959). Despite any number of changes in our culture, our understanding of medicine, and all other factors that might affect how we would choose to group patients, if that were how we identified diseases, certain diseases have continued to be recognized. Thus, we can easily recognize our diseases of epilepsy and mumps in the Hippocratic descriptions of them from more than 2,000 years ago. The best explanation for this, says the realist, is that epilepsy, mumps, and other diseases are natural kinds, out there for us to identify throughout history regardless of our cultures, etc. The problem with this argument is that, as the language of the last sentence makes clear, this is an application of inference to the best explanation (IBE). The realist says that since the existence of diseases is the best explanation for certain observed facts, we can infer that diseases in fact exist. IBE, however, is not an argument for realism so much as a statement of realist methodology. That is, realists think that such inferences provide evidence that entities we cannot see exist, whereas anti-realists generally deny that IBE can provide any reason to believe such entities exist.

Realism: Arguments Against

One set of objections to realism specifically addresses forms of realism that consider causes to be an essential part of diseases. The first of these (Whitbeck 1977) notes that diseases are never the result of a single cause but are always embedded in a complex causal tree. If we cannot talk of the cause of a disease, then a disease’s cause cannot be part of the nature of that disease; one certainly cannot include the entire causal tree of the disease in the disease itself. Another objection to the causal form of disease realism notes that we often identify and accept diseases (e.g., rheumatoid arthritis) before we know their causes or even whether they have a single cause. The cause, therefore, cannot be a part of the disease (Engelhardt 1985; Severinsen 2001).

Although there are responses to these objections, they are weak, and the best course for the realist is probably to avoid causal realism. There are, however, objections to realism independent of causes. One of these is the problem of “extremal diseases.” “Extremal diseases” is Reznek’s (1987) term for diseases, like anemia and hypertension, that differ from a state of health only quantitatively. Thus, everyone has a blood pressure. Only once the blood pressure crosses a particular threshold does one “get” hypertension. The problem for the realist is that it is hard to see how the natural kind normotension could transition so smoothly into a different natural kind, hypertension. The response, then, is to admit that while having high blood pressure is a problem for people, it nonetheless does not form a natural kind and is not a disease that can be studied as an underlying part of the natural world.

The next objection to realism is based on the pessimistic meta-induction introduced by Laudan (1981). Far from science’s successes pointing to realism, as the no-miracles argument has it, the pessimistic meta-induction takes science’s failures as an argument against realism. In brief, the argument is, science has been wrong so much in the past about what there is and
what theories describe it (e.g., regarding phlogiston), even while using those theories successfully. Success, therefore, is no reason to believe that a theory is true or its entities real. In the case of medicine, the pessimistic meta-induction would note, for example, that for many years, fever was considered a disease, not a symptom, and that gout included many joint inflammations beyond those associated urate crystals. Although no one would now argue that fever and gout as recognized 500 years ago formed natural kinds, the physicians of the day considered themselves successful at treating them. Why then should our current (perceived) successes be attributed to natural kinds?

Realists have offered several responses to the pessimistic meta-induction. Although this is not the place to rehearse all of them, it is worth noting that the approach of Psillos (1996) may be particularly useful in the case of medicine. Psillos's response to the meta-induction focuses on features of the entities of a science and not its theory or laws (as others do). Since medicine as a science appears not to have a theory in the way that physics does, a response to the meta-induction that, when applied to physics, might be criticized for leaving out theories here could be particularly helpful.

Another objection to medical realism, which can best be brought by a realist about other parts of the world, is that the entities it proposes are just too strange. Unlike more typical real entities (tokens), such as electrons or rabbits, diseases, at least once we discount concrete realism, are not physically contiguous and independently existing. You cannot show a single place in the body where the diabetes is, nor will you ever be able to point to something separate from a body and say “There is a (case of) diabetes.” Nor are disease tokens related to each other the way other natural kind tokens are. Elementary particles are each strictly identical (there is no way to distinguish one electron from another), and members of a single species, while not identical to each other, are historically/genetically connected. All rabbits share certain genetic features, and they do so because of a shared historical chain of descent from earlier creatures. Diseases have no such connection to each other. The realist can respond to this objection that it simply prejudges the matter by saying that diseases are not the sorts of things that can be real.

