



Desire

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Abstract

Desires move us to action, give us urges, incline us to joy at their satisfaction, and incline us to sorrow at their frustration. Naturalistic work on desire has focused on distinguishing which of these phenomena are part of the nature of desire, and which are merely normal consequences of desiring. Three main answers have been proposed. The first holds that the central necessary fact about desires is that they lead to action. The second makes pleasure the essence of desire. And the third holds that the central necessary fact about desires is that they open us to reward-based learning.

Desiring something is a familiar phenomenon. I desire a glass of water; an Olympic athlete desires to produce a performance that earns a gold medal; you, perhaps, desire knowledge. Wanting this and wanting that is just a part of the human condition.

Imagine that Imogene wants to be a good soccer player. She has an idea of what it is to be a good soccer player, of course. (This could be called her representation of what she wants.) But she also has thoughts, feelings, and inclinations that are different from those of other people, different from those who know what it is to be a good soccer player but who do not care about being good at soccer. Imogene is motivated to get up early to go running in order to build her endurance, and to practice her ball-handling skills. She thinks a lot about being a good soccer player, and often imagines herself doing the things a good soccer player would do. (These are pleasant images for her.) Sometimes she also worries about not being so good, or making a bad play on the field. (These are unpleasant thoughts for her.) And when she plays especially well she feels great. All of these things make Imogene a perfectly normal person. This is what it is like to really want something.

Even if that is what desires are *like*, nothing has yet been said about what desires really *are* in themselves. Is desiring to be a good soccer player the same thing as being motivated to be a good player, for instance, or does desiring to be a good player only cause that motivation? To get a better idea of what it *is* to desire, however, it will help to begin with some elementary distinctions. With those distinctions in hand, three different naturalistic approaches to desire will be described. Finally, some difficulties for any naturalistic approach to desire will be considered.

1. Distinctions

Desiring has a two-part structure. For every desire, there is the content of that desire and the attitude of desiring it. Suppose I desire to eat a mango soon. Then the content of my desire is *what* I desire: that I will soon eat a mango. But I might have various mental states with this same content. I might also *believe* that I will soon eat a mango, for example. What distinguishes desire from belief is not what I desire or what I believe, because what I desire is the same as what I believe in the case in question. What distinguishes these mental states is the fact that I take two different attitudes to the same content. One attitude I take toward the idea that I will soon eat a mango is that I believe in this idea. The other attitude I take is that I desire it to become reality. Because desires have this two-part structure, they are said to be propositional attitudes. (What distinguishes the desiring attitude from believing and other mental attitudes is the big question, to which we will come in a moment.)

Desiring should be sharply distinguished from needing. The distinction seems so obvious to philosophers that they rarely argue for it, but it is important to keep it in mind. I can desire something that I do not need (chocolate ice cream, perhaps), and need something I do not desire (to give up a dangerous hobby, perhaps). No doubt we have evolved to desire most of what we need, biologically speaking, but the fit between needs and desires is far from perfect.

On the other hand, desire should not be sharply distinguished from wanting. Generally, philosophers hold that “desire” is an inclusive term, meaning more or less the same as “want.” Some people are inclined to say that “desire” is a stronger or more passionate term than “want,” but most philosophers see no principled difference here. It might sound odd to say that I desire mustard on my sandwich, but if I want mustard, then that is what I desire.

And now, a final distinction. Desires are generally distinguished into three varieties: intrinsic, realizer, and instrumental desires. (1) If one desires something as a means to some other end, then one desires it instrumentally. For example, a person might desire to eat a mango as a means of surviving. (2) If one desires something because one sees that it realizes some other desire one has, then one desires it as a realizer. For instance, a person might desire to eat a mango because eating a mango realizes the person’s desire to try new things. In this case, the eating of the mango is not a *means* to the further end of trying new things, but simply *is* a new thing to be tried: it is not an instrument to but the realization of what is more ultimately desired. (3) If one desires something not merely as a means or as a realization of another end, but at least in part for its own sake, then one desires it intrinsically. One might desire to eat mangos just because they are mangos, for example, though this sounds a bit unlikely. More likely is it that one would desire pleasure for its own sake, or one’s own survival, or the welfare of one’s children, or the success of one’s causes.

This last distinction is quite important outside the philosophy of mind as well as inside it. For instance, any ethical theory that claims it is good for people to get what they want (various forms of consequentialism, for instance) will need to be precise, and claim that it is good for people to get what they want *intrinsically*. If Imogene instrumentally wants to get up early, wanting to get up only so that she can go to play soccer, then no one would be doing a good deed by knowingly waking her up early on a day when soccer had been cancelled.

With these basic ideas in mind, turn now to considering what distinguishes the attitude of desire from other mental attitudes. What is desire all about?

