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**Center for
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**Why Our Old Pictures of the World
Don't Work Any More or Why It's
Become so Difficult to Believe in
Traditional Research**

**CEO Publication
G 83-12 (43)**

**Ian I. Mitroff
University of Southern California**

May 1994

**Prepared for Center for Effective Organizations Research Conference, November 3rd and 4th, 1983 at
University of Southern California, Los Angeles, California.**

**Center for Effective Organizations - School of Business Administration
University of Southern California - Los Angeles, CA 90089-1421 (213) 740-9814**

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WHY OUR OLD PICTURES OF THE
WORLD DON'T WORK ANYMORE

by

Ian I. Mitroff

G 83-12 (43)

ABSTRACT

The methods of the social sciences were largely developed for a mechanistic conception of the world. This paper discusses why such methods are no longer appropriate. Two newer conceptions or images have recently emerged. They suggest that some totally different kinds of methods are needed which are founded on these newer images of the world.

In the beginning
even before the word
was the picture.
Everything came after it,
the road map
of reality.
And the picture
is more enduring.
For the word
itself is
only a picture.

Pictures do not change easily.
They are the bedrock,
the ground of reality.
They are reality.

And yet
like everything else
pictures do change.
They must
if only
with great difficulty.

What picture
is appropriate
for studying
pictures
changing?

Someone who works as full-time organizational change agent or organizational development expert once shared with me the following metaphor for understanding why most organizations resist change. I think it is an apt metaphor for understanding the nature of change. It's a good metaphor for me because it hooks me.

Picture an organization as a trapeze artist. Suppose that for the vast majority of its life the trapeze artist has only known the left-hand swing of the trapeze. He has never taken the bold leap through the air to land on the right-hand swing. He has never experienced directly the right-hand swing or the newer reality to which he is being urged to jump by others in the promise of a better life, fame, fortune, etc. If one accepts the metaphor of the organization as a trapeze artist, then the metaphor or picture helps to make understandable the extreme anxiety and severe resistance to change that many organizations experience in confronting change. The metaphor helps us to experience in our gut the anxiety associated with change as a real thing not as an abstract concept. Asking an organization to change is like asking one to leap through the air without a safety net to a swing that one has never tasted. No wonder organizations often prefer an inferior rung that they know to a superior promised reality they don't know.

To capture even more aspects of the resistance to change, I have embellished the metaphor over time. For example, I believe that it is fair to describe the new swing that one is expected to jump to as hidden behind a curtain. One can not even see clearly the new reality that one is being urged to jump to. Further, imagine that the new swing behind the

paper curtain is swinging back and forth unpredictably. As a consequence, one does not know with perfect assurance when one should jump or how best to accomplish one's jump.

To extend or push the metaphor to its fullest, what then could possibly cause an organization to jump? Well, a strong push from the environment such as a rotting, deteriorating, or burning platform (i.e., a turbulent environment) would surely motivate one to think about leaping, i.e., changing. For another, a CEO who was daring or liked to ride the crest of new and even dangerous waves would certainly be a factor. Leaping would be seized as an opportunity, not viewed as a threat.

Whether one completely accepts or rejects the particular metaphor of organizations as trapeze artists is not the basic point at issue here. The basic point is that whatever one thinks or writes about is based on the presumption of a metaphor of some kind. Countless philosophers of science have pointed out that one is never--repeat, never--in direct contact with "reality itself." "Reality" is a theoretical construct whose description is affected by (filtered through) the particular language (frame of reference) we adopt for describing "it" (See for example Churchman, 1971). (Different languages describe different "its.") But since language is at its fundamental basis metaphorical (for instance, we "ground" ideas; we attempt to "contain" them; we use them as "springboards" to thought and to action; we "chip away" at ideas; we "refine" and we "temper" them; and we even attempt to "shoot" them "down"), reality is only apprehended in terms of metaphors or more generally what I would call an underlying base image or root picture of reality (Lakoff and Johnson, 1980).

