Although at the present time there is great interest in the reforms now taking place in the Soviet Union, Eastern Europe, and China, occasionally one hears that there is no theory of how to transform an authoritarian, centrally planned society into a democratic, free market society.
That may be narrowly true, but much is known about how social systems change. This paper briefly reviews some of the currently available theories. Limiting the discussion to theories of economic, political, and psychological or cultural change, the paper groups the theories into three types. There are theories of how social systems operate, theories of how social systems change, and theories of how one can intervene to change a social system.

INTRODUCTION

Although the title of this paper may seem rather grand, I believe that the goal which it expresses is actually fairly modest. I propose not to review in detail all theories which might be relevant to the reform of social systems, but merely to remind the reader of what we already know about the operation of social systems.

But before I present the classification of theories, perhaps I should explain how I came to be interested in this topic. The background for this paper is a series of meetings which I have been arranging between American and Soviet scientists on the subject of cybernetics and systems theory. When I first began working with Soviet scientists nine years ago, I assumed that scientific meetings involving Americans and Soviets would proceed in a fashion similar to meetings I had experienced among academics from North and South America, East and West Europe and Japan. Although I expected some difficulties due to the super power rivalry, I was shocked by the magnitude of the differences in thinking by Americans and Soviets about topics such as the relationship between politics and science.

In order to understand the reasons for the differences in thinking, I began to study Soviet history and culture. Studying Marxist-Leninist thought was quite helpful in understanding the terms the Soviets were using and their frame of reference. The theory that I found most useful in my interactions with Soviet scientists was a theory of two systems of ethical cognition formulated by a Soviet emigre mathematician and psychologist, Vladimir Lefebvre (1982). In order to explain why I found Lefebvre's theory interesting, I need to provide a little more background.

An Example of Cultural Differences

On most matters I found that dealing with Soviet scientists was not greatly different from dealing with scientists from any other country. However, when an issue of political importance arose, I discovered that Soviet scientists negotiated in a dramatically different way than I was accustomed to (Umpleby, 1990). (I should note here that the experiences I am about to describe occurred before Mikhail Gorbachev came to power in 1985.)

When an American begins a negotiation, he will often lead off with a conciliatory statement, thereby indicating his willingness to compromise and to reach agreement. A Soviet negotiator usually begins with a confrontational statement, indicating his commitment to principle and his determination not to compromise on vital issues. As a result of these opening statements Americans tend to conclude that the Soviets are aggressive, impolite, and unwilling to negotiate seriously. The Soviets are likely to conclude that the Americans are weak, not committed to their principles, and unprepared to negotiate seriously.

Not only do Americans and Soviets have different ways of initiating a negotiation, they imagine a different course for the negotiation. Americans approach a negotiation by indicating the area in which an agreement might be possible. They expect the other side to do the same. The region of overlap then becomes the focus of attention. The rest of the negotiation is envisioned as a process of clarification, wording, and working out of details. At the end of the process the negotiators are left with the satisfying feeling that they have jointly constructed a
mutually acceptable agreement. This cooperatively produced success is interpreted as a sign
that relations are improving and will continue to improve.

When Soviets negotiate, they envision a different process. One side's opening statement
defines issues on which no compromise is possible. They expect the other side to make a
similar statement. A Soviet negotiator will look closely at what has not been ruled out. He will
then state another issue on which compromise is not possible. He expects his "opponent" to do
likewise. This dialogue in ultimatums continues until a situation has been defined that neither
side has ruled out. remainder becomes the de facto agreement. The feelings at the end of a
Soviet negotiation are completely unlike those at the end of an American negotiation. Each side
can feel victorious since it never compromised. At the end of a Soviet negotiation there is a
feeling of exhaustion mixed perhaps with relief that a long and hard-fought struggle has had a
satisfactory outcome. Rather than a feeling of friendliness among negotiators at the end of a
negotiation, the most that can be achieved in a Soviet negotiation is grudging respect for a
skilled and committed adversary. The sequence of events concerning Lithuania provide a recent
example of the confrontational negotiating style.

