



### **Outcomes of ASC Meeting of the 29th and the 30th of July 2010**

During the ASC meeting on July 29 and 30 Stuart Umpleby facilitated a discussion of the current state of cybernetics and how the American Society for Cybernetics can advance the field. The meeting was conducted in Studio 2 of EMPAC at Rensselaer Polytechnic Institute in Troy, just before the C:ADM2010 conference. Following an introduction of participants, the meeting was conducted in four subsequent sessions that addressed the following issues:

#### Review of cybernetics

1. Review of the important contributions of cybernetics
2. Listing of topics of current research

#### Discussion of the American Society for Cybernetics

1. What is already working? (present successes)
2. What is the cause of the present successes? What makes things work?
3. Where do we want the field of cybernetics to be in 5 years? (vision)
4. What would be the benefits of achieving this vision both for the Society and for you as an individual?
5. What can we do more, better, or differently to achieve the vision? (actions needed now)

The meeting facilitation method was similar the one described in the book *Leadership Made Simple* by Ed Oakley and Doug Krug (Enlightened Leadership Publications, 2006). The following pages contain a collection of the contributions made and sorted by the participants.

Review of cybernetics

1. Review of the important contributions of cybernetics
2. Listing of topics of current research



- 200 Dao De Jing (Lao Tze)
- 1918 Whitehead's call for a third culture of technology
- 1924 Milieu interior and homeostasis
- 1933 Science of sanity, Korzybski
- 1940s Norbert Wiener: Anti-aircraft gun
- 1945? Heterarchy of nervous nets (bio non-transitivity), Warren McCulloch
- 1948 Receiver Uncertainty Reduction - information quantity, Shannon
- 1948 Models of Regulation
- 1949 Shannon's mathematical theory of communication & Weaver's essay
- late 1940s Science of systems with goals
- 1950s Explaining hormonal regulation
- 1950s governance (kybernetes)
- thought=computation
- 1952 Design for a brain, Ashby
- 1956 Law of Requisite Variety, Ashby
- 1950s-1960s to approximately 1999 Cybernetic influence on family therapy
- 1956 Models of organizations of systems that learn
- 1956 Introduction to Cybernetics, Ashby
- 1960s Conversation theory, Gordon Pask
- 1960s Distinction between communication and conversation
- John von Neumann Self-reproducing automata must have a tail with a blueprint of themselves, Automata theory
- 1965
- 1960s Recursion
- 1960s-1970s Structural coupling
- Cyb contributions, Ashby's Law of Requisite Variety (Diversity)  $VC \geq DV$  for control & book Introduction to Cybernetics
- 1968
- 1968 Notion of Distinction especially Laws of Form
- 1970s Autopoiesis
- 1970s Systems dynamics
- 1969 Lunar landing
- 1968 Pigs for the ancestors (cybernetic/systems in anthropology)

1969 Cybernetics peaked as a FAD. Mansfield Amendment  
 1970 Chile governance by government  
     Viable system contains model  
 1973 The brain of the firm, VSM  
 1972 Steps to an ecology of mind  
 1972 Steps to an ecology of mind, Bateson  
 1970s A calculus of self-reference  
 1970s Sensitivity modelling, Frederick Vester: Bio-cybernetics. City planning  
 1970 Actor-system dynamics  
 1970s What the frog's eye tell the frog's brain, Maturana  
     Architecture and Design  
     Bill Powers, Behaviour as the control of perception, psychology (showed  
     the fallacy and phobias of  $\psi$  behaviorism)  
 1970s emotioning  
 1970s Subjectivity of all science  
 1970s Organizational closure  
 ~1975 Conversation theory  
     Education  
 1970s and 1980s Social systems theory  
 1975- (Pask), 1995- (Glanville) Innovation as conversation  
     1974 Cybernetics of cybernetics  
     1980  
 1980s Anti-communication, Herbert Brün  
 1980 Catastrophe theory, Renee Thom  
 1970s Conversation  
     Design as third culture  
 1980- Radical constructivism  
 1978 Evolutionary systems  
 1973 Cybersyn Project in Chile for President Salvador Allende  
 1980 Dissipative structures  
 1980~ Meme complexities as quasi self-reproducing systems, memetic addiction  
 1988 Glanville Objekte  
 1990s The arts, technologies and society  
 1980 Design of Team Syntegrity  
 1980s Floating hierarchies  
 1990s The undecidable question  
 1970s-1980s Framing  
     1970 Real time monitoring of statistical filtration  
 1970s Observing systems  
 1970s Learning systems  
 1990  
 1995 12 Emergent cybersystemic levels of human being, Gary Boyd  
 1998? Science as a subset of design  
 1999 Glanville: Researching Design and Designing Research  
 1990s Adaptive telescope optics  
 1988 The tree of knowledge  
     Soros reflexivity  
     How I come to know, RC