In this paper I wish to discuss three very different basic conceptions or fundamental pictures of the social world, how they have changed in relation to one another, and the kind of research that each seems to warrant. I thus take the notion of a picture very seriously. I believe that the notion of a picture has to do with one of the most fundamental, and for that very reason one of the least studied, mechanisms whereby human beings attempt to make sense of their world. Pictures have to do with one of the least appreciated aspects of human beings, not to mention scientific theories. This aspect is aesthetics.

There is a long, serious and distinguished history of the study of the truth status of scientific theories, i.e., the epistemology or philosophy of science. There is also a history, although it is less long and less serious, of the ethics of science and of scientific theories. There is almost no history, let alone serious study, of the aesthetics of science. There is little beyond the oft repeated cliché that the best scientists prefer theories which are beautiful, simple, elegant, etc.

By aesthetics I mean something far more than beauty. Beauty per se is not my basic concern. By the term "aesthetics" I mean the more general notion that everyone has a style, a taste of some kind. For instance, people express their preferences for style in countless ways: in the clothes they wear, the furniture they select, the pictures they hang on their walls; the cars, colors, animals they surround themselves with; the general quality of life they pursue; the foods they eat, how they serve it; in short, elegance or its lack thereof in their lives.

By the aesthetic dimension of science, especially managerial science, I mean that researchers in different traditions seem to adopt very different

underlying pictures of the world and that these pictures grab them at such a basic emotional level that it is almost impossible to have anything even approaching an "objective" discussion across traditions.

If the aesthetic dimension is as important as I believe it is, then it may be impossible for the proponents of one picture to convince the proponents of another why the pictures in their gallery are rationally superior to those in the galleries of others. Conversion is not then solely a matter of logical or rational persuasion alone but rather a matter of gestalt or picture switch, i.e., an aesthetic conversion.

The case may be more like two old dowagers walking through an art museum; the one trying to convince the other that the French are better painters than the Dutch while the other is convinced of just the opposite. If they are to have a critical discussion at all instead of merely shouting at one another, then both have to realize that their dispute is not a matter of truth alone, but of different standards of art appreciation. In short, both parties need recourse to a theory of art appreciation, not of truth per se if they are to have a fruitful discussion. The pictures each prefers are different not necessarily better. Each tradition allows one to make certain observations about the condition of the artist and his relation to the society, culture, and the nature of his time.

In this sense, we have almost no theory of the aesthetic dimension of science although we do have the dawning recognition that the pictures that managers (practitioners) have of organizations and those that academic researchers have about organizations are vastly different. Rather than one being better, it is doubtful that either picture is functional beyond

the limited environment in which each operates. Very few academics would know how to recognize and handle a "real-world" problem if it "literally" bit them. Conversely very few practitioners would know how to conduct systematic research or to engage in reflective thought about their world.

By this emphasis on aesthetics I do not mean to imply that the epistemological or ethical aspects of science are unimportant. To the contrary, they are vitally important. I do mean to imply however that they may be secondary in importance. I believe that scientists are no less, no more, human than are other people (Mitroff,1974). As such, I believe they get emotionally attached, hooked as it were, to a basic intuitive conception of the world. Within a particular picture they can ask and pursue questions of truth, ethics, etc. But first comes the hook, the decision for all kinds of reasons to pursue a particular style of life. This is the part that is aesthetic, not rational.

For many readers, I realize that what I have just said will sound like what Kuhn (1960) has talked about under the heading of paradigm-switch. I believe that the notion of a picture is much deeper. What I am talking about is what all scientists, regardless of their particular paradigm allegiance, appear to share, i.e., a deep-seated preference for viewing the world in abstract, nearly exclusively cognitive or "left-brain" terms (Mitroff, 1974). For the most part scientists are "left-brain" cognitively-oriented creatures; they are not "right-brain" affectly-oriented individuals. Thus, while Kuhn's notion of a

paradigm still applies, there are some general paradigmatic features that all scientists seem to share, i.e., the preference for certain kinds of general pictures. Put somewhat differently, although different scientists like different detailed kinds of pictures, they all seem to share the same general theory of painting. For all their differences, the pictures they paint tend to look the same. They tend to tell the same kinds of stories in the sense that they share a common theory of plots.