Lefebvre's theory of ethical cognition helped me to understand why Americans and
Soviets negotiate in such a different fashion. Lefebvre suggests that there are two systems of
ethical cognition and that one is dominant in the West while the other is dominant in the Soviet
Union, at least the Soviet Union up to 1985. Imagine a case involving a conflict between means
and ends. In the first ethical system a person is considered to be a good person if he thinks
about that conflict and takes it seriously. In the second ethical system a person is considered to
be a good person if he minimizes or compromises on a difference between means and ends.
According to the first ethical system a good person is one who will not use a bad means to
achieve a good end, whereas according to the second ethical system a good person is one who
will pursue a good end even if the means is bad. Paradoxically, a person who is not willing to
compromise between means and ends within his own mind tends to be willing to compromise
with others, while one who is willing to compromise within tends to be in conflict with others.
The difference between the two ethical systems is similar to the difference between civilian and
military ethics. In civilian ethics the commandment is, "Do not kill." In military ethics killing
is permitted in order to attain a military objective. A civilian hero assumes peaceful relations
and is willing to compromise. A military hero assumes conflict and refuses to compromise.

Changes in Moral Reasoning

After Gorbachev came to power in 1985 the discussions between American and Soviet
systems theorists changed dramatically. The style of conversation became more open and frank,
and the content of conversation changed to include large-scale social experiments, in addition to
the previous topics of epistemology, methodology and management (Umpleby, 1987). But as
the Soviets expressed increased interest in American management methods, I found that I had
doubts about the applicability of these methods in the Soviet context. American management
methods are based upon assumptions about human nature and the role of government which are
markedly different from those I had been learning about by studying Soviet society. I then
encountered a paper by Richard Graham (1988) in which he suggested that Gorbachev's reforms
could occur because the Soviet people had already moved to different patterns of reasoning.

Graham's paper was based on a theory of moral reasoning proposed by Lawrence
Kohlberg (1984). Kohlberg suggests that there are five stages of moral reasoning.

1. The first stage of reasoning is oriented toward obedience and avoiding punishment.
A command economy might be an example.
2. The second stage of reasoning is suitable for exchange relationships in a market place. Rules are followed only when that is to one's immediate advantage. What is right is conceived as an equal exchange, a good deal. A barter system would be an example.

3. The third stage of reasoning is oriented primarily to peer pressure and the desire to belong by conforming to the standards of a community. A concern with national identity would be an example.

4. The fourth stage of reasoning emphasizes law and order. Attention is focused on the idea that society operates more effectively when people obey the law. Survey research has shown that this type of reasoning is widely found only among people in democratic, industrialized societies.

5. The fifth stage of reasoning is achieved only by a minority of people in the more economically advanced countries. This type of reasoning recognizes that laws are sometimes unjust and need to be changed. Strategies of non-violent resistance, as practiced by Mohandas Gandhi or Martin Luther King, Jr., would be examples. Vaclav Havel might be a contemporary example.

According to Kohlberg the stages of reasoning develop in series as a person matures. The sequence is always the same, and no stage can be skipped. Furthermore, one can obtain an indication of the level of development of a society by looking at the modal stage of reasoning achieved by adults in that society.

Using Kohlberg's theory, Graham suggested that the success of the economic reforms in the Soviet Union, and in other socialist countries, may depend upon how much the thinking of the populations has changed away from the Stalinist system and upon the pace of additional cultural change. Kohlberg's theory has helped me to understand how the cultural development of a society might be measured and how the institutional arrangements in a country reflect the level of cognitive development of the population. Although there has been much discussion of the economic reforms needed in the socialist countries, there has been less discussion of needed cultural changes, if indeed the socialist countries intend to adopt Western economic and management methods.

Perhaps I should mention at this point that for many years social scientists assumed that political and economic systems may change but cultural systems remain relatively constant. This assumption is quite different from the view advocated in recent years by business consultants who attempt to change corporate culture as a means of increasing productivity. For example, in companies experiencing strikes and distrust between management and labor, consultants work to increase openness and communication. I believe it may be possible to use some recently developed management methods to facilitate cultural change in nations as well as in corporations.

My view is that an economy is based upon a cultural foundation. Now that the political constraints on socialist economies have been greatly relaxed, cultural constraints, such as attitudes toward private property, entrepreneurship, and confrontation, will determine the pace of economic reforms. It seems to me that an economy cannot change fundamentally without major changes in cultural beliefs either before or during the reform process.

**WHY EMPHASIZE THEORIES?**

The title of this presentation is "an inventory of theories." Colleagues in the United States have asked why I emphasize theories. This is, I think, an American question. In my
experience Europeans are more comfortable thinking in terms of theories of social systems. Americans prefer to look for procedures that work in practice. But I agree with Kurt Lewin that nothing is more useful than a good theory. There are several reasons why I believe it would be useful to review the theories available to guide the reform of socialist societies.