Group processes e.g. Team Syntegrity, Warfield's structured design process

1990 Connections with emergence  
Meanings of the term social  
Drama theory, hypergame theory

2000  
System of systems theory, Len Troncale  
Post-normal science  
Thinking about unintended consequences

1990s-2010s Cyber-systemic praxis  
Design  
Anticipatory systems  
Self-assembly  
Risk assessment circularities  
Agent-based modelling and simulation of social systems  
Evolutionary economics  
Artificial life

2000-  
1800-2000+ Power laws of behaviour, et al.  
Epistemological Triangle (Frege, von Foerster, Glanville, Umpleby)  
What is understanding

2007 Cybersemiotics  
Science of service systems  
Applications to ecology and climate modeling (some)  
Cybernetics engenders humility

~2000 Terrence Deacon, Symbolic Science  
The craftsperson in and with TIME  
Alternatives to award-oriented hierarchies  
Socio-ecological systems  
Climate change adaptation  
STAR TREK Phase II  
Fields affected: states craft, warfare, religion, commerce, governance of anything large  
Quantum cybernetics  
Alternatives to consciousness as purposive (get, still with intention)  
Web 2.0 (and other 2.0)  
Reflexivity theory  
Science 2

2010  
Cyber-security  
Actor-network theory  
Participatory design  
New economic thinking  
Designing understanding  
Learning from other languages and cultures  
Managing/designing for emergence  
Reflexive control  
(Transversal) value theory  
Interactive art works  
Discourses of practices: adaptive managing, systemic and adaptive

governance

Synergetic design

Brain hemispheres redux

Control of the creation and interaction of ideas

Application to 3rd world (developing) problems via participatory involvement

Design and testing of AI agents which can negotiate well with human beings

Blindsight location in brain

Playback theater, Jonathan Fox

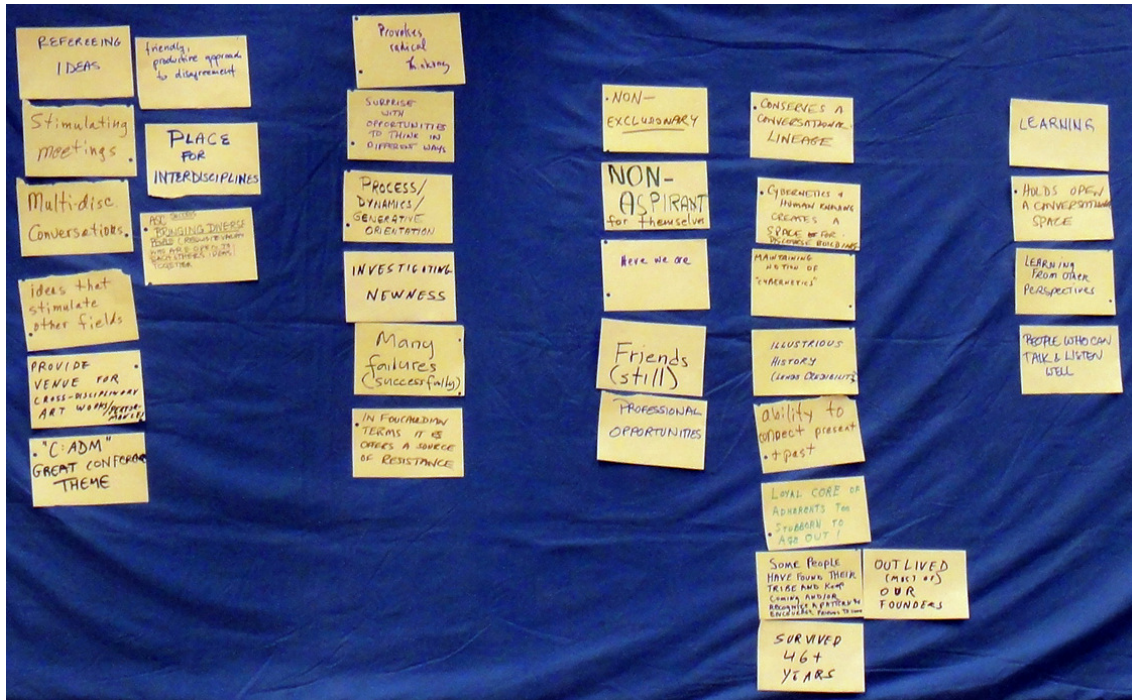
Chromatic reasoning theory

Control of the source of ideas, identity

"Complex adaptive systems"

