

Cultural Acquisition, Evolution, and Ethology:
The Perceptual Control Hypothesis

DRAFT - 04/07 - Ted Cloak

1. Cultural features, like other behavioral features of living things, evolve by means of Natural Selection; they therefore require a unit of selection analogous to the gene. Perceptual Control Theory (PCT)¹ explicates the nature of that unit.
2. Perceiving² another human's actions and action-products, a human observer parses, processes, and stores his perceptions as *reference standards* for neural control systems directing his own subsequent actions.³
3. That is how cultural acquisition works: Several hundred thousand years of genetic/cultural co-evolution have so empowered and refined our mechanisms for perceiving, parsing, processing, and storing, that an observer's stored perceptions/reference standards may approach functional identity to the reference standards used in directing the actions he observed.⁴
4. Reference standards so acquired are *cultural instructions*,⁵ or *memes* in the strict sense of the term⁶ -- the replicating units of culture.
5. The study of cultural behavior and evolution at the memetic level is called Cultural Ethology.⁷

¹ Powers, William T. 1973. Behavior: the Control of Perception

² in the broad sense, to include imagining perceptions by interpreting uttered or written statements

³ In PCT terms, his control systems will continually adjust his subsequent actions to make his then-current perceptions more closely approximate his now-stored perceptions/reference standards. Behavior, in the final analysis, is the control of perception.

⁴ The behavioral control systems themselves have been evolving for several hundred **million** years, hitherto relying on reference standards provided by genetic evolution and, more recently, by trial-and-error learning as well. A simple culturally mediated action (e.g., waving goodbye, or driving a nail) is the combined product of dozens of control systems, only a few of them cultural, hierarchically organized and acquired at different points in ontogeny.

⁵ Cloak, F.T. 1968, 1975. Is a cultural ethology possible?

⁶ Dawkins, Richard. 1976. The Selfish Gene
1982. The Extended Phenotype, p. 109

⁷ Cloak, F.T. 1968, 1975. Is a cultural ethology possible?
1973, 2007. Cultural ethology experiment #1