2. *Desire and Motivation*

If naturalistic philosophy is philosophy that draws heavily upon empirical science, then the first prominent naturalistic theory of desire is probably that of Bertrand Russell, in *The Analysis of Mind*. Drawing upon the early behaviorists, Russell argued that to desire that P is nothing more than to be engaged in a “behavior-cycle” tending to bring it about that P unless interrupted by death, accident, or some new behavior-cycle (65). Thus, desiring to eat a mango, on Russell’s view, is being engaged in activities (going to the store, looking at mangos, taking one to the check-out counter, and so on) that tend to bring it about that one eats a mango. Desiring has no inner nature, on this view: it is the behavior cycle itself.

It can hardly be denied that there is a close link between desire and motivation. When a person desires something, she will normally be motivated to obtain what she desires. Russell goes beyond this simple observation in holding that engaging in acquisition behavior is what makes it true that you desire something, and in holding that only such behavior could make it true that you desire something. That is, Russell holds that tending to bring about a result is the essence of what it is to desire something.

It is easy to think of objections to Russell’s theory: motivation can seem neither necessary (Do I not desire my father’s welfare even while playing hockey?) nor sufficient (Does my having a habit of making a certain dumb mistake mean I desire to make it?) for the existence of desires. But the science from which he drew his support – behaviorism – has also been rejected as an overarching theory of the mind, so perhaps it is no surprise that there are flaws in Russell’s theory.

A more recent naturalistic philosophical theory of desire has proposed that a more subtle link between desire and behavior is what makes desires what they are. In *Language, Thought, and Other Biological Categories*, Ruth Millikan draws upon evolutionary biology rather than behaviorism for support. On her view, and simplifying slightly, to desire that P is to have a brain state that other brain states are supposed to respond to by causing the organism to bring it about that P (99). That is, Millikan holds that to desire

to eat a mango is to contain a brain state that other brain states are supposed to respond to by causing the eating of a mango.

The appearance of “supposed to” in the statement of Millikan’s theory marks the influence of evolutionary biology on her view. Millikan follows evolutionary theorists and philosophers of biology in thinking that natural selection has given functions to various biological structures: the heart is supposed to pump blood, the lens of the eye is supposed to focus light on the retina, and so on. Similarly, she holds, brain states also have various functions. When the function of brain state A is to respond to brain state B by producing condition C, then a desire for C exists in the organism, realized by brain state B.

Millikan’s theory is more subtle than Russell’s, and more difficult to refute. She does not require that one be actively trying to bring it about that P in order to desire that P (brain states do not always perform their functions, any more than the immune system always performs its functions), and she does not hold that every regular behavioral tendency indicates the existence of a desire (not everything that a brain does is something it has the function of doing). Thus her theory is not vulnerable to the objections raised to Russell.

From the perspective of ethical theory, there seems to be an interesting consequence of a view like Millikan’s. On Millikan’s view, every biologically normal action is the product of a desire. Thus, even moral actions that we do without – as we say – really wanting to do them are done, ultimately, because we do want to do them. For wanting *just is* the state that brings about doing, when everything is normal. Even things like keeping a promise we don’t feel like keeping turns out, on a Millikanian theory, to be an instance of doing what we want to do. (See, e.g., Schueler for a discussion of these issues. In fact, much of recent metaethics is concerned with the role of desire in moral actions.)

An interesting question to which Millikan has no easy answer is this: what is the relationship between desire and all of the other phenomena we associate with it beyond motivation? Of course desires incline us to action, but they also incline us to feel joy and sorrow, direct our attention this way rather than that, guide our thoughts, and so on. Even if motivation were the essence of desire, Millikan would not yet have shown that the very same brain state that leads to action also has these other effects, and so has all the effects we associate with desiring.

3. *Desire and Pleasure*

To show that a brain state has all the effects associated with desiring, and hence is reasonably interpreted as a desire, it is necessary to turn to a new science: neuroscience. Naturalistic philosophical work done by Carolyn Morillo in “The Reward Event and Motivation” went in this direction, and found itself with a theory of desire focused on pleasure rather than motivation.

The neuroscience cited by Morillo, especially work described in Stellar and Stellar, seems to show that the objects of desire all lead to a common consequence in the brain, a “reward event,” and this common consequence in turn is what is responsible for the power of objects of desire to motivate behavior. Scientific investigation strongly suggests that things such as food, water, and sex all cause a common effect in the brain: release of the chemical dopamine from a small group of cells deep in the brain. Drugs of abuse also stimulate dopamine release, and it is theorized that all the other things that people desire lead to dopamine release as well. Furthermore, it seems that dopamine is crucial to the normal production of action. The release of dopamine is thus the reward event. But in Morillo’s estimation, following numerous scientists, the reward event itself is the feeling of pleasure. Food, water, sex, cocaine, and more sophisticated ends (such as making one’s child feel better after a minor injury) all lead to pleasure, and this pleasure, in turn, is what causes food, water, sex, cocaine, and more sophisticated things to move us to action.

