

ACTion! News

The Newsletter of the International Association for Applied Control Theory

Spring, 2004

Contents

- Welcome to the New IAACT
- IAACT News in Brief
- IT!: Integrating Theory
- Patti Sebestyen Honored with Prime Minister's Award
- Iowa Teacher's PCT Songs Featured in Newsletter
- Hilton Head 2004: A Veritable PCT Feast
- Call for Contributions and Suggestions

Welcome to the New IAACT

By Fred Good

Welcome to the quarterly IAACT Newsletter. This first issue is being printed in a hard copy version and is being sent to our current faculty and members. We encourage you to begin to use the IAACT website and to send us articles and suggestions for the newsletter. If you would like us to send a hard copy of the newsletter to someone, please send us their address. If you want copies to distribute, let us know. We welcome Colin Dietch, our managing editor. You can contact him at colin@iaact.com or call him Tuesday and Thursday afternoons at 1-800-441-3604. He's the best.

IAACT News in Brief

By Colin Dietch, Editor

Bill Powers To Attend 2005 IAACT Meeting

Bill Powers will be the guest of honor at the IAACT Faculty Meeting, which will be held in Hilton Head, South Carolina, January 14-16, 2005.

Membership Fees Changed

At the January, 2004 meeting, the board simplified the IAACT membership model. The "Full" and "Associate" membership types have been replaced by "Member." Regular member dues have been reduced from \$50 to \$25 yearly. "Instructor Memberships" remain, but the dues have been reduced from \$275 to \$250 yearly.

Control Systems Group 2004 Conference

The Control Systems Group will hold their 2004 Conference on July 21-24 at the Cenacle Retreat and Conference Center in Chicago Illinois. If you are interested in attending this conference, contact Richard Marken at marken@mindreadings.com or visit the CSG website at <http://www.ed.uiuc.edu/csg/>.

IT!: Integrating Theory

By Lloyd Klinedinst

This is the first installment of an intended regular column in the IAAC newsletter.

IT! I refer to the “it” in our IAAC motto, “We live it!” I understand (my perception) the “it” to mean Perceptual Control Theory (PCT). IT can also refer to: information technology, instructional techniques, intensive training, integrating or integrated or integrative theory, implementing theory. I invite you to supply your two preferred words for the acronym. My first choice for what the acronym, IT, may stand for is “Integrating Theory.”

I base my choice on my understanding of what “We live IT!” means: that we aim to and attempt to integrate PCT into every act (as well as ACT) of living, working, and teaching. I also choose “Integrating Theory” as the focus of this column to communicate the science of PCT to practitioners and to consider the practices of IAAC (Applied PCT) in the light of some scientific analysis.

In this spirit, I invite readers of this column to send me questions and issues about PCT, the practical implications and applications of which you would like to see discussed. Likewise, share with me various practices about which you would like a discussion in the light of PCT.

The last topic I would like to share with you in this introduction to IT! is to talk about prerequisites for understanding and appreciating PCT. So often we assume too much - in speaking with others, in teaching our classes or working with our colleagues, clients or customers, in dialoguing internally with ourselves. Fred Good and I have had many conversations about the wide range of subjects and the diverse skill sets that would be helpful, if not necessary for understanding, appreciating, and applying PCT in our lives and work.

A beginning list includes some basic concepts in several areas of mathematics, several sciences (e.g. biology, physiology, evolution, neurosciences, chemistry, physics), a range of communication and language concepts and skills, and various fields of psychology and psychotherapy. What other background areas might you add?

Of course, few, if any, of us have any command of such a wide and demanding range of subjects! So please don't be intimidated. Rather, be encouraged and cordially welcomed to a lifetime of exploration and growth in better understanding and living PCT.

Like learning and using our first language, we all do IT! without first knowing grammar and a host of other theoretical linguistic information. Just so, we live and apply PCT -- regardless of how much we know about PCT.

If PCT is, as it seems, a theory of how living beings function (and it hasn't been disproved to date), then this (behavior as the control of perception) is how we function, whether we know this theory or not. The value of increasing and improving our knowledge of the theory is like a musician's improved musical performance: playing richer and richer musical expressions based on their increasing understanding and improved communication within the context of musical theory, history, practice, and tradition.

I invite each of you to participate and interact with me (via e-mail at lloydk@klinedinst.com) in this column. Let this be the occasion of our regular and intentional commitment: We Live IT!

Let's live IT! To the HILT (happily integrating living theory)!

