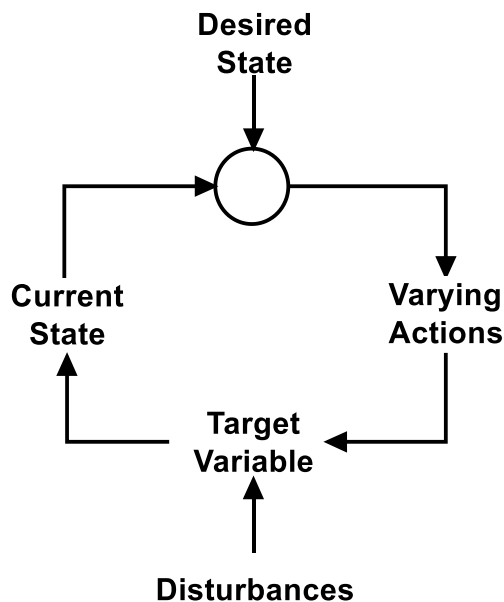


PCT: One Leg at a Time

I got up one morning and, among the many other things I do as part of my morning routine, I put on my jeans. They weren't where I had left them, lying on a chair in the corner of the bedroom. My wife had hung them on a hook on the back of the bedroom door. Mumbling to myself I retrieved them and began to put them on. Standing on one foot I grasped my jeans by the waistband, held them open, bent over a bit, raised my right foot and began to insert it into the right leg of my jeans. That's when the fun started. One of my puppies grabbed the other end of that leg and began tugging at it. My one-legged stance, already shaky, got even shakier. So there I am, hobbling around on my left leg, trying to get my right leg into my jeans and the dog is frustrating my every effort. Fortunately (before I toppled over), the dog let go and I managed to get my right leg in and through right leg of my jeans and plant my foot on the floor. Then I shifted my weight to my right foot and repeated the process with my left leg. This time I swung around to keep the left leg of my jeans away from my dog and quickly thrust my left leg through the left leg of the jeans and onto the floor. I straightened up and pulled up my jeans in one movement. Success! Then I started looking for my shirt.



© Fred Nickols 2015

The preceding example illustrates Perceptual Control Theory (PCT) at work. The diagram on the left will illustrate it as I review the example.

Let's start with what I was trying to control – the *Target Variable*. I wanted to get dressed so let's think of my *Target Variable* as my state of dress. I wanted to be dressed. As part of getting dressed, I wanted to put on my jeans. A part of my *Desired State* could be described as "jeans on." The *Current State* or perceived state could be described as "jeans not on." My jeans also weren't where they left them so I looked around and found them. I then tried to put them on in the usual one-leg-at-a-time way but my puppy was interfering with that. In PCT terms the puppy was a "*Disturbance*." I hobbled around more than usual and struggled in a tug-of-war with the dog. But I prevailed and managed to don my jeans. Doing so required *Varying Actions* on my part. Indeed, I doubt the act of putting on my pants is ever exactly the same from instance to instance – puppy or not.

In slightly more technical terms PCT holds that we human beings (and other organisms) act or behave so as to get and keep the values of selected external variables (*controlled variables*) aligned with the values we want. We do this by comparing our perception of the current state of the variable (*perceived state*) with our desired state of the variable (*reference signal*). (The C in the circle represents a comparison of those two states.) If there is a discrepancy, a gap between what we perceive and what we intend, an error exists and we act to correct it. Our actions vary depending on the circumstances at hand, including the size and nature of any discrepancy between current and desired states, as well as any impediments (*disturbances*) created by other actors and factors (in this case, my puppy). In most cases we are controlling more than one external variable. In the example I was also trying to maintain my balance. And of course I was also trying to put on my jeans – one leg at a time. In the future I think I'll sit in the chair and try two legs at a time.