Why study perceptual control theory?

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What's in it for you?

Are you curious why and how people do what they do? Would you like to be more effective as a parent, teacher, manager, spouse or friend—and develop more satisfying relationships in the bargain? I bet you will discover that you will gain more useful, dependable insight more quickly when you learn Perceptual Control Theory (PCT) than you possibly could any other way. You will begin to question many conclusions that you previously thought were well-established truths.

I am a mechanical engineer who came to the United States from Sweden in 1967 with my wife Christine. My curiosity about "what makes people tick" was aroused when Christine became a salesperson in 1976. I began to study sales, management, public speaking, listening skills, parenting and psychology. I thought a book or program was worthwhile as long as I found an idea or two that made sense to me and that I thought I could use.

In 1988 I came across *Behavior: The Control of Perception*[1] by William T. Powers. I soon realized that this book outlined a new scientific approach to understanding human nature—it was not just another pop-psychology or self-help book with one or two good ideas.

As I studied PCT, I saw an entirely new way to explain what behavior is and what actions accomplish. PCT looks at behavior from the inside perspective of the behaving person, not from the outside perspective of an observer. PCT shows clearly that actions are rarely deliberate; a person is not necessarily aware of actions. Actions influence the environment (or attempt to) so that a person experiences what the person wants to experience at the time and under the circumstances.

With PCT insight, I now see actions as symptoms of wants and understandings and ask people about their wants whenever a conflict arises. In PCT-speak, this means that I ask them what the situation looks like from their inside perspective and what perceptions they are trying to control, rather than jump to conclusions about the situation based on my incomplete observations from the outside, supplemented by a generous helping of other information retrieved in real time from my personal store of understanding and memories—in other words, based on what I imagine.

I realized that I had on many occasions caused conflict with others by insisting on my interpretations and by trying to impose my wants, telling people what to do and how to do it. So now I do my best to offer information instead, information that my friends and associates can consider and make their own; information that will affect how they understand their world, change what they want—and thus change their actions.

As Christine and I began to apply this understanding in our own interactions, our already good marriage became even closer. If one of us is upset about something, we let the other know we have a strong error signal. This leads our conversation directly to a discussion of a want (the reference signal), compared to a perception or interpretation of what is (the corresponding perceptual signal). This approach eliminates the oh-so-intuitive focus on actions. It removes any accusatory tone from discussion and helps us support each other by reviewing the want—it's origins in higher-level understanding, appropriateness and selection, stored perceptions (imagination) mixing with current input, creating our current perception or interpretation of what is, actions we have tried, and unintended consequences of each other's

1) See page 81 for a reproduction of the book jacket.

actions. It becomes easier to make suggestions and accommodate each other's preferences. We recognize that persistent error signals cause reorganization and can be harmful, but accept the idea that error signals and reorganization are part of life.

I now put my understanding to use daily when dealing with customers—anticipating what perceptions they are controlling—and find myself getting along much better than I did earlier in my career.

My whole outlook on life has changed and I feel much more accepting and at peace with myself than I used to, all because I have gained a fundamentally different understanding.

The remarkably simple explanation developed by Bill Powers is based on both the principles and methods of successful physical science and it remains consistent with our intuition about the autonomy and complexity of human nature. Once you understand this explanation, you will find it both elegant and compelling. The explanatory mechanism introduced by PCT is testable through various experiments, so don't accept it on anyone's authority. Test it for yourself—every step of the way. You will find that PCT covers much ground and explains a great deal of our experience, but leaves many mysteries for future researchers to explore, such as consciousness, awareness, attention and memory—mysteries for which no-one has any definitive answers.

When you study PCT, bear in mind that this is not just an idea of the month, another passing fad or "The Powers Philosophy," but a simple, basic description of the marvelous mechanism that *is* a human being, always has been, and always will be. You *are* a perceptual control system, as is every living being. That is why it is important to understand how a perceptual control system works, and this is why we offer tutorials and simulations you can run on your own computer.

When you understand the mechanism described by Perceptual Control Theory and see that people always control perceptions, you can understand any new interaction by reasoning based on PCT. You no longer need to memorize advice for all possible circumstances. Social interactions in all their apparent complexity suddenly become much simpler and easier to understand. This kind of insight you cannot ever learn from descriptive science—a storytelling or "this is what you do" approach to learning.

Understanding the basic mechanism will only be the beginning of your personal transformation. As you live through new experiences, you will naturally examine them in the light of PCT. Over time, your understanding will mature and flavor your entire outlook on life.

Why worry about explanations?