1. In the discussions of the on-going changes in the Soviet Union, China, and Eastern Europe, one occasionally hears it said that there are no theories to guide the transformation from authoritarian, centrally planned societies to democratic, free-market societies. That may be so in a narrow sense, but we do know a lot about how social systems operate, how they evolve and how we can influence their development. I believe that a review of what we think we know would be useful at this time.

2. Theories aid us in organizing our knowledge. There are many large-scale social experiments currently underway. It might be helpful both to social scientists and to reformers if the various reform proposals were regarded as "experiments" to be or refuted by their results (Campbell, 1969). During a period of uncertainty and rapid change, learning can be maximized by adopting a critical, inquiring frame of mind. The fact that changes are occurring in many different political jurisdictions makes it possible to conduct several experiments simultaneously. As the results of these experiments become apparent, both through academic studies and through the political process, successful innovations can be imitated and unsuccessful ones avoided. An experimental frame of mind helps to keep attention focused on social goals and the results of reforms rather than on specific means to achieve them.

3. Discussion is enhanced by comparing perceptions rather than presenting one description of what is thought to be the case.

4. By attempting to identify all relevant theories, we involve people from many disciplines. Hence, we are less likely to overlook some important aspect of the reform process.

5. We are using theories, whether we realize it or not.

My conception of a theory is that it is a set of assumptions about what one should pay attention to, if one has certain interests, combined with a set generalizations regarding cause and effect. The generalizations are used in making decisions about what actions will likely produce desired effects.

By the way, I agree with Karl Popper's (1957) rejection of theories of history. We may be able to predict that over the long term a society must exist in harmony with its biological environment, but I do not believe that we can predict what choices future generations will make about social arrangements. Hence, I am interested here only in theories which are useful for what Popper calls "piecemeal social engineering."

To bring some order to a rather long list of available theories, I propose to group the theories into three large categories. For each type of theory I give examples from (1) economics, (2) political science, and (3) social psychology or cultural studies. I think the classification is a reasonable one, but I would welcome proposals for alternative classifications and reminders of theories which I have overlooked. The three large categories are:

1. Theories of how social systems operate.
2. Theories of how social systems change.
3. Theories of how to change social systems.
THEORIES OF HOW SOCIAL SYSTEMS OPERATE

Most social science theories explain how a particular kind of system operates.

Dynamics

Theories of how social systems operate generally describe the dynamics of a system.

1. Most of Western economics is stated in terms of the relationships among variables. For example, if one listens to economists, one hears statements such as the following: "If prices rise, supply will increase and demand will decrease." "Wages rise more easily than they fall." "Inflation can be controlled by limiting the growth in the money supply."

   A descriptive theory is also predictive, if some of the variables can be controlled. For example, if the money supply can be increased, economic activity can be increased; and if the money supply can be constrained, inflation can be reduced. Since the end of the Second World War Western economists have been fairly successful in using their theories to maintain a moderate rate of economic growth. Although Western economists are hardly of one mind, on fundamentals there is widespread agreement.

2. Political scientists tend to think in terms of actors, motivations, and institutions. If one listens to political scientists, one hears statements such as these: "Politicians strive to form minimum winning coalitions" (Riker, 1962). "If unrestrained by external checks, any given individual or group of individuals will tyrannize over others" (Dahl, 1956).

3. Psychological theories tend to emphasize logical consistency, even if the "logic" is rooted in childhood experiences. If one listens to psychologists, one hears statements such as these: "The friend of my enemy is my enemy; and the enemy of my enemy is my friend." "Woodrow Wilson displayed a similar pattern of behavior when president of Princeton University, Governor of New Jersey, and President of the United States."

   In each case theories of how social systems operate tell us what we should focus our attention on -- variables, actors, or thoughts -- and what processes we should look for.

   At a conference on systems theory I think it is important to note that many social science theories are not expressed in terms of cardinal variables. Consequently our conceptions of social systems should not be limited to descriptions presented as sets of interacting variables.

Essential Elements

The essential elements of systems are often taken for granted by those quite familiar with a particular kind of system. Theories rarely state everything that one needs to know in order to understand the theory. Theories are usually addressed to those who are already members of a scientific community. Part of the reason why theories leave out much useful information is that the theorists have forgotten what they learned early in their careers. I believe it is useful to recall what are the essential elements of Western systems of economics, politics, and culture.