In light of this conclusion, Morillo suggests two striking ideas. First, she suggests there is a good sense in which all desires are ultimately desires for pleasure. That is, pleasure is the only thing that is intrinsically desired. Other ends are desired only instrumentally for the pleasure associated with them (not necessarily *consciously* associated, though) or as realizers of pleasure. (Notice that, if true, this would be strong support for hedonistic forms of moral consequentialism, such as Jeremy Bentham’s, over desire-satisfaction forms. Why worry about what desires are being satisfied if the only thing that people really desire at bottom is pleasure?)

Second, Morillo suggests that the essence of desire is that desiring is being disposed to pleasure, in this sense: a desire that P (an instrumental or realizer desire that P) exists insofar as one’s representing that P tends to bring one pleasure. For Tom to desire a drink is for Tom to have the right biological organization to be disposed to get pleasure from the idea of, or experience of, having a drink. Motivation is not an essential feature of desires. Rather, being moved to action is something that desires can cause and explain. Morillo sees this as a substantial virtue of her account: if we think the fact that I desire a mango explains why I am motivated to get a mango, then we ought to think that desiring the mango causes my motivation. On the accounts of Russell and Millikan, though, desiring a mango is defined in terms of being motivated to get one, and so – in Morillo’s estimation – is a poor candidate to explain where the motivation comes from.

4. *Desire and Reward*

Neuroscientific work done since Morillo’s paper was published in 1990 has gone a substantial distance toward confirming some of the hypotheses on which her conclusions were based, but has disconfirmed others. The existence of a centrally important reward event, one that is responsible for

both pleasure and for normal motivation, has been confirmed by recent scientific research. But the status of the reward event as pleasure has come under significant challenge, and many scientific researchers have begun to think of the reward event in terms of a kind of *learning signal* instead (e.g., Read Montague, Dayan, and Sejnowski; Schultz, Tremblay, and Hollerman).

The evidence that the reward event is not identical to a feeling of pleasure is especially well described in work by neuroscientist Kent Berridge. One telling fact is that the time course of pleasure and the time course of activity in dopamine-releasing neurons seems not to coincide. Signaling by dopamine neurons tends to be at a constant baseline, with occasional, extremely brief bursts or dips; pleasure, on the other hand, tends to linger, come in slow waves, and so on. But reward events in the form of dopamine signals are definitely a normal *cause* of pleasure nonetheless.

The evidence that the reward event is best interpreted as a learning signal is more theoretical. In computational theories of learning, reward-learning is a form of learning in which the difference between actual and expected rewards is calculated and then a signal carrying this information is widely distributed in the organism that is to learn (see, e.g., many of the essays in Houk, Davis, and Beiser). The learning signal strengthens connections between neurons that were just used. In effect, the learning signal tells neurons “something better than expected just happened, so if you just did something that might have contributed to that better thing, do it again in the future.”

For a simple example, consider a rat learning to press a lever for food. Initially, the rat does not expect to get food by pressing the lever. When it does press the lever (out of curiosity, perhaps, or by accident), some food appears, and this is much better than the rat expected. A learning signal is then generated inside the rat that notes this better-than-expected event, and tells neurons to strengthen their connections if they were just used. Since the neurons that led the rat to push the lever are among those just used, their mutual connections will be among those strengthened. And this will make it more likely that the rat will push the lever again in the future. Soon enough, though, the rat will fully expect food to appear when the lever is pressed. Once this happens, no further changes will be induced in the rat as a result of it getting food. In this way, reward learning avoids over-teaching: teaching the rat to do nothing other than press the lever, for instance.

If the reward event in the brain causes this sort of learning, then one would expect it to have two features. First, the release of dopamine in the brain would correspond to the difference between the reward an organism was expecting and the reward it actually received. Second, the receipt of dopamine would strengthen connections that had just been used between cells elsewhere in the brain. Both of these effects have been observed (for the first, see Schultz, Tremblay, and Hollerman; for the second, Bao, Chan, and Merzenich).

What is a philosopher to make of all this? Consider five things. First, the reward event is caused by representations that P (where P is something that, intuitively, we would think of as desired). Second, the reward event itself is a learning signal. Third, one important effect of the reward event is that the organism becomes motivated by the idea that P to bring it about that P. Fourth, another important effect of the reward event is that when it turns out that P (at least, as far as the organism can tell), that causes pleasure in the organism. Fifth, the reward event also apparently influences what thoughts occur to one spontaneously (Schroeder ch. 2). Other than the surprising fact that the reward event is a learning signal, it seems that the reward event has the features of desires. This suggests a reward-based learning theory of desire.