A valid scientific story is supposedly one that is told in impersonal terms. It removes as much as possible the motives and the true personality of the storyteller. Only the personalities of the characters the scientist studies are supposed to be relevant, not his own personality.

Let me turn to three different pictures of the world and describe the different kinds of galleries in which each hangs its pictures and thus to the different kinds of art collectors to which each kind of picture appeals.

(1) The World As Simple Machine

The oldest picture of the world that still pervades and dominates much of economic and managerial science is that of "the world as a simple machine." The classic expression is probably found in the thinking of Milton Friedman although it is found in many places. According to this view, the world of the modern corporation can be decomposed or par-

tioned into three primary entities: the corporation itself, stockholders, and customers (see Figure 1). The reason is the oft asserted statement that the primary purpose of management (presumably the upper echelons of the corporation) is to serve the primary stakeholder in their environment, i.e., the stockholders. All other stakeholders either do not exist or are not recognized as significant from this perspective. At a minimum, this view assumes that the rest of the environment can be clearly partitioned off from the three stakeholders in Figure 1.

As many writers have noted, among them most prominently Ackoff (1982) and Toffler (1980), this view of the world is founded on a primary, taken-for-granted metaphor of the world as a simple machine. As such, it derives from the industrial revolution where the entire world including man, plants, animals, and the environment were conceived of in mechanical terms. The metaphor was so strong that to the inhabitants of the time the world was not just metaphorically a machine, it was literally a machine.

Since by definition a machine is something which can be decomposed into its separate parts or components, analysis or reductionism was and still is the favored mode of attack of this view. A natural outcome was the partitioning of the universe into distinct and sharply distinguishable causes and effects. From the standpoint of scientific methodology, the classic expression of this philosophy reached its zenith in the work of John Stuart Mill (1872). Everything today that we preach under the label of experimental design is really a direct outgrowth of Mill's Canons of Induction. If you don't believe the world is literally a machine, as I do not, then this restricts the wholesale and unlimited use of experimentation as an appropriate method of knowing for the applied social sciences.

