

THE DESIGN OF INTELLECTUAL MOVEMENTS

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Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.

-- Margaret Mead

ABSTRACT

From time to time, a small group of people makes an effort to transform society by promoting a set of ideas. Examples include any revolutionary or liberation movement, a new theory within the social sciences, or a new political or social program. This paper argues that in order for an intellectual movement to be successful, both the ideas and the tactics used to promote it must be suited to the society in which the movement occurs. Ideas that are rapidly and widely adopted in one society may have little impact in another society. To be accepted a new message must fit the local culture. Furthermore, the way that ideas are presented and advocated may be quite different in different societies. The intent of this paper is to add a consideration to the philosophy of science. At least in the social sciences theories should fit not only the phenomenon described but also the way the receiving society changes itself.

Keywords: Second Order Cybernetics, Intellectual Movements, Communitarianism.

HOW I BECAME INTERESTED

I became interested in the design of intellectual movements as a result of my attempts to promote second order cybernetics within the scientific community of the U.S. beginning in the late 1970s. I was one of a group of people connected with the Biological Computer Laboratory at the University of Illinois and the American Society for Cybernetics who felt that second order cybernetics was an important contribution not only to science but also to the philosophy of science. We constructed a variety of arguments in support of the ideas and presented them at conferences and in books, journals, and websites (Umpleby, 1990, 1991, 1997). But there was little interest. However, in the late 1980s and early 1990s there seemed to be a significant rise of

interest in the ideas in Europe. I began to wonder why a set of ideas that were of little interest to one group of scientists would arouse significant enthusiasm among another group of scientists.

Cybernetics in the United States has evolved through three identifiable periods (see Table 1). In the first period of the 1950s and 1960s there was a primary concern with designing control systems and with building machines to emulate human reasoning (Wiener, 1948). In the second period of the 1970s and 1980s the focus of attention was on the biology of cognition and constructivist philosophy (Maturana, 1970; von Foerster, 1981; von Glasersfeld, 1987). In recent years increasing attention has been given to social systems (Umpleby, 2001). Whereas the work on the biology of cognition required that the focus of attention shift from what is observed to the observer, the recent interest in social systems requires an emphasis on multiple observers and their beliefs. This paper illustrates the third period of social cybernetics or the cybernetics of conceptual systems by considering second order cybernetics or constructivist cybernetics as a conceptual system created to promote the evolution of certain social systems in a preferred direction.

Table 1. Three Versions of Cybernetics

	Engineering Cybernetics	Biological Cybernetics	Social Cybernetics
The view of epistemology	a realist view of epistemology: knowledge is a “picture” of reality	a biological view of epistemology: how the brain functions	a pragmatic view of epistemology: knowledge is constructed to achieve human
A key distinction	reality vs. scientific theories	realism vs. constructivism	the biology of cognition vs. the observer as a social participant
The puzzle to be solved	construct theories which explain observed phenomena	include the observer within the domain of science	explain the relationship between the natural and the social sciences
What must be explained	how the world works	how an individual constructs a “reality”	how people create, maintain, and change social systems through language and ideas
A key assumption	natural processes can be explained by scientific theories	ideas about knowledge should be rooted in neuro-psysiology.	ideas are accepted if they serve the observer’s purposes as a social participant
An important consequence	scientific knowledge can be used to modify natural processes to benefit people	if people accept consturctivism, they will be more tolerant	by transforming conceptual syustems (through persuasion, not coercion), we can change society

My first insight into why second order cybernetics was not attracting wide interest in the U.S. but was of interest in Europe came during a meeting of the American Society for Cybernetics in the late 1980s. During the morning we had been listening to presentations about neurophysiology and mathematics. At lunch one of the younger participants expressed concern that second order cybernetics was not attracting wide attention in the U.S. I asked her why she

thought that was important. She said, "If people were to adopt these ideas, they would be more tolerant." This was the first time I realized that second order cybernetics was a social and political movement as well as a scientific or intellectual movement. I began to think that if indeed one wanted to create a political movement to make US citizens more tolerant, one would certainly not advance arguments in the form of research reports on neurophysiology and mathematics. Would the citizens of another country make the argument in this way?

