

Chapter 15

Where's the reality?

In my youth, I read a lot of stuff about what philosophers of science said about psychology and a lot of stuff about what psychologists said about the philosophy of science. I even repeated a lot of that stuff to my students, more's the pity. After some years, I came to realize that all those people, psychologists and philosophers alike, were accepting without question the causal assumptions that physicists used in studying nonliving things—accepting them as suitable assumptions about causation in studying *living* things. And since they accepted them without question, they did not even state them explicitly as assumptions. When I read the 1978 article by W.T. Powers, I discovered what those unuttered assumptions had been and what assumptions were required for living things. No doubt you can guess whose words on assumptions about reality I am going to be quoting in this chapter.

Here is William Powers beginning at the beginning in a contribution he sent to the CSGnet on 22 February 1996. He was writing about how theories lie between imagining and observing:

All theories begin the same way, as a story about nature that we make up out of our imaginations—a story that *might* be true if nature is arranged as we imagined it to be arranged. At this stage, all theories are created equal: they are equally worthless.

Powers went on to say that Aristotle had a theory (so to speak) that men have more teeth than women. Perhaps there was a lot of argument about that in the agora. Whether anyone bothered to look in a good number of men's and women's mouths and count, no one can know. Anyway, I am sure the people standing about in the agora had more fun arguing the matter than they would have had going around asking to look in people's mouths. You can think up a lot of

good arguments, beginning, for example, with the idea that men are superior to women and therefore deserve more teeth.

Powers was saying that a theory is not worth arguing about unless it can be tested against observation. A proponent of an untested or untestable theory might persist, "But it *could* be that way, couldn't it?" The answer, very often, is yes, it *could*—and so could a dozen or a hundred other theories, all equally worthless. You might think this has been said often enough. Often enough, certainly, in book after book, you see this demand for testing theory against the evidence of the senses. But I let Powers repeat it here, once again, for the same reason that Powers wrote it. He was writing to some participants on the CSGnet—professional psychologists and other social scientists—who wanted to argue for their ideas for revising PCT but who did *not* choose to undertake an observable, experimental test of their ideas, or even to design a test for someone else to carry out. They wanted only to argue, "But it *could* be that way, couldn't it?" Designing and carrying out a test of a model is a chore. But until you are prepared to do so, or at least sketch how it might be done, it is courteous to refrain from using up the precious hours of experimenters in badgering them with your idea of how it "*could* be that way."

This is not to say that one should refrain from theorizing. No one can refrain from explaining things to herself. And it is difficult to resist the urge to tell others one's ingenious explanation. It is to that urge, indeed, that we owe literature, art, and science. Powers's point (and mine) is that if your explanation makes a claim about an observable reality, the efficient (and peaceful) way to settle a disagreement about it is to observe the reality. But if your explanation is of something unobservable, then arguments are in principle unresolvable, because all the criteria lie

inside the arguers, and there can be no guarantee that the arguers will hold to similar criteria. You can, it is true, sometimes convince another person of your belief by sheer argumentation, but if there is no external criterion holding from day to day, that person can be convinced of an opposite belief tomorrow by someone else.

WHAT CAN WE KNOW?

We cannot know all the ways that the external reality does or does not correspond to our experience. Because of observational tests, we know that there is *some* correspondence, some covariation, between the activity in the brain and the energies that impinge on our sense organs, and some correspondence between neural signals and our experience, but we know only a tiny fraction of what there is to know, and no one yet conceives a strategy for discovering the correspondences between neural activity and subjective experience. Whatever the best strategy, it must be one that uses a model that includes both brain and environment in its terms and is testable by experiment.

Now I will quote from a chapter by Powers (1992a) entitled, "The Epistemology of the Control System Model of Human Behavior"; this excerpt is from pages 226–228:

In the Drug Decades, with which we have not finished, there grew up an epistemological position that became very popular. It can be stated simply: my reality is as good as your reality. With a little chemical aid, epistemology became laughably easy. What is reality? It is simply whatever pops into your head. The principal effect of the various chemical substances . . . seems to have been instant destruction of the capacity to be skeptical about the propositions that constantly occur to any creative person.

I do not think that anyone's reality is as good as anyone else's reality. There are competent and incompetent realities, workable and unworkable realities, realities we can experience and realities we can only imagine. Notice that I do not say there is only one reality. If there is any positive result to be found from the Drug Decades, perhaps it is the widespread realization that people construct many different worlds for themselves out of the raw material with which [they] all begin. But this

diversity of worlds implies more than freedom; it also implies a serious problem, a scary problem when you think about it.

Constructing a workable, competent, and above all communicable reality is a task that seems more impossible the more closely one examines what we start with. All the findings of physical and biological science conspire to tell us that we are each alone, isolated inside a nervous system. To live in the world, and more impossibly, to live with other similar (?) people in a world, the brain must solve an unsolvable problem. It, with the rest of the central nervous system, is presented with a world consisting of millions of tiny signals, each telling the state of a single sensory receptor quite independently of the state of any other sensory receptor. This world contains no objects, no relationships, no sequences, no transitions, no logic, no persons, no science, no nothing—nothing but intensity, the report of how much of something is present. From that, the brain must create shoes and ships and sealing wax, not to mention capitalism and communism. Impossible. Science tells us that science is impossible.

Here Powers refers to the hierarchy of control when he mentions intensity, transition, relationship, and sequence. Chapter 18 will be devoted to that topic. Powers is saying that the signal in any single neuron conveys nothing but intensity ("how much of something"), because every single neuron is capable of transmitting nothing more than an electrical pulse, and a pulse in one neuron is indistinguishable from a pulse in any other. The "meaning" of patterns of controlled variables comes about through the hierarchy of control.

When Powers says here that it seems impossible for a brain built of patterns of intensities to produce relationships, logic, or science, one thing he means is that we cannot *deduce* the nature of the neural hierarchy from knowledge of the functioning of the neuron. Powers did not use logic to deduce the hierarchy; he invented it. To say it another way, a brain can produce logic, but logic cannot produce a brain. I will give other warnings about logic in Chapter 25. Powers continues:

It is obviously not impossible. We have to accept that we have done it. Somehow there are links that allow our realities to converge, both toward each other and toward at least some congruence with physical nonliving nature. Every day mil-