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# PERCEPTUAL CONTROL THEORY AND CLINICAL PRACTICE

# by Brian D’Agostino

I rarely travel long distances for academic conferences, much less to England, but I did go to the University of Manchester from September 11th to 13th for an annual conference on Perceptual Control Theory (PCT).  While most academics balkanize motivation, perception, and behavior as disconnected topics, PCT integrates them using the theory of self-regulating (negative feedback) systems.  This research paradigm and community builds upon William T. Powers’ 1973 classic, Behavior: The Control of Perception, published by Aldine (now Aldine/Transaction) and lauded at the time by Carl Rogers, Thomas Kuhn, and other luminaries.  In the more than forty-five years since this publication, Powers’ work has spawned an impressive corpus of peer reviewed research spanning the behavioral sciences, psychotherapy, neuroscience, robotics, cognitive science, and more.

Held in the historic city in which the industrial revolution took off, the conference began with a visit to Manchester’s Museum of Science and Industry, featuring a gallery of 19th century textile machinery and related artifacts, followed by an informal reception.  The conference ended with small group discussions on an interdisciplinary range of topics generated by conference participants.  I attended the group that applied PCT to the issue of climate change, in which I found myself exchanging ideas with the eminent infant researcher Franz Plooij (pronounced “ploy”).

Dr. Warren Mansell, on faculty at University of Manchester’s Division of Psychology and Mental Health, was the main organizer of the conference, co-author of several of the papers presented, and is creator of [pctweb.org](http://www.pctweb.org/index.html?LMCL=paSTnb), a website that provides an excellent overview and introduction to PCT and its diverse applications.  He presented on frontiers of interdisciplinary research using PCT, encompassing such diverse fields as robotics, nature appreciation, and theater/film.  He also summarized the content and approach of The Handbook of Perceptual Control Theory, which is forthcoming with Elsevier in 2020.

Dr. Sara Tai, also at University of Manchester and a co-organizer of the conference, reported on a large, international, double-blind clinical trial in progress.  This study employs Method of Levels (MOL), a psychotherapy modality informed by PCT, in conjunction with psilocybin, a plant-based substance whose effects resemble serotonin.  MOL is led by the client, talking about a problem of their own choice, while the therapist asks curious questions and helps the client notice spontaneously occurring thoughts at the edge of awareness. Comparisons have been made to free association in psychodynamic therapy and thought catching in cognitive therapy. This process is thought to help the client identify and reorganize control systems that are in conflict.  Administration of psilocybin facilitates the surfacing of emotions and conflicts that clients normally try to repress, making them more accessible to reorganization.

I presented a more PCT-oriented version of an article I published in the current issue of J.A.S.P.E.R. (Journal for the Advancement of Scientific Psychoanalytic Empirical Research) entitled, “Militarism and the Authoritarian Personality: Displacement, Identification, and Perceptual Control.” This article uses PCT to reinterpret and illuminate empirical findings on the psychology of militarism and the psychoanalytic concepts of displacement and identification with the aggressor, and concludes with implications for clinical practice.  The paper is available at: <https://bdagostino.com/resources/BD_JASPER%202019.pdf>

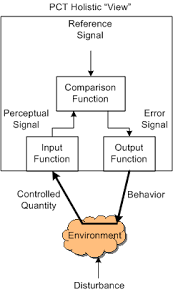
The first day of the conference was devoted to clinical and pedagogical applications of PCT.  Here is an overview of these presentations:

* A computer simulation informed by PCT correctly predicts the pattern of change in symptom scores from psychotherapy sessions.
* In a randomized, single blind study of 156 patients, the PCT-based Take Control Course fared as well or better than individual low-intensity Cognitive Behavioral Therapy on six-month anxiety and depression outcomes.
* An adaptation of the Take Control Course ameliorated PTSD and other symptoms in a study of 10 military veterans.
* A measure for coding moment-by-moment changes in awareness was applied to publicly available therapy sessions employing the PCT-based Method of Levels (MOL), and showed better results for experienced MOL therapists compared with novices.
* PCT provides new insights into the transition from contemplating suicide to making a suicide attempt.
* In conjunction with Mentalization Theory and the Communicative Impact model, PCT illuminates the communication challenges and opportunities faced by anyone caring for people with dementia.
* User evaluations of Manage Your Life Online, a PCT-based artificial relational agent, provide insight into likely core therapy processes experienced as helpful or hindering.
* An MOL-based psychological skills training program for nursing practitioners shows promise for ameliorating distress in cancer patients.
* A comparison of MOL psychotherapy and dispute mediation illuminates similar control processes underlying intrapersonal and interpersonal conflicts.
* Conceptualizing learning as reorganization of the human perceptual control hierarchy provides new insights into how constructivist pedagogy works.
* PCT and research on brain-compatible instruction guided the design of the Transformational Life Skills curriculum, taught in the Mecklenburg County Jail and schools across the U.S.
* MOL and the Take Control Course are showing potential in high schools and other settings that provide mental health services to young people.
* Project Recce (Resettlement—Education—Construction—Community—Employment) uses MOL to support veterans in the UK wishing to enter employment in the construction industry.
* MODE Rehabilitation in collaboration with University of Chester has piloted a “Whole School Approach” using PCT and MOL therapy.
* Understanding how disturbances of control can both impair and facilitate learning illuminates the pedagogical paradox of how freedom can be cultivated using constraints.

What was unique about these clinical and pedagogical presentations was their grounding in Perceptual Control Theory, which subsumes the academic topics of motivation, perception, and behavior using the concept of self-regulating (negative feedback) systems.  William T. Powers’ general theory of the structure and dynamics of the human mind and brain consists of eleven levels of perceptual control, spanning elementary sensory-motor processes at the base of the hierarchy, up to the control of self-image and abstract assumptions about reality at the apex.  The second day of the conference was devoted to theoretical and empirical research in this PCT paradigm.

AN ELEMENTARY NEGATIVE FEEDBACK SYSTEM,

WHERE THE REFERENCE SIGNAL FUNCTIONS AS "MOTIVATION."



A poster presentation by Eva de Hullu from the Netherlands diagramed Powers’ eleven-level hierarchy to depict relations between levels and illuminate experiental aspects of control and loss of control at each level.  Here is an overview of the second day presentations:

* Open loop and closed loop systems, such as the solar system and the human perceptual control hierarchy respectively, both exhibit mathematical regularities but these arise from fundamentally different processes.  This difference helps explain some common misconceptions in behavioral science.
* Before modeling control at higher levels of the hierarchy it is important first to observe without the mediation of language, to avoid presuppositions. This talk was illustrated with everyday examples of controlling sequence perceptions and their interconnections.
* Four published studies extend and illuminate Munsell’s color perception model using PCT.
* Identifying controlled variables illuminates individual and cultural variations in hand hygiene, with implications for improving public health.
* A PCT analysis of the nature and function of money yields a concept of money as a language of value comparable to other forms of language.
* The structure and origin of hierarchies in control systems have important implications for robotics and artificial intelligence.  A method for developmentally producing hierarchical layers of controlled perceptions—The Dependency Oriented Structuring Architect (DOSA)—provides simple solutions to complex control problems.

Of course it is impossible to do justice to all these papers in this very brief overview, but I hope this survey conveys the exciting range and fruitfulness of Perceptual Control Theory and its clinical applications.  If you find any of the above presentations especially interesting, the full abstracts and presenter names are available at: <http://www.iapct.org/IAPCTabstractbook.pdf> (The order of the abstracts very nearly follows my bulleted lists above.)  If you want to contact any presenter, I will be happy to send you his or her email address; you can write to me at [bdagostino2687@gmail.com](mailto:bdagostino2687@gmail.com)  For additional reading on PCT, I also recommend Warren Mansell’s website at [pctweb.org](http://www.pctweb.org/index.html?LMCL=paSTnb)

Brian D’Agostino, Ph.D. is a past present and current newsletter editor of the International Psychohistorical Association.  He is the author of peer reviewed research in political psychology and of The Middle Class Fights Back: How Progressive Movements Can Restore Democracy in America (Praeger, 2012).  Visit his website at: [bdagostino.com](https://bdagostino.com/)