Lloyd Klinedinst, IAACT Science Advisor, is a regular contributor to this newsletter. He may be contacted via e-mail at lloydk@klinedinst.com. Visit his website at <http://www.klinedinst.com/>.

Patti Sebestyen Honored with Prime Minister's Award

Patti Sebestyen, an IAACT Instructor and teacher in Saskatoon, Saskatchewan, Canada, was recently honored with the very prestigious Prime Minister's Award for Teaching Excellence. She was one of only sixteen teachers from across Canada to receive the award. Patti was invited to Ottawa to meet with the Prime Minister to discuss educational issues. She and fifteen other educators brainstormed and dialogued with the Prime Minister and his staff about effective educational practices and issues in education today.

Patti has extensive experience in working with at-risk students, and has used the principles of Control Theory to work successfully with these students. She is a sought-after workshop presenter and speaker throughout Canada and the United States. Her workshop presentations revolve around her experiences with Control Theory and how this model has facilitated success with "at-risk" students.

Her most recent project, called "Opening Doors," is a culmination of her many years of work. The program's name is appropriate as it focuses on inviting students to consider new pathways by opening doors for themselves. Patti and her staff also have an open door philosophy when it comes to sharing their ideas with other professionals. They are constantly bombarded with requests for information and visitations to their program. Visitors are quite often surprised, as they are frequently put to work in direct contact with the students, and experience first-hand what the program means to these students, who are empowered to look at the world in new ways.

Teacher and PCT Songs Featured in Newspaper

Mike Michalicek, a Control Theory-trained elementary school band teacher, was recently featured in the Waterloo/Cedar Falls Courier. Mr. Michalicek wrote a songbook based on what he knows about Control Theory, with titles including "The Restitution Song" and "The Tolerance Song." His CD contains five songs, and is titled *Just Add Water*. Click here to read the full article online!

(<http://www.wfcourier.com/articles/2004/02/12/news/metro/8ac400df743952b386256e38004cc8e8.txt>)

Hilton Head 2004: A Veritable PCT Feast

By Jeff Grumley and Lynn Taylor

Hilton Head was the place to be in January if you are excited about Perceptual Control Theory (PCT). The annual IAACT Conference was graced by the presence of Bill and Mary Powers who brilliantly complemented the full menu of ACT I, II, III, and IV offerings. Hats off to Perry and Fred Good of New View Publications for organizing another delicious week, attracting participants from Australia to the Canadian Arctic!

The Powerses dined with the IAACT faculty on Friday evening; followed by Bill's Saturday session to an eager, PCT-hungry crowd of IAACT instructors and guests. On Sunday, a small and satisfied group came away after Bill and Mary's informal "everything you ever wanted to ask Bill Powers and more" afternoon tea. The Goods hosted a party that evening to introduce Mary and Bill to the 70-some conference participants. Proud North Carolina Panthers fan, Glenn Smith supplied the decorations and fanfare for the night's lip-smacking triumphant game!

It was indeed a privilege to have Bill Powers, the father of Perceptual Control Theory, at this conference. Everyone from PCT greenhorns to grandmasters acquired new and valuable knowledge thanks to Bill's profound explanations and clear demonstrations. Life's deepest truths are also the simplest, exemplified by Bill's ability to turn complex theory into bite size morsels that melt in one's mouth.

A selection of tasty portions generously served "à la Bill" follows:

Reference and Perception

"I am not a doctor but when I explain PCT I am -- open your mouth and say aahhh," Bill commanded in his customary good-humoured style. He modeled the sound for us until we matched it. He then asked us to do it again, but this time without any sound from him. How did we know what to do before doing it? We dug the aahhh out of memory and replayed it.

The first time we matched our voices to Bill's; the second time we matched our voices to our stored perception of the sound we had experienced. "Experience (external and internal) + Memory = Reference. Memory is the word we use for a phenomenon that is actually a perception, but a stored perception. Perception (experience) + memory (stored perception) = Reference. Psychology mostly studies what is done, not how it is done. PCT explains the how and why."

Circular Causality

Bill explained, "We compared a perception to a reference, which is cause and effect going around in a circle -- circular causality -- it just leads itself. The whole Loop comes to a state of equilibrium on its own and there is no stopping this causal system, it can go on forever. The Loop is isolated -- cut off from causality from the universe, separate from the action itself. Early scientists rejected purposive behaviour because it sounded like religion. Circular causality threw early psychologists for 'a loop' because instead of the stimulus-response perspective of a sequence of events, you have infinite feedback loops. We understand that it is not about controlling someone else, but without control (internal system), we would not exist at all!"