The final argument against realism we will consider here is perhaps the most obvious. If diseases are true parts of the natural world, why do they not act with the regularity of other natural kinds, which follow laws of nature such as quantum mechanics? Even rabbits will reliably die if you remove their heart. Yet for human diseases it is often very difficult to predict how a given patient will respond to a treatment. If they do not behave as real entities, why think that diseases are real?

The realist can respond to this challenge in different ways. One response is to say that perhaps individual disease tokens that respond differently to treatment are not in fact members of the same kind, though we have not yet figured out how to distinguish the two (otherwise) similar kinds. A second response is that just as an electron will move differently depending on what other objects are in its vicinity, diseases are also sensitive to their surroundings. Their surroundings are so complicated, however, that we often cannot predict how a particular case will respond to treatment.

**Anti-Realism: The Positions**

Anti-realism as such is simply the denial of realism. In the current context, we will take that to mean denying both parts of realism—regarding types and tokens. (It is possible to deny only that diseases form real types, but we will not consider such positions here.) Thus, anti-realists deny that there is an objectively correct way to select features of a patient’s current problem/state and say that those features constitute a disease, and also deny that disease tokens form
natural kinds. An anti-realist philosopher of medicine, however, must go farther and say what she thinks diseases are. If they are not part of the underlying nature of the world, what are they?

There are many positions in philosophy of science that may be described as anti-realist in one way or another, such as reductionism, instrumentalism, or empiricism. For various reasons beyond our scope here, none of these can provide an account of diseases such as we need here. This leaves us with constructivism as the general form of anti-realism most suited to the case of medicine. For a constructivist about a particular entity, those entities are not part of the furniture of the universe, as the realist has it. Rather, these entities are constructs of the human mind, intentionally created to serve some purpose. Race is generally taken to be a constructed kind. We certainly can divide the majority of Americans into two groups based (primarily) on their skin color, but nothing about the underlying structure of reality drives this division. It was simply created by people for human purposes. When it comes to individual objects, what we have been calling tokens, the constellations are a good example. Although many people look up at the sky and immediately see Orion or the Southern Cross, this is only because their society taught them to see those stars. There is no need to group stars that way, and indeed different cultures have different sets of constellations they recognize (Needham 1974).

Generically speaking, it is easy to see how to apply this to medicine. When a patient presents a doctor with a list of complaints, there is nothing in the outside world that dictates which of the complaints and findings are related to a single disease as opposed to a second one the patient may have. Rather, the physician determines (possibly based on decisions he knows others have made) which of these complaints to explain to the patient as a unified problem. When it comes to disease types, or diagnoses, the constructivist says that the decision to group certain people together as having tuberculosis or diabetes or chronic fatigue syndrome is more or less explicitly made by people.

But what people and what criteria should be used to identify “acceptable” diseases? It is in answering these two questions that different versions of medical constructivism distinguish themselves, and so to which we will now turn. This means that unlike realism, where the primary question was what sort of entities disease tokens are, for constructivism, the question is going to be the nature of disease types. In a functioning medical system, the identification of a given patient's token will not be entirely up to the physician, but will rather be identified with an eye to fitting it into a diagnostic category (i.e., type).

