The April 1980 Planning Conference of the American Society for Cybernetics

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After several years of little activity, the American Society for Cybernetics held a planning conference April 18-20, 1980 to decide the future of the Society. The meeting was held in the Marvin Center of The George Washington University in Washington, D.C. The Institute of Cultural Affairs, a private non-profit organization, acted as consultant to the Society in conducting this meeting. The conference employed a group process called LENS, Leadership Effectiveness and New Strategies. The conference was divided into five segments.

1. An "operating vision" consisting of goals for the Society was formulated.

2. The "obstacles" or blocks that are preventing the achievement of the goals were identified.

3. Broad "programs" or strategies to remove the blocks to achieving the vision were identified.

4. Tactics provided more detail on the programs.

5. Finally, "implementaries" which are even more detailed were drawn up. They state who is to do what, when, where and at what cost.

To develop these plans, the group divided into four teams, brainstormed for a while and then came back together to report results and to see how much overlap there was in the ideas generated. The participants received instructions for the next round and divided into teams again. The process was repeated for each of the five steps.

The purpose of this method is to insure that everyone has the opportunity to express his or her views. All suggestions are recorded. An indication of the most important ideas is provided both by seeing whether an idea is generated in more than one team and by grouping the suggestions into topic areas. Redundancy is eliminated, and added attention is given to novel ideas. Having an outside group in charge of the planning process eliminates bias and favoritism. Because the outside group is unfamiliar with whatever conflicts exist in the organization, all suggestions are dealt with fairly. Our goal was not to vote on proposals—an exercise that produces winners and losers—but rather to arrive at a group judgment on the direction in which the Society should move. LENS, and similar methods, can be thought of as an alternative to Robert's Rules of Order as a way of holding a meeting.

The following pages present the results of the planning conference. The tables were prepared during the conference. The narrative is based on the tables. This report should not be interpreted as the last word on the future activities of the American Society for Cybernetics. Rather the conference and this report represent a beginning, a direction, and a preliminary strategy for achieving the goals stated. In one form or another, this planning activity will be repeated at regular intervals.

The Story

Preface:

Every organization has a guiding myth or story which it refers to when a major decision is required. For example, some organizations see themselves as high technology innovators creating new products. Other organizations pride themselves on being mass production specialists who modify the ideas of others and make them available to a large number of people. Usually the story is about the founders of the organization and the purposes they had in mind. The story below was written hurriedly at the end of the planning conference, but it captures some important ideas. The story, of course, will be told differently on different occasions. But it will be told frequently, both to new members and on occasions when important decisions are being made. If the story changes fundamentally, ASC will become a different kind of organization.

In the beginning was Macy, and Macy was a group of miners who with joy, inspired insight, and excitement visualized a treasure on the other side of a mountain. They began to dig and immediately discovered the field of computer technology and the power of digital logic. Still, there was the treasure on the other side of the mountain. The experiences with computer technology and the use of digital operations were so rich they caused many of the miners to lose sight of the rewards that were originally seen.

The Macy miners, in their work, tunneled almost through the mountain but did not break forth into the bright light of cybernetic and humanistic comprehension and operational function. In the words of the prophet McCulloch, "It was awful—no one could understand anyone else—people were insulted, cried and sometimes left, never to return." But the union Macy persisted and many stars were born and sent into the heavens, and these stars were called Mead, Bateson, McCulloch, Wiener, Von Neumann, Ashby, Von Foerster.

Many and varied dimensions of society and science basked in the light of these stars and built various edifices under these lights. Macy united in the form of a professional society, and in the union was much excitement and much joy. That union included large amounts of chaos, combat and confusion. As time went by interaction became diffuse. Both the joy and the combat diminished. There was only chaos and the small edifices built in various places across the cognitive and social universe.