Input -- within or without

"Imagining and experiencing cannot be done simultaneously," according to Bill. We cannot experience a reference perception at exactly the same time as a real perception (via the senses). These are different control

loops similar to the law of impenetrability -- no two objects that have mass can occupy the same space and time. The mind must choose either actual or imagined. To effectively demonstrate this, Bill had us look first at the palm of our hand and then flip it over to the back. While examining the back of our hand, we could choose to either perceive the back through our sense of sight, or to imagine what we first saw -- the palm of the hand (a reference). We could not do both simultaneously!

A question was raised about genius level, if a person could imagine something that is not presently perceived -- and the discussion took off! Bill enjoyed the quality of the questions and responses, as well as the enthusiastic participation among the group. Bill replied, "The answer is different control loops. Every behavior can be perceived at different levels, just not at the same time."

Levels / Hierarchy of Perception

Bill explained the levels with a story, "A lecturer described the world, as understood by the ancients, as being supported by a turtle. A student asked what was supporting the turtle. The lecturer replied that it was 'turtles all the way down,'" (control systems in control systems, right down to the level of the spinal fluid.)

In ACT 1 we present the levels of perception from the higher ones (system of values and principles) to the lower levels (program and sensory), to name just four of the eleven levels presently identified by Powers. With PCT, every behavior -- for example, a student talking to another student -- can be perceived at different levels. The 'genius' phenomenon, presumably perceiving at a higher level, 'sees' what is 'unseen' to others. What an adult may perceive as a lower, program level behavior (a student talking) may also be seen by the student as a higher, principle level behavior (expression among friends). With PCT, we are not interested in behavior, but in perception since behavior varies as required to control the perceived world.

The difficult news for anyone interested in PCT, is having to regularly view the world through the set of "perception glasses". According to Bill, "You are a perception to me and I am a perception to you," amplified by the analogy, "Think of yourself as sitting in a control room surrounded by screens each that feels, smells, touches, and has vision. You have, then, a human version of reality as presented to you by perceptions (at the sensory level)."

Bill à la carte served alongside what we teach.

Reducing Error

"If I am going to change anything within myself as I perceive it, I need to slow down to correct the error (the difference between what I want and what I am presently perceiving). Don't try to correct the whole error in one jump, because things will become unstable." CHANGE TAKES TIME.

"The controlled variable (CV) is what other people see you controlling for. Perception is what we are controlling for ourselves. The autonomy of the human control system has a fundamental goal of reducing error, in order to get what we want, not what someone else wants. Humans have the capacity to control perceptions in order to feel balanced or better. One way we learn is through reorganization, which is random or intentional. We try something and keep on trying until we hit a match for what we want, or until the error goes away."

Participants at our workshops have recently asked about the change in the loop (adding CV) from our earlier handouts and descriptions. Initially we focused on three things in ACT 1: Reference, Perception and Error as we explained the Feedback Loop. Remember how we ask participants to mark the 'R' in red? This is the reference perception. However, you cannot see my reference (R); what other people see me doing is the controlled

variable (CV). As we discussed this with Bill and others at the annual Control Systems Group meeting, we realized we needed to make some additions. Yes, we are learning too! SEEK THE REFERENCE and continually BUMP IT UP!

"To control is to connect your perception to the world." This is similar to Meg Wheatley's argument for involvement -- both with people connecting with each other, and for an influx of information. Therefore, what is needed is a mixing up of the material presented or people involved. Learning, or reorganization of various information and people, is trying out various connections of your perception with the world. When there is a mismatch, your behavior is an attempt to reduce the error between what you want and what you perceive. MAKE THE CONNECTION and AFFECT ERROR.

Perception, Consciousness, and Awareness

"Is consciousness the same as perception? No, and I can prove it. You have a room full of people sitting (as we were listening to Bill). I ask about sitting in one position a long time and immediately you become conscious of some pressure. Your consciousness shifts to your backside and then you adjust how you are sitting. Consciousness is therefore a combination of awareness and perception. Perception is a signal in a neural pathway. Consciousness is awareness of the signal. Awareness is like a flashlight in a cathedral. You have 'a light' with a narrow range, within a much bigger arena. This is how awareness works in the brain. Another analogy is having a box over your head and looking out from a peephole." FOLLOW AWARENESS and MAKE THE SHIFT.