1. The essential elements of Western economies include a market mechanism, a capital market, a banking system, a central bank, educational institutions, economic indicators, private property, and standardized accounting methods.

2. A Western-style political system has separate branches of government, two or more political parties, a free press, and guarantees of civil liberties.
3. The essential elements of cultures are usually taken to include myths, values, ways of assessing achievement and social status, and symbols of group loyalty.

I know of no theories which merely list what the essential elements of a system are. However, this way of looking at economic, political and cultural systems implies a reform program. That is, if one wants to build a political or economic system and some of the essential elements are missing, then create the missing elements. In economic and political systems the task is to create certain institutions. But with cultural systems the task is to rewrite the story the community tells about itself. The intent is not to falsify events but to change emphases and interpretations, for example to call attention to achievements and to state what has been learned from previous efforts.

**Underlying Assumptions Regarding Human Nature**

Theories of social systems are always based upon certain underlying assumptions about human nature.

1. Western economists tend to assume that people are rational, ambitious, entrepreneurial, and good information processors.

2. Political observers tend to differ in their assumptions about human nature. People can be thought of as either well informed or poorly informed, concerned about the less fortunate or not concerned, tolerant of others or intolerant, usually honest or corruptible.

3. People can also be perceived as either trusting or distrusting of others, able to control themselves or not able to, willing to compromise or confrontational.

Depending upon one's assumptions about human nature, social systems will be designed very differently. For example, if people are assumed to be trustworthy, honest, generous, and inclined to compromise, then the role of government can be limited. On the other hand, if people are generally assumed to be dishonest, not generous, and inclined to be confrontational, then a strong government may be necessary to resolve conflicts and provide for the less fortunate.

**THEORIES OF HOW SOCIAL SYSTEMS CHANGE**

In addition to theories describing how certain social systems operate, there are also theories which describe how social systems change from one pattern of behavior to another.

**Trends**

Many people think of social change in terms of trends. Indeed, theories of social development require the identification of at least one trend.

1. Numerous authors have observed that in Western societies there has been a long term trend from religious authority to secular authority, to more advanced technology, to increased trade, and to higher personal incomes.

2. Around the world there seems to be a trend toward more democratic societies, more rule of law, less tolerance of corruption, and more use of conflict resolution methods.
3. Cultural trends include less fatalism, increased equality of opportunity, and more respect for the rights of individuals.

The theory that capitalist and socialist societies are converging can be regarded as one type of trend theory (Kerr, 1983). Various authors have claimed that capitalist and socialist societies are converging toward mixed economies with both a free market and welfare payments, governed by multi-party democracies and based on a culture of secular individualism.

**Stage Theories**

There are several theories which describe social change in terms of a sequence of stages.

1. Marxists have described five economic stages -- slavery, feudalism, capitalism, socialism, and communism. Several writers have defined three stages of economic growth -- agricultural societies, industrial societies, and information or post-industrial societies (Wiener, 1950; Bell, 1973).

2. In political science there is a literature on political modernization which tends to emphasize how societies change from gemeinschaft to gesellschaft -- from societies governed by local standards in which social position is determined by birth to societies governed by universal standards in which social position is determined by performance. As one example, Riggs (1964) has suggested three stages in the development of institutions -- fused, prismatic, and diffracted. In traditional societies economic, political, and religious activities are fused together. In prismatic or transitional societies these activities are beginning to be handled by separate institutions. In diffracted or developed societies separate institutions for the various activities are clearly defined.

3. In psychology Lawrence Kohlberg's theory of moral reasoning, described earlier, and Elliott Jaques's (1985) theory of cognitive functioning are both stage theories. Stage theories claim that each stage of psychological development is internally consistent and fairly stable. During the process of development the stages occur in a predictable sequence.

**The Causes of Social Change**

Some observers focus on the causes or necessary conditions of social change.

1. The causes of change in economic systems include new ideas, changes in society, and new technology. For example, several centuries ago the people who loaned money were usually rich, while the people who borrowed were poor. Charging interest required the poor to make payments to the rich. Hence, charging interest was considered immoral. However, early entrepreneurs found that they could borrow money to buy capital equipment and thereby increase their profits. Borrowers began to include the affluent. The profit earned on borrowed money made charging interest morally acceptable. Interest became a way for the person who loaned the money to share in the profits (Galbraith, 1989). Hence, as society changed, ideas about social arrangements changed, thereby facilitating further social change.

