

Perceptual Control Theory

When someone on an airplane or at a party asks me what I do for a living, I say, “I teach and help others understand Hierarchical Perceptual Control Theory or PCT for short.” The universal response to this is a furrowed brow and “What’s that?” I proceed to tell them that it is a scientific theory of human behavior. By this time most people have usually decided that they are no longer interested in what I do. Why? Not because they aren’t interested in human behavior, but because they heard the word “scientific.” This often brings back nightmares of complex equations, experiments that never came out the way



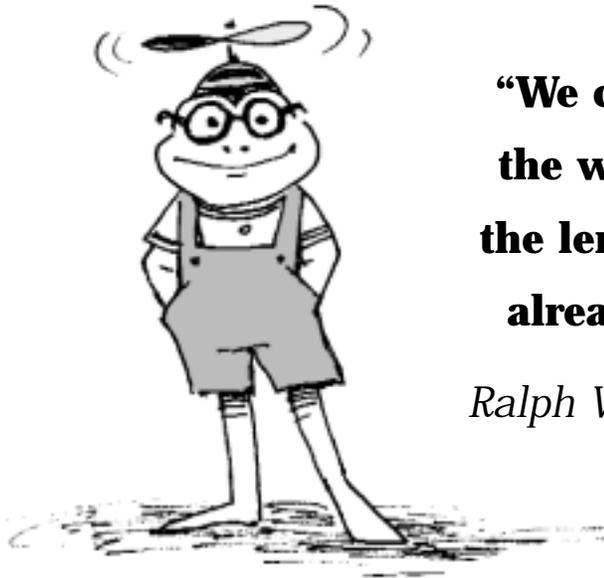
the textbooks said they were supposed to, and vocabulary rarely used outside of high school. So why do I continue to use the word “scientific” when I tell people what I do? Because “scientific” implies a great deal more than my own personal thinking about a subject or idea.

– **SHELLEY ROY**

Science has been described as the never-ending search for answers to the universe’s mysteries. The process of science is intended to help us understand the “truths” or general laws of our world. Based on these truths we then make decisions about when and how to apply them, as well as weigh the potential benefits of our chosen applications against potential risks. This is in essence what we are asking you to do — examine your present practices as they relate to PCT.

Science by its nature is both an area of study and a process. Scientific understanding was once thought to be information about an objective world out there (Descartes), but this is no longer true. We have learned we cannot separate the knower from what is known. The beliefs, values, and experiences of the scientist directly impact the results and actions of science. According to Fritjof Capra, “Scientific facts emerge out of an entire constellation of human perceptions, values,

and action — in a word, out of a paradigm — from which they cannot be separated.” You can only operate based on your own personal frame of reference. Unlike Descartes, today’s scientists understand that the universe is not “out there” but includes us as well as everything else. Let’s begin the scientific journey by having you reflect on your personal paradigm of science and human behavior.



**“We can only view
the world through
the lens of what we
already believe.”**

Ralph Waldo Emerson

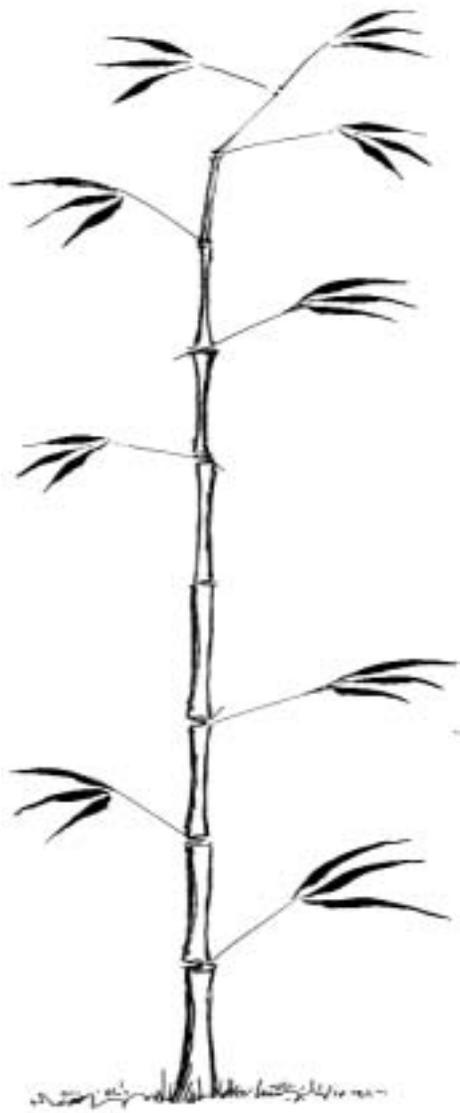
So take a moment, close your eyes, and reflect. What do you believe about science? What do you believe about human behavior?

As a subject, science is intended to help us unravel our world and gain understanding of it. As a process, science is a procedure for

systematically pursuing knowledge. These pursuits of understanding involve intellectual inventiveness, the creation of mental images of what has never been actually experienced, and the devising and testing of strong intuitive feelings. It's believing without seeing.