In 1980, we embraced the chaos of many different cybernetics and committed ourselves to recapture the combat and the joy. The work evolves and where it goes not even Macy can tell. Shall it be down into chaos, darkness and extinction? Shall it be toward totalitarianism and mindless conformity? Shall it be into fuller humanity and freedom? Today the processes of interaction and human evolution are stunted, perverse and frequently anti-human. Cyberneticians, if they recapture the joy and the combat of full interaction will enhance the trend toward more desirable, more fully human ends. The bright light at the end of the tunnel—the cybernetic comprehension—reveals that the journey of man can be directed if man so chooses. To facilitate this process is our role and our destiny if we so choose.

The Operating Vision

The operating vision, summarized in Table 1, presents the goals that participants expressed for the Society. The table is organized around a central concern—public understanding of how cybernetics can be used. The two principal subconcerns were applied cybernetics and public education. The conferees felt that cybernetics could be applied in administrative systems, in developing appropriate information technology, in establishing policies for materials and energy use, and in operating the Society itself. Public understanding of cybernetics can be enhanced by increasing the number of educational programs in cybernetics, by producing a review of the state of the art, and by calling attention to successful applications of cybernetics. The group identified two supporting endeavors—cognitive responsibilities and societal responsibilities.

The first supporting endeavor—cognitive responsibilities—was broken down into fundamental research, knowledge access, and cybernetic society networks. It was thought that fundamental research would be most fruitful in the areas of epistemology, taxonomy, and intuitive cybernetics. Knowledge access referred to communications facilities, professional publications, information retrieval services and periodic conventions. The work of the ASC was thought of in terms of building networks—contacts with other societies in both North America and overseas, regional networks for an area including several states, and local networks on a campus or in a city.

Societal responsibilities were divided into power, social integrity, and cybernetic models. Political power referred to promoting an understanding of cybernetics among decision-makers. Financial power meant the ability to obtain support for research and curriculum development. Grass roots power meant a general public understanding of cybernetics concepts. Social integrity was the heading chosen for several related goals—emphasizing the humanitarian potential of cybernetics, reexamining the ethical aspects of conducting science, and improving the quality of articles in the field by increasing the use of review processes. More extensive use of models was also a goal expressed by the group. In particular it was thought that effort should be concentrated on modeling the brain, visual pattern recognition, and social processes.

Table 1—The Operating Vision

COGNITIVE RESPONSIBILITIES			PUBLIC UNDERSTANDING OF CYBERNETIC USE		SOCIAL RESPONSIBILITIES		
Fundamental Research	**Knowledge Access**	**Cybernetic Society Networks**	**Applied Cybernetics**	**Public Education**	**Power**	**Social Integrity**	**Cybernetic Models**
Epistemology	Communications Facility	International Network	Governing Models	Classroom Education	Political Power	Humanitarian Attitude	Brain Models
Taxonomy	Professional Publications	Regional Networks	Administrative Systems	Cybernetic Literacy	Financial Power	Integrity of the Science	Visual Pattern Recognition
Intuitive Cybernetics	Information Retrieval	Local Networks	Appropriate Information Technology	State of the Art Review	Grass Roots Power	Evaluation Processes	Social Order Models
	Periodic Conventions		Energy and Materials Applications	Recognize Achievements			
			ASC Application				

The Obstacles

Before the goals of the ASC can be realized, it is necessary to identify and deal with the obstacles that are preventing the Society from achieving its goals. Table 2 lists the obstacles that were identified, with the most frequently mentioned appearing on the left. The largest category identified had to do with "immaturity in fundamentals and synthesis." People both inside and outside the field are unfamiliar with the fundamentals of cybernetics. It was suggested that the field suffers from imprecise vocabulary, cloudy epistemology, lack of methods for problem solving, overly simple current models, the inability to apply the standard methods of verification to cybernetics, confusion regarding the relationship between energy and information, and the lack of a mathematical foundation to produce synthesis.

The second group of obstacles was labeled "educational traditionalism." In this category were items such as insufficient educational materials, unfamiliar modeling methods, lack of information on the use of cybernetics concepts by others, disciplinary boundaries within universities, lack of an agreed upon curriculum in cybernetics, and insufficient drive or creativity in starting cybernetics courses and programs.