Social theories and philosophies arise in the context of particular societies. People in different societies make different assumptions about human behavior and motivation. The process of social and political change does not occur in the same way in all societies. Hence, theories of social systems inevitably reflect the societies from which they emerge, and assumptions about social change reveal the processes of social change in the societies from which they originate.

Assuming that we are interested in improving our social systems and that we regard social systems as collections of thinking participants (Soros, 1991), we may ask how we might influence what people think. There is an interaction between thought and action. If people change the way they think, they will change the way they behave. And if people change the way they behave, they will eventually change the way they think, as they make their thoughts consistent with their actions. If enough people change the way they behave, the social system will operate differently. This point of view is not new. For example, Kenneth Boulding's 1956 book *The Image* can be summarized as follows: People reason through images of themselves and the world. Peoples' images determine their behavior. Images can be changed by new messages and conversation. When images change, behavior changes.

THE NATURE OF INTELLECTUAL MOVEMENTS

Several examples of intellectual movements can be cited.

- 1) Total quality management was an effort to introduce management ideas that had been quite successful in Japan to American corporations.
- 2) Multi-culturalism in the humanities in the U.S. has been an effort to broaden the set of fundamental texts in the humanities so that the work of women and people of color are included in addition to "dead, white males."
- 3) At the present time within the defense community in the U.S. there is an effort to promote "system perturbations" as the new organizing principle for the U.S. military rather than "great power war" which guided strategic thinking during the Cold War.
- 4) Vladimir Lefebvre's theory of reflexive control is currently receiving considerable attention among philosophers, psychologists, and educators in the former Soviet Union.

We can now list several features of intellectual movements.

- 1) Cultures are influenced by climate, geography, and history.
- 2) Cultures deal with some issues subconsciously (in cultural norms) and with other issues consciously (in philosophy and education).
- 3) The distribution of issues to culture or philosophy will be different for different societies.
- 4) Concepts that are taken for granted in some societies are missing in others.
- 5) An intellectual movement grows out of a particular culture and is an attempt to change a particular culture.
- 6) An intellectual movement that has a dramatic impact on one society may have little impact on another. An example is Marxism. Marxism was the same around the world, at least in the form of Marx's book, *Das Kapital*. However, in the U.S. it took the form of support for labor unions. In Western Europe it took the form of Socialist Democratic Parties. In Russia and China it took the form of totalitarian governments.

- 7) To be accepted, a new message must fit the local culture. What the new message values, the society must value.
- 8) If we assume that societies pass through similar stages of development (e.g., pastoralism, agriculture, industry, etc.), then cultures may be ready to adopt different messages at different times.

CONSTRUCTIVIST CYBERNETICS AND GERMAN IDEALISM

The concern with tolerance in the writings of constructivist cyberneticians may be due to the fact that the leaders of this movement have themselves experienced political repression either in Central Europe in the 1930s and 1940s or in Chile in the 1970s. The considerable passion that the founders of constructivist cybernetics bring to their work can be more easily understood if it is viewed as an attempt to rectify patterns of thought that led, through the power of the state, to the deaths of family members and friends. Indeed, I believe that constructivist cybernetics cannot be fully understood unless it is viewed as an effort of social, cultural, and political reform by people who come from a society that not only has a high regard for philosophical thought but that also tends to view human action as the product of a philosophical outlook.

Whereas British and American philosophers emphasize respect for the individual, empathy with other people, and the pragmatic consideration of ensuring one's own liberties by protecting those of others, a philosophy based on constructivist cybernetics emphasizes the limits on the individual's ability to know and hence the inappropriateness of one person imposing his or her views on another.