Reorganization

Reorganization is one way of learning, different from rote recall or pattern recognition. Bill used the metaphor "inherent parasite" to describe reorganization, which follows what he wrote in 1973: "Reorganization is a process akin to rewiring or microprogramming a computer so that those operations it can perform are changed...Reorganization is an operation on a system, not by a system" (p. 179).

Reorganization takes place at all levels of perception. At the higher, more difficult levels, reorganization occurs more slowly than at the lower, easier levels. It takes more time to affect change at the principles and system levels than it does at the sensory or program levels.

While explaining the theory takes effort, Bill encouraged us to use 'ordinary language' as much as possible. "Recognize your own capacity to control perceptions. Help participants (mostly teachers), and students do this in an organized way." This is learning, described in technical terms in *Behavior: The Control of Perception*, as reorganization (pp. 177ff).

"You can teach a pigeon how to walk in figure eights by giving it food, or you can teach students algebra by offering chocolate bars. However, learning is a different process. Humans learn by keeping certain things under control but when food or snacks fail, the process of reorganization occurs on the system and you 'punt' -- i.e., try something at random to see what happens. If it's not what you intended or wanted, then you keep trying until you get it."

"Walking in figure eights like a pigeon has nothing to do with hunger. When someone is hungry, the reorganization is driven by an intrinsic error signal. We know hunger, but we do not feel the lowering of glucose in our physiology. What we do is 'randomly reorganize' -- i.e., do something and keep doing it until the hunger goes away. As a process in all living systems, reorganization does not necessarily save a life, it only says to the system 'change'. What drives reorganization is not conscious perception, but it is an 'inherent' process that acts on a system, thus 'parasitic'."

Bill clarified the basic explanation of controlling the perceived world rather than controlling actions. "Think of driving a car. The action you use in steering it is to turn the steering wheel left and right. The perception you're controlling, however, is the position of the car relative to the road -- not the position of the steering wheel. The actions you use are only a means for controlling what really matters to you. If a crosswind sprang up, what would you do -- continue to control your actions as before, or change your actions in whatever way is needed to keep the car on the road? In fact, you change your actions in any way called for by external circumstances, because that is how you keep control of the perceived world."

"This gets a little complicated when the perception you really want to control is itself an action, like a ballet dancer performing a classical movement. In this case, the 'action' that is varied in order to keep the movement going the way it should is at the level of muscle tensions, and the disturbances that are compensated for by changing the muscle tensions are produced by imperfections in the body movements themselves. If the muscle tensions were not a little different each time the dancer makes 'the same movement,' the effects of imperfections would build up and the movements would quickly cease to resemble their intended forms, since each one begins from where the last one left off. So think first of the perception that is to be controlled, and then the variable means by which you will be controlling it in a variable world. The variable means are what we call 'actions.' The actions must be free to vary with every disturbance if the perception is to continue to be controlled."

How did learning as reorganization come about? Bill used a simple example "What does a baby do to turn off a signal of hunger inside herself? Cry. Crying fixes the problem -- mother comes to feed the baby. As we get older we learn other ways to reorganize a hunger signal, but it is not conscious. It is a separate process that involves discomfort or pain."

This spontaneous event of reorganization, accompanied by some bad feeling or pain, is part of the change process, according to Bill. "Reorganization is our best attempt to reduce error in the system. Possibilities and solutions can open up through the process, but reorganization is usually unpleasant due to the accompanying pain. When we punish a child, the child will learn something, but not what we want them to learn. We are mostly 'spectators' to our reorganization process -- we do not have much control over it. We cannot make a person reorganize -- they have to come to it themselves. People reorganize, but not always effectively."

In answer to the question how do we help others to reorganize the right things, Bill replied, "We don't want reorganization to occur when everything is working. Our attention goes to the problem when there is an error -- reorganization is a spontaneous event. Reorganization follows awareness -- the error signal drags our awareness to it, then reorganization takes over. We localize -- get it to work where it is needed -- and let it go!"

All therapists use some form of this -- directing clients' attention to the place where reorganization is needed, where the client can find answers for themselves. This is far more effective than prescriptive advice -- "I've never known anyone who has taken my advice without resisting it". As helpers, we need to ask ourselves, "What's more important -- my client or my ego?"