The third category, "undisseminated information about principles and successes" referred to the poor image of the field, the perception of cyberneticians as power grabbers, the feeling on the part of many people that cybernetics is not significant, a widespread fear of or reluctance to use technology, an existing mind set that is very different from cybernetics, the assumed complexity and hence inaccessibility of cybernetics, the reluctance of people to innovate, and the threatening nature of new ideas and new patterns of organization.

The fourth category was labeled "the Pandora's box syndrome" and reflected concerns that many people, including cyberneticians, have that cybernetics can be misused. Cybernetics can be applied for controlling a large bureaucracy, as is done in the Soviet Union. Social models are often self-fulfilling prophecies. Some cyberneticians seem to be interested in increasing power for themselves. Consequently there is some hesitancy to encourage applications of cybernetics.

The fifth category dealt with "private vs. public interests." There are proprietary problems; international communication is restricted by powerful institutions; and there is little support for modeling political processes.

The sixth category pointed at the lack of a steersman for the discipline. Goals for cybernetics are unclear. An interdisciplinary field lacks a common context. The state of the art changes rapidly. Educational needs go unrecognized. There is impatience with consensus making, and different uses of words lead to language barriers.

The seventh category called attention to poor ap-

Table 2—The Obstacles

Immaturity in Fundamentals & Synthesis	Educational Traditionalism	Undisseminated Information About Principles & Successes	Pandora's Box Syndrome	Private vs. Public Interest Conflict	No Steersman	Poor Application Methodology	No Critical Mass	Technological Insufficiencies	Opposing Inclinations	Relevance Not Seen
Ignorance of Fundamentals	Insufficient Educational Materials	Poor Image	Fear of Flying	Self-Interest	No Common Context	Model Validation Difficult	Lack of Infrastructure	Knowledge, Overload Limits Wisdom	Theoretical vs. Application Dominance	No Sense of Urgency
Relating Energy to Information	Unknown Educational Methods	Perceived as Power Grabbers	Fear of Application	Proprietary Problems	Unclear Goals	High Cost of Data Collection	No Potential Member Identification	Expensive Cybernetic Technology	Insensitivity to Theoretical Questions	Inertia Prevents Adopting New Ideas
Cloudy Epistemology	Unfamiliar Modeling Methods	Fear of Technology	Bias Toward Power, Control	International Communication Restricted	Rapid Change of State of Art	Insufficient Modeling Information	Low Density of Cyberneticians	Inappropriate Information Technology	Philosophical/ Emperical Imbalance	
Ill-Defined Research Niche	Use of Concepts Unarticulated	Perceived Lack of Significance	Social Models are Self-Fulfilling Prophecies	Political Social Modeling Restricted	Unrecognized Educational Needs	Lack of Dollars	Lack of Personal Contact	Grassroots Underload	Frequent References to Power	
Inapplicable Verifiable Paradigm	Subject to Overload in Teaching	Limited Mind Set	Ignorance of How Power is Exercised	Limits of Time	Language Barriers	Cost/Benefit Analysis Required	Practical Communication Problems			
Inadequate Scientific Method	Segmented Disciplinary Teaching	Perceived Complexity of Models	Lack of Human Rights	Desire for Fame	Inadequate Literacy Models					
No Method for Problem Solving	No Appropriate Learning Paradigm	Low Priority	Social Control Fear	Users vs. Suppliers	Impatience with Consensus					
Fuzzy Social Boundaries	No Cybernetic Curriculum	Reluctance to Innovate								
Imprecise Vocabulary	Poor Entrepreneurial Creativity	Information Availability Threatens								
Superficial Vocabulary Sets	Laws Restrict Cybernetic Analysis	Lack of Appreciation								
No Mathematical Foundation for Synthesis	Constrained Educational Model									
Simplicity of Existing Models										
Hologram Brain Modeling										
No Holistic Modeling of Consciousness										

plication methodology. Model validation is difficult. The cost of data collection is high. There is a lack of support for modeling efforts. Cost benefit analyses only consider a set of alternatives; they do not emphasize attempts to redefine the problem.