PCT offers an explanation. Why should you care about an explanation? I have heard many people say: "Don't confuse me with theory, tell me what to do!" I think that there is good reason for this doubting attitude when it comes to education that deals with social interaction. Explanations come in many flavors. Some are vacuous, some superfluous, some erroneous and some very useful indeed, providing solid understanding and structure for the way we think. Let me briefly[2] share some thoughts on explanations and science:

Explanations are not necessary to live

Fishes, cats and people get along just fine without any explanations at all. We all learn from experience. We want something and act in various ways until we experience what we want. Then we remember what we did (or rather, what perceptions we were controlling at the time).

2) See *Are all Sciences Created Equal*, pages 59–74.

Some explanations amount to conversation

Explanations sometimes merely restate the problem (you can't read because you are dyslexic, where dyslexic is Greek for "can't read"), offer conversational speculation (the customer bought from you because he liked you best), or lump symptoms together in groups to define a "syndrome" which provides an illusion of scientific understanding.

Learning from experience provides little structure

Learning from experience, you deal with each situation as it occurs. As you accumulate experience, you say: "In these circumstances, do that." It takes a very long time to accumulate a variety of experiences and attempt to draw general conclusions from them. Unless you happen to hit on some very solid generalizations you will likely be surprised over and over when things don't turn out the way you expected. Your generalizations are unlikely to provide dependable structure for your thinking and guidance for new and different situations.

Many widely accepted explanations are wrong

Our language is full of references to the idea that the environment and people in it make us do and feel things. "You make me so angry!" "Look what you made me do!" "Our managers reinforce desirable behavior." "I want to make you happy." "His reaction is understandable when you know how he has been conditioned." We have all grown up with these concepts and explanations and they sure can seem valid when you look at people's actions from the outside. Nevertheless, the Stimulus-Response concept of linear causation is simply wrong, and the concept of the brain issuing detailed commands, likewise linear causation, is also wrong. Neither is physically feasible. Statistical findings, resulting from research based on these intuitively appealing concepts, are most often of very low quality.

Languages are made up of explanations

The language of a particular science at any point in time defines concepts, explanations and functional relationships in a coherent whole. The language and its concepts determines how we view and describe what we experience. When you have learned a scientific language it becomes very difficult to step outside it and see an entirely different explanation, based on different basic concepts, where words take on different meaning. What you already "know" seems "right" and different explanations seem "wrong."

In his book *Inventing Reality: Physics as language* (NY: Wiley, 1990), Bruce Gregory reviews successive languages in the physical sciences, each one replacing its predecessor. When a new, more useful, testable and demonstrably more valid language is radically different, a scientific revolution has to take place eventually, because the old explanations and concepts lose their validity when compared to the new.

Scientific revolutions happen

I changed my notions about scientific progress when I read *The Structure of Scientific Revolutions* by Thomas S. Kuhn (Univ. of Chicago Press, 1970). I had thought that scientific progress always meant adding new discoveries to an already validated body of knowledge. Now I understand that the history of science is a history with long spells (many decades or centuries) of knowledge accumulation, punctuated by intellectually violent transitions where old knowledge is superseded by new concepts that give rise to new detailed explanations. Sciences start over. I am happy to particiate in a movement that is bringing a fundamentally new, testable and very practical explanation to the life sciences.

Good explanations make a huge difference

In-depth explanations provide structure

With a structure of in-depth explanations, such as provided by the contemporary engineering sciences, you can extrapolate from known principles and designs to completely new, never before attempted, actions and designs—yet be very confident things will work out. Such a body of in-depth explanations become a way of thinking—a systems concept in PCT language. This structures your thinking and provides a framework by which you fit additional experiences and conclusions into a coherent understanding. PCT offers a structure by which you can organize your understanding of living organisms and make sense of their behavior.

Where explanations prove correct – science can progress

The impact of correct, useful explanations is readily seen in the recent history of the physical sciences. New concepts, a new approach to measurement and a new set of physical explanations were introduced by Copernicus, Galileo, Kepler and Newton in the 1500s to 1700s, laying the foundations for modern physical science and the remarkable progress we have benefitted from during the last 300 to 400 years.

When students learn about the physical sciences today, they replicate many fundamental experiments and accept the theoretical explanations that go with them because they can see near perfect agreement between their own experience and the explanation. When engineers design devices today, they confidently expect them to work as predicted.

PCT offers a correct explanation – science can progress

When you learn about PCT today, you can replicate many fundamental experiments, run the simulations and accept the explanation that goes with them based on your own judgement, because you can see near perfect agreement between your own experience and the explanation. When you offer your friends information passed through the filter of PCT understanding, you will be offering better (and less confusing) information than they can get with today's descriptive languages and they will be able to control their perceptions better than they do now—they can be more satisfied. When you deal with people in the future, you will have greater understanding and confidence. You will be able to bring some order out of apparent chaos in your personal world.

Dag Forssell July, 1997, revised 2003