If at least part of the goal of constructivist cybernetics is to establish tolerance in society, a more direct and more certain route would seem, to an American, to be through a moral axiom and constitutional guarantees rather than through a revision of the philosophical foundations of contemporary science. However, as Dewey (1915) wrote,

...no moral, social or political question is adequately discussed in Germany until the matter in hand has been properly deduced from an exhaustive determination of its fundamental Begriff or Wesen. Or, if the material is too obviously empirical to allow of such deduction, it must at least be placed under its appropriate rational form. (pp. 41-42)

One implication of the notion that each person constructs his or her own reality on the basis of experience is that one should not impose one's views on another person by force or coercion. Efforts to influence others should be limited to conversation and persuasion, to comparing and interpreting experiences. That is, given what we know about the biological basis of knowledge, no one is justified in believing that he or she has a correct understanding of the world and that others are wrong. Some views or theories may be superior to others in that they fit a larger range of phenomena, but no view can be shown to match "the way the world really is." Hence, even the creators of highly regarded scientific knowledge should be suitably humble about their achievements.

Constructivist cybernetics has made important contributions to our understanding of knowledge and cognition. And the idea that a neurophysiological view of knowledge justifies tolerance is indeed interesting. But a scientific "proof" of the appropriateness of tolerance is not necessary as a foundation for tolerance in all societies.

Perhaps constructivist cybernetics is in part a way of transferring the value of tolerance to societies which have at times displayed intolerance. In the United States tolerance is accepted as a fundamental principle of democratic government. The precedents lie in the historical development of British common law and the early settlements in North America, some of which

were established by people fleeing religious persecution. Societies with a long history of class differences and which are preoccupied with controlling dissent are much less likely to regard tolerance and free speech as cornerstones of the desired social order. In historically more authoritarian societies, particularly those in which the public interest is debated in universities more than among the general populace, a scientific demonstration of the appropriateness of tolerance could be considered a necessary strategy for encouraging cultural evolution toward democratic institutions.

A COMPARISON OF TWO INTELLECTUAL MOVEMENTS

I am suggesting, then, that there is a social as well as a scientific purpose to the ideas associated with second order cybernetics. The social purpose is to change society by changing ideas about the nature of knowledge. In this sense second order cybernetics constitutes a solution to the problem of intolerance in certain societies.

One way to understand the social role of second order cybernetics and the assumptions about the process of social change associated with it is to compare second order cybernetics with another effort to change a society. Amitai Etzioni's communitarian philosophy in the United States provides a useful comparison. Etzioni contends that Americans are preoccupied with their rights but neglect their responsibilities. As an example he cites opinion polls, which show that if accused of a crime most Americans would insist on their right to a jury trial. However, if asked to serve on a jury, many Americans would try to avoid the responsibility. To advance the "communitarian" philosophy he has founded a journal of opinion, *The Responsive Community*, and a new academic organization, the Society for the Advancement of Socio-Economics with its own academic journal, the *Journal of Socio-Economics*. Furthermore, he has written two books, *The Moral Dimension* and *The Spirit of Community* which set forth his view that economics needs to be expanded to include moral considerations and that Americans should be more concerned about the community and less about themselves as individuals.

Etzioni has formulated a strategy for social and political transformation. He is seeking to persuade two audiences -- opinion leaders and academic social scientists. Communitarianism is a new intellectual and political movement in the U.S. that is attempting to change the thinking of intellectuals and the general public about the appropriate role of the individual in society. Communitarianism is an American strategy for dealing with an American problem. It attempts to mobilize the intellectual community and to develop a constituency for an altered set of values.

Second order cybernetics, on the other hand, is a movement within the scientific community of the U.S. and Europe that seeks to change the thinking of the scientific community about the nature of knowledge. Second order cybernetics is based upon neurophysiology and constitutes a scientific critique of realist epistemology. Although it originated primarily in the U.S., second order cybernetics represents a "European strategy." Its roots lie in German idealism, and it is based upon an assumption that philosophy is an activity of widespread intellectual interest. Not surprisingly, European intellectuals have shown more interest in second order cybernetics than American intellectuals.