The eighth category suggested a lack of critical mass. On most campuses there is a low density of cyberneticians, leading to too few personal contacts. There is a lack of infrastructure, and communication is difficult. Potential members are not being identified.

Technological insufficiencies were the ninth group of obstacles. Progress is limited by information overload, the high cost of technology, inappropriate technology, and underemployment of people at the grassroots.

The tenth obstacle is "opposing inclinations." Whereas some people feel that in cybernetics theory has dominated application, others maintain that some cyberneticians do not understand the theoretical questions that have stimulated the development of the field. There is an imbalance in society and science favoring empiricism over theory and both over ethics. Care should be exercised in how the issue of power is dealt with.

The eleventh category noted that the relevance of cybernetics is not widely recognized. There is a lack of a sense of urgency in developing cybernetics, and there is inertia in social institutions toward adopting new methods.

Table 3—Strategic Programs

CULTIVATE THE ENVIRONMENT			BUILD ASC		CULTIVATE THE SCIENCE		
Professional Development Incentives	Social Reference	Public Communications	Organize ASC Internal Affairs	Ethics and Science	Educational Methods	Extend Fundamentals	Classical Fundamentals
Funding for Research Development Education	Publicity for Successful Applications	Seminars & Training Programs	Cybernetic Organization	Ethics Statement	Cybernetic Methods in Cybernetic Education	Intra-Field Tutorials	Codification of Fundamentals
			Enhance Communications				
Incentives & Rewards	Popularize Concepts	Multi-Directed Publications	Long Range Planning	Organize To Deal With Ethics	Promulgate Epistemology Philosophy Methodology	Articulate Epistemology Philosophy Methodology	Use Ashby's Definitions
	Develop Self-Reliance	Relevant Applications	Enlarge Membership		Appropriate Educational Technology		

Strategic Programs

The strategic programs developed at the conference were divided into three major activities. (See Table 3.) At the center was building ASC. In order to do this, it will be necessary to cultivate the environment and cultivate the science.

Building ASC will require organizing ASC internal affairs, presumably by using cybernetics principles. A stronger organization implies an enlarged membership, improved communications, and long range planning. A unique feature of cybernetics, which should help in creating interest in the organization, would be a statement on ethics and effective methods for conducting the Society's business.

Cultivating the environment will require good communication with the public—seminars and training programs, publications directed at several different audiences, and applications relevant to social needs. Successful applications should be publicized, concepts need to be popularized, and self-reliance among cyberneticians should be encouraged. Development of cybernetics will be enhanced if there are appropriate incentives for professional development—funding for research and education and recognition for accomplishments.

Cultivating the science will require using cybernetics in the teaching of cybernetics and using appropriate educational technology. Tutorials for people in the field will help to articulate the epistemology, philosophy and methodology of cybernetics. Education in the fundamentals of the field can be promoted by codifying the basics, particularly Ashby's conceptions.

The Tactical System

Table 4 presents the tactics needed to carry out the strategic programs. It is organized somewhat like concentric circles. Credible professional standards are at the core with the subsequent rings being substantive development, public visibility and growing organization, public recognition and support, and practical societal impact. Credible professional standards will be achieved through high quality publications and conferences and through high ethical standards. The development of the field will be accomplished by assembling a looseleaf cybernetics manual, publishing seminal works, writing texts, developing courses, educational programs, cybernetics centers, and educational extension. Visibility and growth will be achieved by interacting with other societies, holding summer meetings in Maine and elsewhere, developing information for the public and launching a membership drive. To achieve public recognition and support we shall undertake projects to serve as examples, scout out potential research support, increase our activity in reviewing the research proposals of others, and establish an ASC awards program. Practical social impact will result from short term task forces, a list of projects to be undertaken, a model of ASC, and a model of the environment.

