

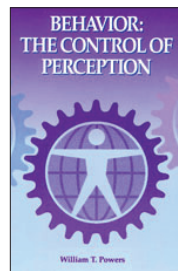
# *Behavior: The Control of Perception*

Reviews from  
second edition

“It is wonderful to see, after more than thirty years, the reprinting of Powers’ classic volume, *Behavior: The Control of Perception*, which was instrumental in introducing, defining, and outlining a control theory for understanding purposive behavior. From its inception, it has set forth a consistent, coherent and somewhat revolutionary view of the nature of the relationship between perception and behavior—that people (indeed, all living things) use behavior to purposefully control their perceptions or sensing of important conditions in the environment. Two things make this reprinting significant.

...First, though it was written over thirty years ago, it remains very contemporary and current in its view, perhaps because it was initially so prescient in understanding purposive behavior. Second, though it is not an overly long book, it covers virtually all aspects of the control process from simple control systems to multi-leveled hierarchical control systems, from learning and reorganization to memory, and it attends to the biological bases of the processes as well as the more social aspects like conflict and interpersonal control. As a result it is useful for persons just beginning their study of purposive behavior to more advanced persons who want to explore the issues more deeply. For these reasons, the reprinting should be welcome news for all of these people. The book is full of helpful examples, illustrations, and leading questions that entice the reader to pause and think about this new way of viewing human behavior and perception.

The ideas put forth in this volume are at the core to two central theories within sociological social psychology: Affect Control Theory and Identity Control Theory. My own work on the latter of these two theories was greatly influenced by my introduction to the book more than twenty-five years ago when I became interested in understanding the nature of the self, self-concepts, and identities that people have. There was in the mid 70s an increasing recognition of the importance of the self in social psychology in contrast to the dominant behaviorist position that then held sway. At the time, however, I did not have a clear understanding of how the agency of the self could best be modeled. The idea that people could have goals smacked of teleology and the cybernetic views of Wiener were only beginning to make their way into the behavioral sciences.



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By *William T. Powers*

Powers’ book changed all of that for me. Self-concepts and identities came to be seen as the reference signals Powers described as existing at the program, principle, and system levels for persons. The concept of reflected appraisals that existed in the Symbolic Interactionist framework corresponded to the relevant perceptions, which the comparator used to compare to the reference signal, and meaningful behavior was a way to portray the self as well as counter disturbances to the definitions of the self in the situation. Self-verification became understood as the simple operation of the identity control system. It was a “eureka” experience when I finally understood what Powers was saying, and I still go back to his book for further insights and understandings.”

*Peter J. Burke, Chairman, Professor,  
Department of Sociology, U of California,  
co-editor, *Advances in Identity Theory and  
Research*, 2003.*

“The title of this book should make it clear that what is inside is a very novel way of looking at behavior. *Behavior: The Control of Perception* (affectionately known as B:CP) was well ahead of its time when it was first published 30 years ago and it is on the cutting edge of psychology today.

B:CP describes a theory that sees behavior as the means by which organisms control their perceptions of the world around them. B:CP explains what control is, how it is manifested in behavior, and how it works. B:CP points the way to a new psychology that is not only good science but also good practice inasmuch as it shows us how to deal more successfully with ourselves and the control systems we live with.”

*Richard S. Marken, Senior Behavioral Analyst,  
RAND Corporation; author, *Methods in Ex-  
perimental Psychology*, 1981; *Mind Readings:  
Experimental Studies of Purpose*, 1992 and *More  
Mind Readings: Methods and Models in the Study  
of Purpose*, 2002*

Over...

“Although *Behavior: The Control of Perception* is written clearly and gracefully, and the ideas in it have considerable intuitive appeal, the book has been a challenging one for social scientists. Humanistic social scientists are likely to be put off by the book’s technical details about the brain and intimidated by its implicit engineering perspective. For more scientifically inclined social scientists, the book’s message may go against the grain because of its insistence on the importance of generative models of individual human behavior, in sharp contrast to the dominant statistical approach of these disciplines. Social scientists of any stripe grappling with the ideas in the book are likely to feel that assimilation of these ideas might require some substantial readjustment of their usual ways of viewing the social world. Thus, it is hardly surprising that this book has more often been ignored or dismissed than taken seriously by social scientists.

Unexpectedly, however, several prominent sociologists have taken ideas from *Behavior: The Control of Perception* and made them central to their thinking and research. The earliest sociologist to adopt this line of thinking was *David Heise*, a respected methodologist and social psychologist, who encountered the book in the mid-1970s and built his Affect Control Theory around the idea of negative-feedback control. A few years later, *Clark McPhail*, a prominent researcher into public gatherings and collective behavior, started applying these ideas in his own research, under the label of Perception Control Theory. In the late 1980s and early 1990s, *Peter Burke*, another prominent social psychologist, made a control system model the centerpiece of his newly developed Identity Control Theory. All three of these well-known sociologists drew their theoretical inspiration from *Behavior: The Control of Perception*, and all have gone on to spread the influence of these ideas among their associates and students. In the field of sociology, the influence of Bill Powers’ theory about feedback control has been steadily on the rise.

Because these sociological adherents of control theory have published their research under a variety of labels, their common approach has yet to gain recognition as a distinctive school of sociological thought.

However, I have recently teamed with *Thomas J. Fararo*, another prominent mathematical sociologist and sociological theorist influenced by Powers’ work, to assemble an edited book that brings examples of all these control-theoretical approaches together under one cover (*Purpose, Meaning, and Action: Control Systems Theories in Sociology*). The contributors to the book are a distinguished group. Heise, Burke, and Fararo have all been given lifetime achievement awards from different sections of the American Sociological Association (with Heise receiving two of these awards). McPhail is a past chairperson of the ASA section on Collective Behavior and Social Movements, and *Lynn Smith-Lovin*—an associate of Heise’s and well-known Affect Control Theorist in her own right—is the current vice-president of the ASA. Not only has control theory made inroads into the field of sociology, but it has found acceptance in the highest levels of the discipline.