Both communitarianism and second order cybernetics are attempts to change society by changing the way people think. But communitarianism is an overtly political effort, which is addressed to opinion leaders and seeks specific policy changes. In contrast second order cybernetics seeks only to change the thinking of scientists about the philosophy of realism. The second order cyberneticians believe that all educated people should change their views as well, but they address their articles and arguments only to small, scientific groups. The general public is not addressed. The constructivist cyberneticians suggest no public policy changes. There is

no effort to influence columnists, commentators, or political leaders, and there is no effort to influence a specific academic discipline such as economics, philosophy, or political science.

If there is some validity to the previous assertion that the passion of the second order cyberneticians springs from painful personal experiences with political and cultural

Table 2. Two Strategies for Creating Social Change

An “American” Strategy	A “European” Strategy
Knowledge is based on an assessment of the situation	Knowledge is prior to action
Influenced by British empiricism and American pragmatism	Influenced by German idealism
Question: What does American society need now?	Question: What do philosophy and science need now?
Answer: People should be concerned about their responsibilities as well as their rights	Answer: The observer should be included within the domain of science
Recommendation: Citizens should become more involved in public affairs	Recommendation: Scientists should use a constructivist as opposed to a realist epistemology.
Theories are imperfect descriptions of the phenomena described	The inner world has primacy over the outer world
Action is based on social role	Action is based on philosophical position
Ideas are important if they enable more effective action in the world	The free realm of ideas is preferred over the necessary realm of matter
An historical experience of domination by a remote government	An historical experience of internal chaos and disorder
The key task of society is to protect individual liberties	A key task of society is to control dissent
A high regard for practical, not theoretical, knowledge	A high regard for philosophical thought
The public interest is debated by the citizenry	The public interest is debated primarily in a university
Arguments are addressed to educated citizens, and also academics	Arguments are addressed to professional intellectuals
Social change requires changing policies, laws, and institutions, not just ideas	If ideas about the nature of knowledge change, change in science and society will follow
Focus on certain academic disciplines – economics, sociology, political science	Attempt to alter the conception of knowledge, regardless of discipline
Tolerance is justified by respect for the individual, by empathy with others, and by the desire to ensure one’s own liberties by protecting those of others	Tolerance is justified by our knowledge of neuro-physiology and the consequent inability of the individual to be certain of his or her beliefs
Intolerance is restrained by morality and law	Intolerance is inappropriate given the imperfect nature of our knowledge
Tolerance and respect for others are axioms, a starting point	The appropriateness of tolerance is the conclusion of a scientific investigation

systems, then the lack of a more explicit political component to the development of the ideas is puzzling, at least to an American. The interest of the second order cyberneticians is in the

nature of knowledge and cognition, but not in particular social or political ideas, at least not in ideas other than ideas about knowledge and cognition.

The differences in these two efforts to change society reveal the assumptions that each group is making about how to bring about social change and where efforts should be concentrated in order to create fundamental change. The American strategy calls for a direct, overt effort to change beliefs, values, policies, and elected officials. The European strategy calls for an effort to change the realist philosophy underlying both scientific research and public opinion. Apparently the cyberneticians assume that if one can change the thinking of the academic community, the views of the general public will eventually follow.

This paper has presented two comparisons of ideas. The first comparison was the description of the three phases of cybernetics in the U.S. (see Table 1). These three research programs guided the efforts of groups of scientists seeking to advance knowledge in the field. The second comparison was the discussion of the philosophical, social and political assumptions underlying second order cybernetics and the comparison with the communitarian movement in the U.S. (see Table 2). The ideas in Table 2 were intended to influence not only the scientific community but the larger society as well.