A scientist then is someone who through a systematic approach pursues understanding natural phenomena, proposes a theory about the phenomena, and then spends the rest of his life

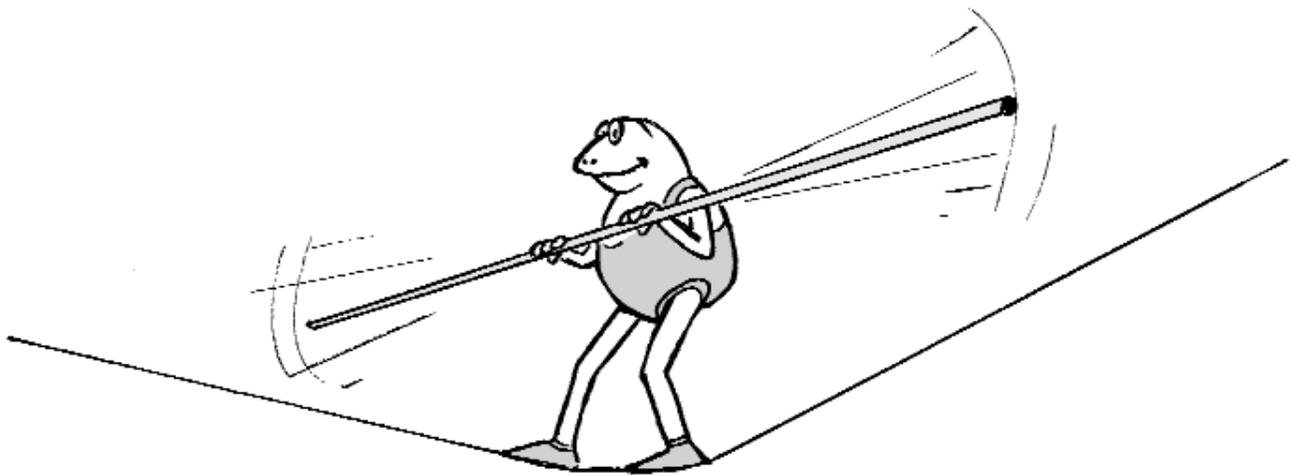
trying to prove himself wrong. William Powers, the originator of Perceptual Control Theory is such a scientist. In particular, Powers is a scientist who uses



“Thinking like a scientist does not require incredibly precise, highly sophisticated, other-worldly logic. ... Science is nothing but trained and organized common sense.”

Charles Wynn & Arthur Wiggins

model building to test his theory. A model is a representation or likeness of reality invented to account for observed phenomena. Model airplanes, model railroads, model boats, and computer simulations (the most common method used to test PCT) are all examples of something real, but in a different size, material, or complexity than the thing it is modeled after.



Perceptual Control Theory is based on the scientific understanding that all living systems operate to seek dynamic balance. It is a simple theory in that it is based upon a few core principles, but also a complex one in that it involves intricate interconnections created by the system as a whole. William Powers and his colleagues believe PCT can accurately explain more than 99 percent of human behavior.

Theories are our best attempts, at any given moment in time, to explain the world around us. All of us operate out of theory. We call it gut feel-

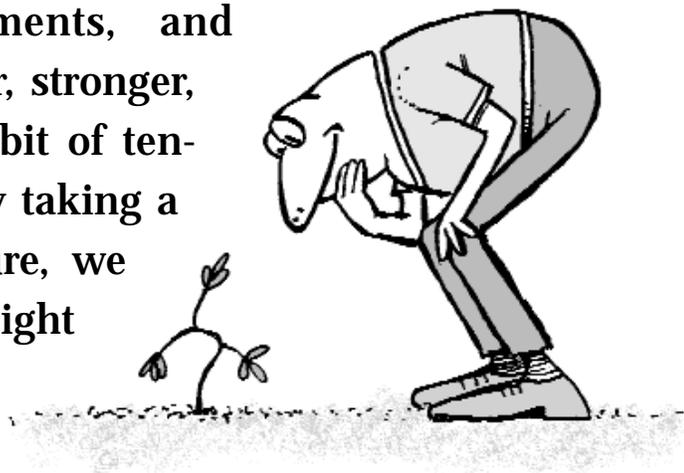
“Without understanding of theory, implementation is often tainted.”

ings, common sense, beliefs, or values. Many teachers are *unconsciously* skilled. They are either a naturally skilled teacher or they experiment through trial and error until they

become skilled. The problem is that they are effective teachers without knowing why. When we understand theory it provides two things: an ability to be *consciously* skilled and the freedom to explore how to truly engage our students.

So how do you explain Perceptual Control Theory at a party?

PCT may be thought of as the plant view of life. Plants are living systems that grow, change, need nourishment, thrive in healthy environments, and always grow better, stronger, and faster with a bit of tender loving care. By taking a close look at nature, we can gain great insight into human



behavior and human systems. The plant view of human behavior has at its core four fundamental concepts.

First, living systems are constantly seeking dynamic balance.

Second, living systems operate from the inside out. (It is the system's internal references compared against perceptions of the outside world that let the system know if it is or is not in a state of dynamic balance.)

Third, living systems are continuously engaged in the circular process of feedback.

Fourth, living systems operate at multiple levels, with the higher levels sending reference messages to lower levels.

Unfortunately most of us have lived our lives based on a different theory, which might be thought of as the rock view of human motivation. The rock view is cemented in physical laws that were intended to describe non-living objects or systems. Such physical laws help answer questions like: "What do we need to do to create a machine that can fly?" or "How do I build a building that is fifty stories high?"