In the more than thirty years since *Behavior: The Control of Perception* was first published, much has changed in the field of sociology to make sociologists more receptive to the message of the book. The dominant research style of the 1970s, which depended on mining survey data to build complicated statistical models of causal relationships between abstract variables, has been losing favor, as sociologists have become increasingly concerned about understanding the links between the micro world of face-to-face interaction and the macro world of society-wide structural inequalities. Social constructionism, the notion that the structures of society are constantly renewed through the accretion of individual actions, has gained ever-wider acceptance. The new theoretical perspectives emerging in recent years are increasingly compatible with the kinds of things that Bill Powers was saying thirty years ago. In my field, at least, it seems unlikely that *Behavior: The Control of Perception* will ever be forgotten. More likely, the book that was surely one of the most provocative and original of the Twentieth Century will eventually turn out to be one of the most important books of the Twenty-First.”

*Kent A. McClelland*, Professor of Sociology,  
Grinnell College; editor/ author, *Perception,  
Meaning and Action: Control Systems Theories  
in Sociology*.

Publication of William Powers book, Behavior: The Control of Perception, is, in my opinion, a major event in the development of the psychology of perception. The completely new approach he has developed using cybernetic concepts cannot help but be seminal, instigating a new and important line of investigation of a wide range of psychological phenomena in addition to perception. His new way of looking at and conceptualizing old things will help to open the way for a series of important discoveries, and these because of the rigorous framework he provides are likely to be sounder scientifically than his interest in control theory as a model of behavior began while he was a medical physicist at the Veterans Administration Research Hospital in Chicago, where he designed many devices for medical research; notably, a curve-tracer for plotting isodose contours in the beam of radiation from a Cobalt-60 therapy machine.

Library of Congress Cataloging-in-Publication Data Powers, William T. (William Treval), 1926-Behavior: the control of perception / William T. Powers. 2nd ed., rev. and expanded, p. cm. Includes bibliographical references and index. ISBN 0-9647121-7-2 (alk. paper) 1. Human information processing. 2. Perception. 3. Human behavior. 4. Control theory. Despite 'Perceptual Control Theory' (PCT) sometimes being presented as a separate field, it tackles topics that are central to (first order) cybernetics; feedback control and analogue neural circuits. Powers is interested in *how* the brain works rather than abstract symbolic descriptions *what* the brain does. The book contains one of the clearest accounts I've read of how 'neural currents' carry perceptual signals. The central message of the book being that behaviour is the control of perception - not of action - action being the means by which an organism influences the world and, in turn, its own perceptions. The perceptual signal is compared to an *internal* reference signal, so the goals of an organism emerge from within rather than being externally imposed. Perceptual control theory (PCT) is a model of behavior based on the principles of negative feedback, but differing in important respects from engineering control theory. Results of PCT experiments have demonstrated that an organism controls neither its own behavior, nor external environmental variables, but rather its own perceptions of those variables. Actions are not controlled, they are varied so as to cancel the effects that unpredictable environmental disturbances would otherwise have on This is the second of three posts dealing with control theory and Behavior: The Control of Perception by William Powers. The previous post gave an introduction to control theory, in the hopes that a shared language will help communicate the models the book is discussing. This post discusses the model introduced in the book. The next post will provide commentary on the model and what I see as its implications, for both LW and AI. B:CP was published in 1973 by William Powers, who was a controls engineer before he turned his attention to psychology. Perhaps unsurprisingly, he thought that the bes

Perceptual control theory (PCT) is a model of behavior based on the principles of negative feedback, but differing in important respects from engineering control theory. Results of PCT experiments have demonstrated that an organism controls neither its own behavior, nor external environmental variables, but rather its own perceptions of those variables. Behavior, in PCT, is the means by which an organism controls its perceptions, not its actions. As a catch-phrase of the field puts it, "behavior is He argued that everything in the brain made perfect sense if you understood cybernetic principles, and came up with a very complicated but all-encompassing idea called Perceptual Control Theory which explained thought, sensation and behavior. A few people paid attention, and his work was described as paradigm-shifting by no less of an expert on paradigm shifts than Thomas Kuhn. Somehow I kept running into this handful, and they kept telling me to read Powers's book Behavior: The Control Of Perception, and I keep avoiding it. A few weeks ago I was driving down the road and I had a moment of introspection where I realized everything I was doing exactly fit Powers's theory, so I decided to give it a chance. Publication of William Powers book, Behavior: The Control of Perception, is, in my opinion, a major event in the development of the psychology of perception. The completely new approach he has developed using cybernetic concepts cannot help but be seminal, instigating a new and important line of investigation of a wide range of psychological phenomena in addition to perception. His new way of looking at and conceptualizing old things will help to open the way for a series of important discoveries, and these because of the rigorous framework he provides are likely to be sounder scientifically t Despite 'Perceptual Control Theory' (PCT) sometimes being presented as a separate field, it tackles topics that are central to (first order) cybernetics; feedback control and analogue neural circuits. Powers is interested in \*how\* the brain works rather than abstract symbolic descriptions \*what\* the brain does. The book contains one of the clearest accounts I've read of how 'neural currents' carry perceptual signals. The central message of the book being that behaviour is the control of perception - not of action - action being the means by which an organism influences the world and, in turn, its own perceptions. The perceptual signal is compared to an \*internal\* reference signal, so the goals of an organism emerge from within rather than being externally imposed.