This is much the approach I take in *Three Faces of Desire*. There I hold that to desire that P is to use one's capacity to represent that P so as to drive the sort of learning signal that characterizes the reward event (131f.). This follows Morillo's general strategy of holding that desires are to be thought of as the common cause of the effects we associate with desiring. But it also differs from Morillo in holding that pleasure is only one of the effects that desiring has on us (sometimes – when we seem to get what we want).

An interesting point to notice is that, if this sort of learning is the central feature of desire, then desires are presumably central to the learning of virtues. In the *Nicomachean Ethics*, Aristotle seems to suggest that mere repetition is enough to learn virtue. But perhaps desire and expectations play a larger role than has generally been thought.

An advantage of my approach is that desires are powerful explainers of everything we associate with desiring. Desires are, in principle, independent of motivation, independent of good and bad feelings, independent of where one's attention turns or what habits one develops. Desires are independent of all these things in principle, but causally connected to them in fact, and so can explain all of these things.

There is a corresponding disadvantage to the approach, however. The approach entails that there could exist a desire that does not have *any* of the effects that we most commonly associate with desiring. That is, there could be a desire that does not motivate action, does not cause feelings of joy or sorrow, and so on. Because these are all effects of desires, if the reward-based learning theory of desire were correct, a desire could in principle exist without having any of these effects. This can seem quite as implausible as any of the failings of the other theories so far considered. My own view, however, is that if there can be surprising findings about the things studied by physics (light is neither wave nor particle), chemistry (water is a weak acid), and biology (whales are more closely related to dogs than to tuna), then there should also be surprising findings lurking in psychology. And why not surprising findings about which creatures have desires?

5. *Perils of Naturalizing Desire*

The idea that one should follow the lead of science in developing a theory of desire is certainly not uncontroversial. Perhaps the most serious challenge raised to any of the above theories would go as follows.

Our notion of desire is a somewhat flexible notion. We can imagine a creature that has desires but cannot move; we can imagine a creature that has desires but has no pleasant or unpleasant feelings; we can imagine a creature that has desires but that does not learn in accordance with the principles of reward-learning. To have a desire, then, cannot require any of these things on its own. On the other hand, we cannot imagine a creature having a desire while having none of the features we commonly associate with desire. Therefore, desiring is nothing more than having an internal state causing some – enough – of the familiar features we associate with desire, though not necessarily any particular feature.

There are a number of well-known theories of the mind that would support this sort of objection. The commonsense functionalism exemplified by, e.g., Lewis perhaps the most widely endorsed, with perhaps the interpretationism of Davidson running a close second.

Such an objection holds, in essence, that science is the wrong place to look if one wants to understand desires. To understand desires, all one needs is armchair knowledge of desires in normal human beings and a relaxed, but not too relaxed, attitude about when other organisms should count as having desires based on how similar they are to us in the relevant ways. In taking this position, the objection opposes Russell's or Millikan's motivational theory of desire just as much as it opposes Morillo's pleasure theory of desire or my reward-learning theory. Each of these theories looks for a scientifically supported basic structure of desire, a basic structure that causes the rest of what we associate with desire. The objection complains that there is no basic structure of desire: desire is just anything causing a reasonable combination of its ordinary features.

The advantage to holding that desire lacks a scientifically discoverable core structure is that one can be sure one will never have to point to an organism and say, "I know it seems implausible, but that thing really does have desires." If having a desire is just having the familiar features associated with desire, then the fact that organism O has a desire will always seem intuitively plausible once one knows the facts about O. This is quite an advantage.

The disadvantage to holding that desire lacks a scientifically discoverable core structure is that one loses all the benefits that go along with treating desires as scientific entities. One loses the power to explain the associated features of desire by talking about how desires cause them (if the desire didn't cause these effects, it just wouldn't be a desire), and with this loss of explanatory power comes a loss of interest in desire as a locus of prediction and control as well. Why should psychiatrists, neurobiologists, cognitive

psychologists, pharmacists, or other scientists of the mind care about desires, if desires are defined by their effects? Scientists need to get a hold of things that can be understood on their own, independently of their effects. And perhaps this is also the job of philosophers of mind.

Short Biography

Timothy Schroeder graduated with a BA from the University of Lethbridge in 1993 and a PhD from Stanford University in 1998, having studied under Fred Dretske. He came to the University of Manitoba in 1998 and was promoted to Associate Professor there in 2005. In 2006 he moved to Ohio State University. A philosopher of mind, Schroeder's interests focus mainly on where his field makes contact with moral psychology and metaethics. He works on the nature of desire, norms underlying mental representation and rational action, and preconditions for moral responsibility. Unavoidably, he has also dabbled in theories of consciousness, but insists that he can stop at any time.

Note

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