PCT: Old knowledge with new language?

Unedited posts from archives of CSG-L (see INTROCSG.NET):

Date: Tue Apr 13, 1993 7:24 am PST
Subject: Re: The Uses of PCT

[From Bill Powers (930412.2000 MDT)] Ken Hacker (930412) --

In your post to Tom Bourbon, you said

> ... it seems to me that PCT should not reiterate what is already being said with new language and then attack the uses of old language for having the entire set of concepts wrong!

Many people in many disciplines -- not just yours -- have felt this way. If PCT merely confirms ideas that are already public knowledge (even if the "public" is rather restricted), why should it be considered as anything more than a belated echo of what is already known?

The basic problem here is not recognizing where PCT stands in relation to other approaches to behavior. Perhaps something of the nature of the problem will come through if I say that very similar remarks have been made by sociologists, linguists, neurologists, biologists, clinical psychologists, experimental psychologists of several breeds, social psychologists, cyberneticians, psychotherapists, counsellors, educators, piano teachers, and more who don't come immediately to mind.

Now this is somewhat strange, isn't it? How could it be that PCT, which is basically one simple theory of behavior, could be saying things that to at least some people in all these disciplines are no more than statements of the obviously true? Certainly the specific conclusions drawn from PCT in the field of neurology aren't anything like those drawn in the field of psychotherapy or biology. Could it be that all these fields, in their own ways, have anticipated what this one theory would happen to say when applied to a particular aspect of human behavior?

It gives one even more to think about to realize that the basics of PCT were developed close to 40 years ago, and grew from roots that are now over 60 years old, yet the ideas that are "already being said" could have been developed from PCT, had anyone tried, at almost any time during that span.

Consider the idea of purposive behavior. This is no longer the mystical concept it was 20 or 30 years ago, but it never was mystical within PCT. Over the years, one person after another has "discovered" that there is something goal-directed, intentional, purposive about behavior. Does this amount to rediscovering the same thing that PCT says? No, it does not.

The reason is simple. It's one thing to observe natural behavior and realize that its goal-directed nature is too obvious to overlook. It's another thing to say what you mean by goal-directed behavior and explain how such a thing could possibly work in a physical universe. PCT is not a naturalistic theory; it is not a generalization from observations of many instances of individual behavior. It is based on first principles, considerations than are more basic than any instance of behavior. From the PCT model, it _follows_ that behavior will appear naturalistically as goal-directed. It _follows_ that organisms will act on their environments to control their perceptions of what happens to them. It _follows_ that organisms will respond to disturbances so as to stabilize variables in the environment outside them, and inside themselves. These conclusions are not the basis of control theory; they are its predictions, its logical implications. PCT is a model of the basic organization of living systems, from which these features of observed behavior necessarily follow.

In most of the behavioral sciences, a "theory" is simply a proposal that some regularity can be observed in ongoing behavior. Theories of communication, I suppose, have to do with suspected regularities in the way people talk to each other, influence each other through words, try to transmit meanings and knowledge to each other. In most of the behavioral life sciences, this is where theory begins and ends. There's no explanation for most of these observed regularities; they are themselves used as explanations and predictors of behavior.

To see PCT as a theory of this same kind is to miss the point entirely. The PCT model is not simply a statement of observed regularities. It is a statement of underlying principles from which observed regularities can be predicted.

I'm sure you realize that in most of the behavioral sciences, even in the field of communications, the phenomena that are accepted as real have little to do with PCT, because the world is sliced in such a way that the phenomena have no clear relationship to control processes. In many fields, also, the conclusions of PCT about the autonomy of organisms and the way they control inputs are flatly contradictory to accepted ways of interpreting experimental results. People who hold such views see nothing in the conclusions of PCT to match with their own conclusions; they do not come pounding on the door to learn more.