Table 4—The Tactical System

	PRACTICAL SOCIETAL IMPACT							
	PUBLIC RECOGNITION AND SUPPORT							
		PUBLIC VISIBILITY AND GROWING ORGANIZATION						
			SUBSTANTIVE DEVELOPMENT					
Strategic Planning I	Professional Recognition VII	ASC Conference III	Source Material IV	Credible Professional Standards V	Educational Development VI	ASC Public Outreach VII	Promote Funding VIII	Future Projects IX
Model Environment A	Lectureship A	Ongoing Interaction A	Cybernetics Manual A	Product Quality A	Curriculum Development A	Missionary Work A	Exemplar Projects A	Project Lists A
	Awards for Accomplishments B		Seminal Works B	Ethical Standards B	Cybernetic Centers B	Public Information B	Research Sponsorship B	
ASC Model B	Student Awards C	Maine Festival B	Published Texts C	Publications Standards C	Educational Extension C	Membership Drive C	Influence Funding C	Short Term Task Forces B

Implementaries and Accomplishments

The implementaries, which are quite detailed and short range, have been modified and updated several times since the April meeting. Consequently it is probably more important here to report what has been done. A number of important things have already been accomplished. Roger Conant has found a publisher for an ASC book series and is working on a collection of articles and class notes by Ross Ashby tentatively titled *Mechanisms of Intelligence.* Heinz Von Foerster is publishing a collection of his articles under the title *Observing Systems.* A newsletter for timely information is now being edited by Roger Conant.

Al Kreger is taking steps to insure that the Society is on a sound financial footing. Phyllis Carr is planning a large membership drive. Vadim Drozin has found editors for several special issues of *Cybernetics Forum.* Mary Whittaker has set up an administrative system which will give ASC members low cost access to Murray Turoff's Electronic Information Exchange System. Frank Leonard and Allen Reid have distributed a questionnaire which will permit us to match up people with similar interests, inform us of what services our members want, and enable us to make better use of the members themselves as a resource. Doreen Steg and Jean Weir are arranging an awards program for the Society. With support from his university, Stuart Umpleby reported on the activities of the American Society for Cybernetics at the International Cybernetics Association meeting in Namur, Belgium, in September. Paul Henshaw has joined forces with Michael Pearson, Stuart Umpleby and others working on a glossary for the field. Howard Hilton is representing ASC in formulating plans with Jack Rose for the large meeting on cybernetics and systems research to be held in Mexico City in August 1981. Larry Richards is arranging a conference for the Society for November, 1981, in Washington, D.C.

Conclusion and Comment

As these accomplishments indicate, the April planning meeting succeeded in generating a great deal of enthusiasm for the Society's programs. I believe that the LENS method or similar methods for holding a meeting constitute a decision technology in much the same sense that computer simulation is a decision technology. I believe these methods should be considered part of cybernetics and be taught in universities just as computer simulation is taught. From this point of view, the April 1980 Planning Conference can be regarded as a successful example of the use of cybernetics to operate the American Society for Cybernetics.

Participants

The following ASC members participated in the planning conference: Bruce Abele, Arie Ariely, Larry Bidinian, Phyllis Carr, Barry Clemson, Roger Conant, Don Driscoll, Vadim Drozin, Leila Engman, William Gevarter, Fred Giessler, Carl Hammer. Laurence Heilprin, Paul Henshaw, Gertrude Herrmann, Howard Hilton, Dan Howland, Akira Ishikawa, Robert Kauntiz, Allenna Leonard, Frank Leonard, William Moore, Mark Ozer, William Paris, Rammohan Ragade, Bill Reckmeyer, Allen Reid, David Ryan, Doreen Steg, Leo Steg, Ellen Stolarik, Stuart Umpleby, Heinz Von Foerster, Stephen Weiner, and Mary Whittaker. The conference was ably conducted by the following members of the Institute of Cultural Affairs: Tim Crane, Wayne Ellsworth, Diane Galbreath, Clarence Mann, Mike Vosler, and Barbara Williams. Correspondence and physical arrangements prior to and during the conference were handled by several George Washington University students: Bill Donnelly, Robert Kemmerer, and Sarah Vogel. Gretchen Larrabee typed and made copies of the charts during the conference.