Bill's kinesthetic demonstration helped clarified further. "There's a game called hot and cold. A person walks and keeps on walking until someone says 'change' then the person tries to walk in a different direction. If a person is going the 'right way', no one says anything. (Bill has a computer program for this process.) There is a different relationship between the cause of behavior and the result of behavior. Reorganization is driven by intrinsic error signal and a control system has built in perception of signals at different levels. We reorganize until the error goes away, altering the parameters of behavior until the error is gone. What drives reorganization is not conscious perception. The reorganization system does not care until there is error, and then it comes into play. Reorganization creates a control system to reduce error, which in turn reduces or stops the process of reorganization (til next error)."

For students from difficult home situations, the child can develop new references and perceptions at school to help them reorganize and reduce error. Therefore, we need to repeat a perception, not an action or behavior -- and we learn a control system, NOT a behavior. The "planning room" in a school provides the space and time for reorganization to occur.

Bill's 'high level', Colorado mountain humor served up a final example, "The expression 'out of sight, out of mind' was entered into a computer program that translated from English to Russian. When the Russian was translated back to English, it came out as 'invisible idiot'" -- (i.e., ineffective reorganization!)

Method of Levels

Method of Levels is the name for a simple, therapeutic process of one person helping another move up perceptual levels. The purpose is to reduce error and bring clarity and dynamic balance within. This helping strategy is effective if the 'client' wants to participate and seek change. MOL is non-directed in that the helper follows the client, listens actively, and is present to the other -- remaining 'uninvolved' in the content. The process is simple: taking a real situation in their life, the client is asked what is on their mind. They then are asked to think of the thought behind a thought, and bring the background thought to the forefront of their awareness. This continues from one thought to the next, thought after thought, one step at a time.

Depending upon the skill of the MOL practitioner to be present and ask questions at significant times, the client will shift her reference to a different, higher level. The previous problem, now perceived from a higher level, becomes less important or non-existent. That is, there is no conflict between what is desired or intended and what is being perceived. Bill exclaimed that every 'client' he has seen who has participated in the MOL process, expressed a similar revelation at one point and declared with satisfaction, "gee, things are so much clearer now!"

Stephen Covey's Seven Habit of Highly Effective People offers a clear example of a shift from one lower level to a higher level, where he describes his experience one Sunday morning on a subway in New York:

People were sitting quietly-some reading newspapers, some lost in thought, some resting with their eyes closed. It was a calm and peaceful scene. Then suddenly, a man and his children enter the subway car; the children were so loud and rambunctious that instantly the whole climate changed. The man sat down next to me and closed his eyes, apparently oblivious to the situation. The children were yelling back and forth, throwing things, even grabbing people's papers. It was very disturbing. And yet, the man sitting next to me did nothing. It was difficult not to feel irritated. I could not believe that he could be so insensitive as to let his children run wild like that and do nothing about it, taking no responsibility at all. It was easy to see that everyone else on the subway felt irritated, too. So finally, with what I felt was unusual patience and restraint, I turned to him and said, 'Sir, your children are really disturbing a lot of people. I wonder if you couldn't control them a little more?' That man lifted his gaze as if becoming conscious of the situation for the first time and said softly, 'Oh you're right. I guess I should do something about it. We just came from the hospital where their mother died about an hour ago. I don't know what to think, and I guess they don't know how to handle it either.'

Covey describes how suddenly he saw, thought, felt, and behaved differently and his irritation vanished. He asked the man to tell him more and whether there was anything he could do to help. Covey says, "Everything changed in an instant." Without a helper to ask him questions, Covey nevertheless, moved up a level in his perception about the situation -- seeing the children's behavior from a different, higher level of perception reducing his original error.

Powers believes all therapists who are successful use MOL, but without awareness of the process. Powers demonstrated the process with a participant and informed us of a proposed international conference on Method of Levels in Scotland hosted by Tim Carey in the summer of 2005.

Oh, and by the way, the feast of seafood at Hilton Head Island was also superb!

Call for Contributions and Suggestions

The new IAACT Newsletter will contain both regular features and special articles submitted by IAACT members. We invite all IAACT members to send us their observations, insights, news, and announcements. Submitted articles should be reasonably brief. Please understand that due to formatting constraints and the editorial process, articles may be edited and/or truncated as necessary. In general, if articles are truncated to appear in the hard copy of the newsletter, they will be reproduced in full in the online version at <http://www.iaact.com>.

We prefer submissions by e-mail. Electronically submitted articles can be typed directly into the body of the e-mail, or they should be in an easily readable format such as plain text (.txt), HTML, Microsoft Word (.doc), or Rich Text (.rtf). Newsletter submission should be sent to colin@iaact.com. Thank you for your cooperation and we look forward to receiving many responses.