But there are many people in many disciplines who read about the conclusions of PCT, and find a striking match with their own ways of observing behavior. These are generally the people who already accept the purposiveness of behavior, who have already noticed that behavior involves closed loops of cause and effect, and in general who have already noticed control-specific phenomena. Most of these self-selected people, at first, are satisfied with the congruence of conclusions. They feel vindicated because someone else has noticed the same phenomena.

Of these people, some fraction goes a little further. They learn about the simple relationships between perception, comparison, and action, and begin to understand the logic of control, the underlying principles. It's only then that they begin to understand that they have been comparing conclusion against conclusion without seeing WHY the phenomena exist to be observed in the first place. Most people trained in conventional sciences of behavior are taught that asking WHY is futile; one merely accepts that events progress as they do, and tries to find regularities in them. What PCT does is move the WHY to another level, the level BELOW observation. The raw material of PCT is not a set of observations of behavior, but a set of proposals about underlying mechanisms that _produce_ behavior. Those mechanisms, true enough, are taken as the ground level of explanation. But they are at a level more fundamental to understanding than simply recording what has happened in the past.

It takes most people several years of trying before they realize where the power of PCT lies. Its power is not in its ability to create generalizations that people in various disciplines recognize as fitting their experiences. It lies in the ability to generate explanations of ALL behaviors of ALL kinds under ALL circumstances. From the standpoint of PCT, there are no "disciplines." Communications, linguistics, psychotherapy, biology, and all the rest are all simply different viewpoints one can take toward living control systems. The same underlying principles apply, because they apply to all aspects of living systems, no matter what they are doing.

One reason that the Control Systems Group is so exciting to the people in it is that each of them gets a look at the way control theory applies in other disciplines. This breaks them free of the idea that the generalizations apply _only_ in their own fields. They begin to see that their generalizations about behavior are really almost identical to the generalizations that others in other fields have developed, because in all cases they are simply instances of the properties of control systems. In one sense this is a disappointing discovery, because it means that one's own insights are not unique. But in another sense it is tremendously exhilarating, because one also sees that this specialized insight in one specialized field is really a facet of something far larger and more important: a fundamental aspect of life itself.

When control theorists object to some way of explaining a phenomenon, it isn't because there's any disagreement about the phenomenon itself. It's because the explanation unwittingly violates the underlying model. To a person who doesn't grasp the underlying model, there seems to be no great difference between saying, for example, that perception guides behavior and that behavior guides perception. Which way you say it just seems to depend on your emphasis at the moment. But "guiding" is an idea that unpacks into specific relationships, and there is only one way to express these relationships correctly under PCT. There is, in fact, only one arrangement of them that will actually work. So the control theorists sees a huge difference in the meanings of the words where the person who still theorizes strictly by generalizing from phenomena sees no important difference.

You can claim to understand PCT when you see that generalizations at the level of phenomena are simply instances of the ways in which a control system can work -- unimportant in themselves, theoretically, except as they test the underlying principles.

To say that the observations are unimportant theoretically is not to say they are unimportant. The whole point of theory, in the long run, is to enable us to understand what we observe. Where theory lags, and circumstances press, we have no recourse but to look back on accumulated experience and try to guess at the rules. If everyone became a PCT theorist right now, we would simply stop coping, as a species, with all the problems we must somehow solve to continue in existence. Coping on the basis of past experience is not very efficient or reliable. But as far as the species is concerned, it is a lot better than the alternative. Most people -- sometimes I would say most _sane_ people -- find their fulfillment in dealing with life's problems as they come up, not on the theoretical level but simply on the practical level: Feeding the hungry, curing the sick, earning enough to educate one's children, working toward greater understanding among strangers, striving to feel worthy and loved. It is only this background of coping that maintains the conditions under which theoreticians like me can opt out of the practical life and delve beneath the surface, hoping to come up with an understanding that will replace coping with something more effective, and thus of greater practical importance.

Some want nothing more than to look beneath surface appearances to find underlying order. Some want nothing less. The world needs the former, but could not get along without the latter.

Best, Bill P.