There are several answers to each of the questions we posed above—which people, which criteria—and thus many possible constructivist positions. Not all of these possible positions, however, are particularly plausible, and only a few have been in fact developed. Taking the second question first, there are several answers proposed to the question “What criteria?”. The first treats medicine like a science, albeit not a realist one, and says that a disease is legitimate if it furthers our goal of understanding and manipulating the world of diseases. Thus, IDDM is a disease because it helps us understand our observations about glucose in the urine and blood and certain people's severe illnesses. It also allows us to predict that certain people will die if not given insulin, and indeed helped us to develop insulin-based treatments in the first place. Fever, on the other hand, as a clinical entity rather than a symptom, was ultimately found to be useless to medicine and so is not recognized as a disease. A second approach says diseases are recognized not because they help us understand the world, but because they allow us to help people with their complaints. IDDM will still be a disease, but because it allows us to help patients (save their lives with insulin) rather than because it helps in explanation and discovery about the world. Fever again will not be a disease, because we are unable to help patients by using it.
A similar approach looks not to benefiting individual patients but society as a whole. The results of such a “utilitarian” constructivism could be quite different from the patient-centered pragmatism we just considered. A (potential) disease that would be very expensive to treat and leave people unable to contribute to society might not be recognized, even if people so treated would be made happier. It might be more efficient to let them die. IDDM, on the other hand, is a disease, so evidently it is judged (by whom, we have yet to see) that considering it a disease is good for society, perhaps because treatment is relatively inexpensive and untreated diabetics become very (expensively) ill. Finally, one might argue that diseases are recognized with an eye to promoting the power of some particular group.

As for who gets to apply the criteria in question and create diseases, the most frequently identified group is physicians, or medical scientists and professionals more broadly. This is certainly what appears to be happening when, for example, a panel of psychiatrists issues the Diagnostic and Statistical Manual, listing those diagnoses that psychiatry will recognize. A second potential group is “the ruling party,” those with sociopolitical power. In more concrete terms, this could be the government, which certainly could exert control over diseases by, for example, determining which diagnoses are acceptable to submit for insurance reimbursement. They could also act behind the scenes, for example, by exerting influence on the panels of physicians who otherwise appear to be identifying acceptable diseases.

Let us now consider some of the actual positions staked out on this matter through combinations of the answers to the two questions we just considered. King (1954), although not completely explicit, seems to believe that diseases are recognized by medical professionals according to how they help us understand the world. Grasbeck likewise sees medical professionals as the arbiters of diseases. However, he does not believe that understanding is their motivation. Rather, they are utilitarians, concerned with “social and legislative arrangements” (Gräsbeck 1984: 57), along with diagnosis and treatment.

Engelhardt (1980; 1984; 1985) and Severinsen (2001) both refer to patient-centered criteria, such as “goods and harms to the lives of patients” (Engelhardt 1980: 45) and attention to the burdens that arriving at diagnoses will place on patients. Although Engelhardt does not say who he thinks applies these criteria, Severinsen is clear that, again, it is medical professionals.

Indeed, the only writer who seems to understand diseases as being determined by a group other than physician-scientists is Illich (1976). Illich says that “disease [is] an instrument of class domination” to “put the worker in his place” (171). Diseases are a tool of power, not of science or benefit to patients or society generally. As to whose power, here Illich is a bit less clear. It may be physicians, but it may also be “the university-trained and the bureaucrats” (171). However, even if it is physicians, these are physicians qua elite, not qua scientists.

**Anti-Realism: Arguments For**

One type of argument for anti-realism bases itself on the goals and practices of medicine. An example of this is provided by Engelhardt, who says:

> Clinical medicine is not developed in order to catalogue diseases sub specie aeternitatis, but in order for physicians to make more cost-effective decisions . . . so as to achieve various goals of . . . well-being. Thus, clinical categories . . . are at once tied to the likely possibilities of useful treatment and the severity of the conditions suspected. (1984: 36)

In other words, since the goals of medicine are pragmatic, its kinds must be too. However, looking at a parallel argument in case of physics will show the weakness here. Engineering is surely a
pragmatic practice, but this does not prove that the underlying kinds that physics relies on are not real—so too with the practice of medicine and its underlying science.

Elsewhere, Engelhardt (1985) gives another argument from the practice of medicine. Consider rheumatic fever (RF). This condition is diagnosed based on the “Jones Criteria.” If a patient has either two “major” criteria (such as rash and joint inflammation) or one “major” and two “minor” criteria (such as fever and cardiogram abnormalities), he is diagnosed with RF. Why precisely this number of criteria? Engelhardt claims that it is because at this point treating such patients becomes pragmatic. More criteria and we will not be able to help as many people as we can. Fewer, and we will spend too much time treating people whom we may not be able to help. Since the determination of a definitive diagnosis relies on criteria that are pragmatically arrived at, and are not driven by scientific necessity, Engelhardt argues, the diagnosis itself cannot be part of the natural world.