UNDERSTANDING AND CREATING INTELLECTUAL MOVEMENTS

If one encounters an intellectual movement and one wants to understand it, several questions can be asked:

- 1) What do those who are advocating the new point of view believe? What are they saying?
- 2) Why do they think that what they are saying is important? What is the problem they perceive?
- 3) What is missing in the society such that the new point of view fills a gap?
- 4) What are the underlying assumptions about human nature and the role of government?
- 5) What groups favor or oppose the new view?
- 6) What groups within society are the advocates of the new view attempting to persuade?
- 7) How will the political, economic, and culture life of the society change if the new ideas are accepted?

Or, if one wants to create an intellectual movement, here are some questions one could answer in an effort to design an effective movement

- 1) What is the problem? What is needed?
- 2) Why is this problem important? Who thinks it is important?
- 3) If the problem is not yet widely recognized, why not? What beliefs or values prevent its recognition?
- 4) Where is attention currently focused instead of on this problem?
- 5) Why was that focus of attention appropriate in the past?
- 6) What circumstances have changed such that a redirection of attention is appropriate/ needed/ required?
- 7) Is the message adequate or complete, that is, are there a philosophy, theory, and method of communication? Describe each briefly.
- 8) Is the message being delivered often enough and through enough channels? What are the channels?
- 9) Is progress monitored and evaluated? How?
- 10) What are some milestones in the process of winning acceptance? When do you expect that each milestone might be reached?
- 11) What change in behavior is expected if people change their beliefs or values?

CONCLUSION

Ideas and society interact. People describe social processes, and theories of social systems, when acted upon, change social systems. Indeed, social scientists create theories of social systems not only in an effort to describe social systems but also in the hope of changing them. In an information society perhaps it is not surprising that thinking would become more abstract and that social change efforts would be based on philosophy and science in addition to law and politics.

Second order cybernetics added to the philosophy of science the additional consideration of the amount of attention paid to the observer. Perhaps the idea of designing intellectual movements will add to the philosophy of science the idea that scientific ideas need not only be good descriptions of observable phenomena but also their acceptance requires that they be designed so as to fit the local culture.

REFERENCES

- Boulding, Kenneth E. (1956). *The Image, and Ann Arbor*. MI Arbor: University of Michigan Press.
- Dewey, John. (1915). *Germany Philosophy and Politics*. New York: Henry Holt and Company.
- Etzioni, Amitai. (1988). *The Moral Dimension: Toward a New Economics*. New York: Free Press.
- Etzioni, Amitai. (1993). *The Spirit of Community*. New York: Crown Publishers.
- Maturana, Humberto. (1970). "Neurophysiology of Cognition," in *Cognition: A Multiple View*, Paul Garvin (ed.), New York: Spartan Books, 1970, pp. 3-24.
- Soros, George. (1991). *Underwriting Democracy*. Free Press.
- Umpleby, Stuart A. (1990). "The Science of Cybernetics and the Cybernetics of Science," *Cybernetics and Systems*. 21(1):109-121.
- Umpleby, Stuart A. (August 1991). "Strategies for Winning Acceptance of Second Order Cybernetics," *Proceedings of International Symposium on Systems Research, Informatics and Cybernetics*, Baden-Baden, Germany.
- Umpleby, Stuart A. (1997) "Cybernetics of Conceptual Systems," *Cybernetics and Systems*. 28(8):635-652.
- Umpleby, Stuart A. (2001) "What Comes After Second Order Cybernetics?" *Cybernetics and Human Knowing*, 8(3):87-89.
- Von Foerster, Heinz. (1981). *On Constructing a Reality*. Originally published in 1973, reprinted in *Observing Systems*, Salinas, CA: Intersystems.
- Von Glasersfeld, Ernst. (1987). *The Construction of Knowledge*. Salinas, CA: Intersystems.
- Wiener, Norbert. (1948). *Cybernetics: or Control and Communication in the Animal and the Machine*. Cambridge, MA: MIT Press.