Discussion of the American Society for Cybernetics

1. What is already working? (present successes)
2. What is the cause of the present successes? What makes things work?



- Provokes radical thinking
- Surprise with opportunities to think in different ways
- Ideas that stimulate other fields
- Provide venue for cross-disciplinary art works/performances
- Solid supply of good ideas for initiatives and projects
- ASC success - bringing diverse people (Requisite Variety) who are open to each others' ideas together
- Integration of the arts in ASC
- Laugh at ourselves
- Enacting 2nd order cybernetics
- Process/dynamics/generative orientation
- Investigating newness
- Many failure (successfully)
- Refereeing ideas
- Stimulating meetings
- "C:ADM" great conference theme
- In Foucaultian terms it offers a source of resistance
- If you must suck, then suck-cess
- Friendly, productive approach to disagreement
- Non-exclusionary
- Non-aspirant for themselves
- Professional opportunities
- Multi-disciplinary conversations
- Non-judgmental context
- Place for interdisciplines

Conserving/maintaining knowledge until the rest of the world realizes it's value  
Conserves a conversational lineage  
Maintaining notion of "cybernetics"  
Illustrious history (lends credibility)  
An Integration of terms as defined by predecessors  
Ability to connect present and past  
Local core of adherents too stubborn to age out!  
Outlived (most of) our founders  
My intellectual home  
Some people have found their tribe and keep coming and/or recognize a pattern and encourage friends to come  
Survived 46+ years  
Friends (still)  
Here we are  
Learning  
Holds open a conversational space  
Learning from other perspectives  
People who can talk and listen well  
Cybernetics and Human Knowing creates a space for discourse building  
Language for human viability  
Global scope  
Crucial problem domain  
Sharing of case studies and war stories trying to evoke and apply cybersystemics  
Application of ideas into our doing  
Focus on methods for synthesis

- Where do we want the field of cybernetics to be in 5 years? (vision)
- What would be the benefits of achieving this vision both for the Society and for you as an individual?