   Regarding technology as a cause of change, Loren Graham (1985) has suggested that the successful development of information technology requires free societies.

   Global competition is said to be a cause of the reduced power of labor unions.
Similar to theories that describe the causes of social change are theories that describe the necessary conditions of social change. For example, Walt Rostow (1960) sought to explain why England, rather than Holland or France, became the first industrialized society. He noted that industrialization requires three conditions: 1) natural resources, 2) manufacturing, and 3) a democratic political system. Holland had democracy, but few resources and little manufacturing. France had resources and manufacturing, but not democracy. Britain had all three and so became the first industrialized nation.

2. Regarding change in political systems many commentators have claimed that literacy, education, and industrialization have been causes of the recent demands for democracy, free speech, and a free press.

3. Toynbee (1972) has suggested that civilizations change when they encounter each other in space or time. Civilizations have encountered each other in space as a result of trade, war, invasion, and occupation. A renaissance is an example of civilizations encountering each other in time. The current blossoming of political and cultural activity in Eastern Europe might be regarded as a renaissance of the indigenous cultures.

Cycles

Cyclic theories identify fluctuations in one or more variables or a repetition in stages.

1. Business cycles and Kondratief, or long wave cycles, have been identified in economies.

2. There are cycles of reform and reaction in domestic politics (Nagel, 1988). In international politics great powers rise and fall (Kennedy, 1988).

3. Indian philosopher Sarkar (Batra, 1978) has proposed a theory of social cycles. He suggests that the dominant social group consists of laborers, then warriors, then intellectuals, then capitalists, then laborers again. For example, following a (either hot or cold), a society's intellectuals define a new social order. With a new conception of society in place, a new group of people has an opportunity to advance economically and socially (for example, capitalists or Communist Party officials). As the new group of elites begins to dominate society, there are demands to share the wealth (laborers). With the new wealth created and shared, the society seeks outward expansion (warriors). Japan and Germany might be an example of societies now expanding outward as a result of internal economic success.

Social Evolution as Problem Solving

The evolution of social systems can also be described as a sequence of problem-solving efforts.

1. In economic systems the history of government regulation of business is basically a process of defining a problem through the political process, formulating a solution, examining the results, defining a new problem, etc. Examples in the United States are the creation of the Food and Drug Administration, the federal income tax, the Social Security Administration, the Environmental Protection Agency, and the Consumer Product Safety Commission.

2. In political systems the history of the U.S. Constitution can be regarded as a sequence of problem-solving efforts. Following the Declaration of Independence in 1776, thirteen self-governing states came together under the Articles of Confederation. The weaknesses of the Articles of Confederation led to the U.S. Constitution. The Constitution has since been amended several times.
3. Instances of problem-solving in cultural systems might include the development of laws protecting religious liberty, abolishing slavery, and granting women the right to vote.

HOW TO PRODUCE SOCIAL CHANGE

Just as there are theories of how social systems operate and how social systems change, there are also theories which describe how to act in order to change social systems. Although some social scientists are inclined to adopt a posture of dispassionate observer, others seek to influence the systems they study.

Reform through Experimentation

Numerous experiments are now being performed. China has set up enclaves for free enterprise. The USSR has experimented with an Open Sector Project (Soros, 1989) and privately owned cooperatives. The Eastern European countries are forming multi-party political systems, and the USSR is permitting the organization of discussion groups.

Action research provides one way of understanding the process of social experimentation (Lewin, 1951). The idea is that a problem solver should observe, reflect, act, observe, etc. Many variations of action research have been developed over the years (Morgan, 1983). For example, the work of Russell Ackoff (1981), Stafford Beer (1985), and Peter Checkland (1981) could be interpreted as variations of action research. Action research is different from merely descriptive theories in that the observer and his or her actions are treated as part of the system of interest.

Game Theory

Virtually all strategic thinking and policy analysis is based on a game theoretical perspective (von Neumann and Morgenstern, 1944). I suspect that policy research organizations or think tanks now exist in all industrialized societies. In policy analysis the task is to define alternative courses of action, evaluate the expected consequences of each, and anticipate the future actions of other actors. The objective of the game can be to defend or advance one's interests or to outperform a rival.