The realist has a response here as well. Although she will acknowledge that the Jones Criteria are pragmatically based, she will see this as a function of our ignorance. That is, we still do not clearly understand RF’s nature and causes. Therefore, we have no definitive way as yet to diagnose it. In the absence of such a definite means of diagnosis, we use the Jones Criteria as a pragmatic approximate way to pick out patients with RF. However, as we learn more about RF, the realist says, we will abandon this pragmatic tool for one based on the underlying science.

Anti-Realism: Arguments Against

One argument against anti-realism derives, in Temkin’s terms, from “the danger of... aepi-theia, perpetual illness” (1961: 641). Temkin argues that if any physiological state whatsoever can potentially be a disease state if the relevant “authorities” decide to make it so, then there is not such a thing as perfect health. Anyone at anytime may discover that he or she has a disease. Temkin finds this state of affairs problematic. Perfect health, where one is not a decision away from having a disease, should at least be possible.

This argument is open to several responses. First, it is not obvious that Temkin’s intuition that perfect health is possible is correct. Second, Temkin seems to believe that anti-realists can identify disease at their whim, which, as we saw, is not true. Other responses require theoretical approaches not developed here, and so will be skipped.

A second argument against anti-realism is based on the indispensability argument used most frequently in philosophy of mathematics against anti-realists. Both Grene (1977) and Nordenfelt (1987) raise versions of this argument. The claim is that medical discourse presupposes, and indeed relies on, diseases being natural kinds. That is, real diseases are indispensable for medicine. Nordenfelt says that communication among medical professionals relies on reference to disease types, thus implying that there are such types. Grene says that “a nominalist would never have world enough or time to produce” many of the assertions we find in medical texts (1977: 79). They would simply take too long to state.

What type of communication and statements are they talking about? It cannot be routine statements, as we refer to constructed types such as American, Nigerian, Freemason, and prime ministers all the time. Rather, it must be a special type of communication. In our context, that is most likely the communication that allows us to make scientific progress. That is, scientific progress in medicine is impossible without real diseases, as the communication among medical scientists needed for them to do science could not otherwise occur. Once we understand this, we can see some constructivist responses to this attack. First, they can deny that progress of the kind realists are talking about occurs in medicine. This is related to the general debate about progress in science between realists and anti-realists. Second, constructivists can respond to...
Greene and Nordenfelt by agreeing that progress occurs but denying that it needs natural kinds. What has happened when we learn how to better treat a disease is that we have learned how to better make true generalizations about the people we have grouped together under that diagnosis. Similarly, with more exposure to the enemy, a general can learn more about how to respond to the socially constructed entity “the enemy army.”

A final objection to constructivism is that it is not historically plausible. The various potential groups constructivists identify have varied greatly, both across history and across societies, in their actual influence, and thus ability and power to impose diseases, yet medicine has carried on. If medicine’s functioning really relied on the ability of a single group to impose diseases, then the rise and fall of the power of this group to do so should significantly affect medicine. Constructivists need to do significant historical work to show either that a given group has had adequate power across history, or show that the power to construct diseases has shifted from group to group across history. It is not clear that this can be done.

References


Further Reading

Foucault, M. (1973). The Birth of the Clinic: An Archeology of Medical Perception, trans. A. M. Sheridan Smith, New York: Pantheon, is a fascinating, if somewhat obscure, account of early-19th-century medicine, which at least appears to take a constructivist approach to medicine, although the relevance of Foucault’s historical analysis to the ontology of modern medicine is not entirely clear.

“Medical Ontology,” in Gifford, F. (ed.) (2011). Philosophy of Medicine, Elsevier: Amsterdam, is a more extensive discussion of the material in this chapter by the current author.