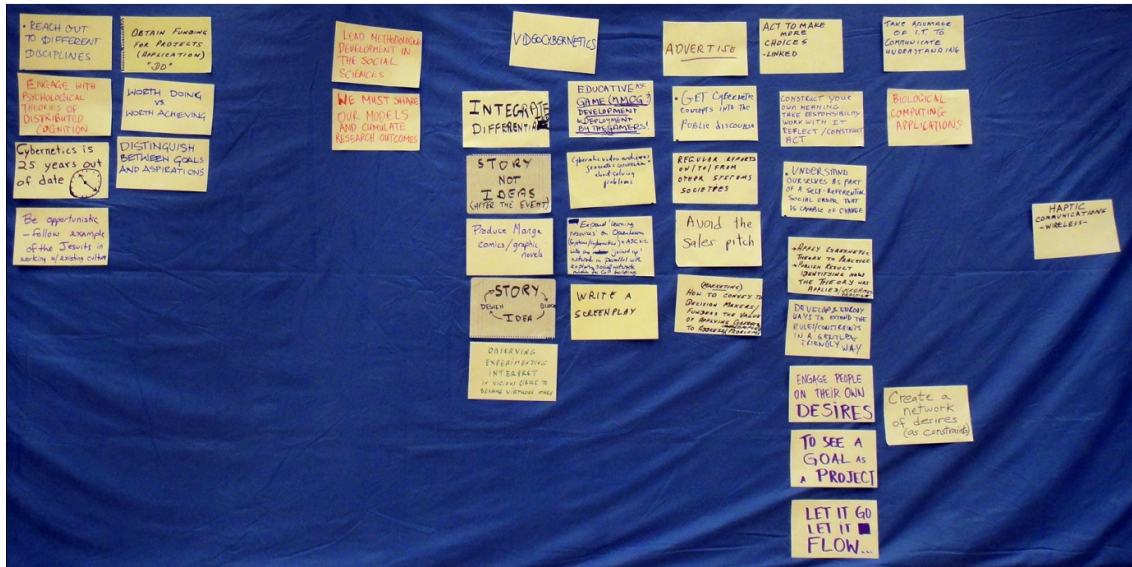


- Focus
- Un-focus
- Unintended consequences and counter-intuitive results expected and plans reflect that
  - Make the Conant-Ashby theory mandatory for legislative draftsmen & reg writers
  - It's the process stupid
  - Make universal laws of cybernetics mandatory in all law schools
  - An influence to society at large promoting sustainability empathy + wisdom
  - Social justice as recursion, recursion as social justice
  - Inform and infuse transhumanism
  - Part of new transdisciplinary language - theory of theory generation
  - Integral to the new paradigm for knowledge creation
  - In a conversation which has emerged from a transdisciplinary "synthesis" of transdisciplinary domain
  - A society that facilitates the exploration of differences that make a difference (from a cyber-systemic perspective)
  - Students learn cybernetics through games like "Ecopolitics"
  - A strong node in a cyber-systemic network
  - Funding gained for facilitating the emergence of an intellectual cyber-systemic coalition
  - Cybernetics enacted in conversation
  - An alternative to reward-oriented hierarchy
  - Build stronger ties to related organisations
  - Coordination/influence with other organizations
  - More cybernetics (science) fiction
  - Influence new technology
  - Cybernetics as soul-stuff immortality improvement technology
  - Developing influential new theory
  - Integration of cognitive sciences
  - Contribute to new economic thinking
  - Cybernetic models today are "accurate" descriptions of models of the past
  - New cybernetic views over a symbiosis of main disciplines as Arts
  - Maintain-strengthen cybernetics in arts



Widely adopted as "foundation" for new paradigm theories & practices (design, management etc.)  
Understanding cybernetics<->understanding praxis  
Appreciating the relational form of distinction when aspiring to be distinct  
Be accepted as a core curriculum subject in many schools: HS, college, uni + cybernetics  
Cybernetics accepted widely as the basis of many of recent scientific and technological developments  
Public officials use cybernetic language  
Easy to implement preparedness project templates for handling disturbance  
At the forefront of a new focus on praxis  
Cyber-systemics in all secondary school curricula  
Multiple perspectives guided discussions the norm  
Accessibility to practitioners + interaction  
A filling station for cybernetic thinkers  
Accessibility beyond academic community  
Transition towns consciously using it  
Includes a variety of disciplines in efforts to solve problems and provoke change  
Cybernetics as a CRAFT  
More stable vocabulary  
Openness to divergent precisions  
ASC members from Asia  
20% of ASC members under 40  
500 members  
ASC as a community of practice linked online  
Use Google wave  
Small is large  
More is different

5. What can we do more, better, or differently to achieve the vision? (actions needed now)



- Engage with psychological theories of distributed cognition
- Reach out to different disciplines
- Cybernetics is 25 years out of date
- Be opportunistic - follow example of the Jesuits in working with existing cultures
- Obtain funding for projects (application) "DO"
- Worth doing vs. worth achieving
- Distinguish between goals and aspirations
- Lead methodological development in the social sciences
- We must share our models and cumulate research outcomes
- Videocybernetics
- Integrate differentiated
- Story not ideas (after the event)
- Produce manga comics / graphic novels
- Story->Design->Block->Idea->Story->Design etc.
- Observing experimenting interpret in vicious circle to become virtuous ones
- Educative ASC game (MMOG?) development & deployments by the ASC gamers!
- Cybernetic video archives generates conversation about solving problems
- Expand 'learning resources' on OpenLearn (systems/cybernetics) or ASC gets into a 'joined up' network in parallel with exploring social networking media for CoP building
- Write a screenplay
- Advertise
- Get cybernetic concepts into the public discourse
- Regular reports on/to/from other systems societies
- Avoid the sales pitch
- (Marketing) How to convey to decision makers/funders the value of applying cybernetics to address complex problems
- Act to make more choices - Linked
- Construct your own meaning. Take responsibility, work with it, reflect/construct, act
- Understand ourselves as part of a self-referential social order that is capable of change
- Apply theoretic theory to practice, publish results identifying how the theory was applied / Informed practice

Develop & embody ways to extend the rules/constraints in a gentle & friendly way  
Engage people in their own desires  
To see a goal as a project  
Let it go let it flow...  
Take advantage of I.T. to communicate understanding  
Biological computing applications  
Create a network of desires (as constraints)  
Haptic communications - wireless -