Cybernetics

Cybernetics is usually defined as the science of control and communication (Wiener, 1948). Any control process involves a regulator and a system being regulated. Examples of control are a person driving a car, an executive managing a corporation, or a political leader attempting to change an economic system. Any control activity requires that the regulator construct a model or theory which describes the relationships between actions and consequences (Ashby and Conant, 1970). Without a model of cause and effect, there are no grounds for choosing one alternative rather than another. Hence, cybernetics is at least in part a theory of how theories are used in the reform of social systems.

CONCLUSION

I believe that this list of theories, however incomplete it may be, demonstrates my main point. That is, there are two views that we can hold of the changes now occurring in socialist countries.
1. The first view, often heard in the Soviet Union and among Soviet scholars in the U.S., is that there are two roads to development -- a capitalist road and a socialist road. There are theories of how capitalist societies operate and theories of how socialist societies operate. There is also a theory of how a capitalist society changes into a socialist society. But there is no theory of how a socialist society changes into a capitalist society.

2. The second view is that all societies, as they change from hunting and gathering to pastoralism, to agriculture, to industry, to post-industrialism go through a process of modernization. The advantage of this second view is that it opens up a wide range of experience and a large and diverse theoretical literature to those who seek to guide the transformation of contemporary societies. Because of its advantages both for practice and for the further development of theoretical understanding, I believe that the second point of view is preferable.

### Table 1. THEORIES TO GUIDE THE REFORM OF SOCIALIST SOCIETIES

<table>
<thead>
<tr>
<th>THEORIES OF HOW SOCIAL SYSTEMS OPERATE</th>
<th>ECONOMIC</th>
<th>POLITICAL</th>
<th>SOCIAL/PSYCHOLOGICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DYNAMICS</td>
<td>Supply and demand; prices, savings, income, investment (variables)</td>
<td>Actors; motivations; institutions</td>
<td>Logic of emotions or thoughts</td>
</tr>
<tr>
<td>ESSENTIAL ELEMENTS</td>
<td>Markets; banks; economic indicators; private property; accounting methods</td>
<td>Separate branches of government; two or more political parties; free press; civil liberties</td>
<td>Myths; values; indicators of social status; symbols of group loyalty</td>
</tr>
<tr>
<td>UNDERLYING ASSUMPTIONS</td>
<td>People are rational, ambitious, and good information processors</td>
<td>People are well-informed or poorly informed; concerned about the poor or not</td>
<td>People are trusting or not; able to control themselves or not; prefer to compromise or to confront</td>
</tr>
<tr>
<td>TRENDS</td>
<td>Religious authority to secular authority; more adv. technol.; increased trade; higher personal incomes</td>
<td>More democratic societies; More rule of law; less corruption; more use of conflict resolution methods</td>
<td>Less fatalism; increased equality of opportunity; more respect for rights of individuals</td>
</tr>
</tbody>
</table>
| STAGE THEORIES | Slavery, feudalism, capitalism, socialism, communism; agri., industrial, post-industrial societies | Political modernization; gemeinschaft to gesellsch; fused, prismatic, diffracted societies | Ericson  
Kohlberg  
Jaques |
<p>| CAUSES OF SOCIAL CHANGE | Information tech.; global competition; necessary conditions: nat’l resources, manufacturing, democracy. | Literacy; education; industrialization | Civilizations change when they encounter each other in space or time |
| CYCLES | | | Laborers, warriors, intellectuals, capitalists, laborers |
| SOCIAL EVOLUTION AS PROBLEM SOLVING | | | |</p>
<table>
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<tr>
<th>THEORIES OF HOW TO CHANGE SOCIAL SYSTEMS</th>
<th>REFORM THROUGH EXPERIMENTATION</th>
<th>LARGE-SCALE SOCIAL EXPERIMENTS; VARIATIONS OF ACTION RESEARCH; REFLECTIVE PRACTICE</th>
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<tr>
<td>REFORM THROUGH EXPERIMENTATION</td>
<td>GAME THEORY</td>
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</tr>
<tr>
<td>REFORM THROUGH EXPERIMENTATION</td>
<td>CYBERNETICS</td>
<td>ANY REGULATORY PROCESS REQUIRES A MODEL; A THEORY OF HOW THEORIES ARE USED IN THE REFORM OF SOCIAL SYSTEMS</td>
</tr>
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**REFERENCES**