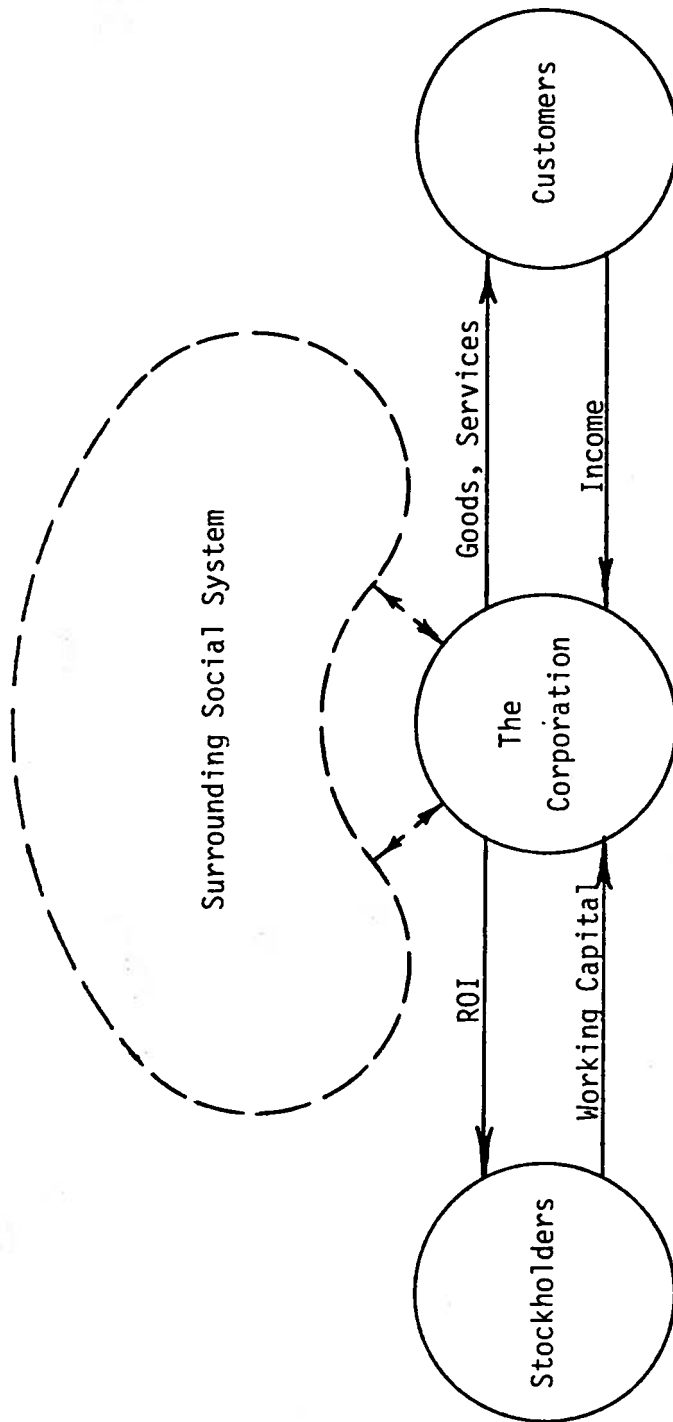


Figure 1
The World As Simple Machine

Since a machine is also by definition something which can be objectified, i.e., it has no emotions or feelings, its working can be described in purely impersonal terms. Hence, economics, among many, was and still is a natural language in which to describe (better yet, "represent") the workings of society and organizations. Or one should say, the kind of economics we have developed was suited to this representation, i.e., the brand of economics that recognizes only the ego component of man's psyche as valid and therefore views him as a rational calculating device, making all his decisions on the strict basis of benefits versus cost calculations alone. If one grants this supposition as true of all men, then the behavior of and between individuals could also be described as a series of impersonal economic transactions. Furthermore, since egos are supposedly separable from one another, the properties of each individual were in principle also separable from the rest of the system. To be sure, how individuals behaved was a function of the rest of the system, but supposedly their internal properties were not. Thus, the individual could in principle be removed from and studied in isolation from the rest of the surrounding system. Because of its overwhelming emphasis on the ego, this brand of economics would be better termed "ego-nomics."

(2) The World As A Complex System

Around the 1950's, the picture of the world as a simple machine, which for so long had dominated imagination as a result of the extreme influence of the industrial revolution, began seriously to crumple (Ackoff, 1982). Cybernetics and other methods for describing complex systems with intricate interdependencies and feedback loops were developed. These developments continue to this day.

With these developments came the recognition that the world was a

complex system of interconnected elements, not a simple machine of largely independent entities.

It was only a matter of time before this representation spread to that of organizations and institutions (see Figure 2). The recognition dawned that the modern corporation was increasingly buffeted by a growing number and constantly shifting set of players in a complex system. This broader set of players can be called stakeholders (Ackoff, 1982; Mason and Mitroff, 1981). In contrast the single class of stockholders, still important to be sure, stakeholders are all those vested interest groups, parties, associations, institutions and individuals who exert a hold and a claim on modern organizations. Stakeholders are all those who either affect or who are affected by an organization and its policies (i.e., its behavior).

It is important to appreciate that this view of the world differs from the preceding one in that it not only contains more parties but that the interrelationships between them are also very different. As to the first difference, the modern corporation has no choice but to recognize that it must contend with a large set of forces external to it than ever before, whether it likes or agrees with those forces or not. As to the second, in "the world as complex system" picture, in principle none of the stakeholders can be described independently from the entire system of which they are a part (Ackoff, 1982). The properties of each stakeholder are not self-contained. Different stakeholders not only impact more and more on the surface behavior of one another but increasingly they also intrude more and more deeply into the internal properties of all stakeholders. That is, the properties of all those stakeholders external to the organization affect more and more

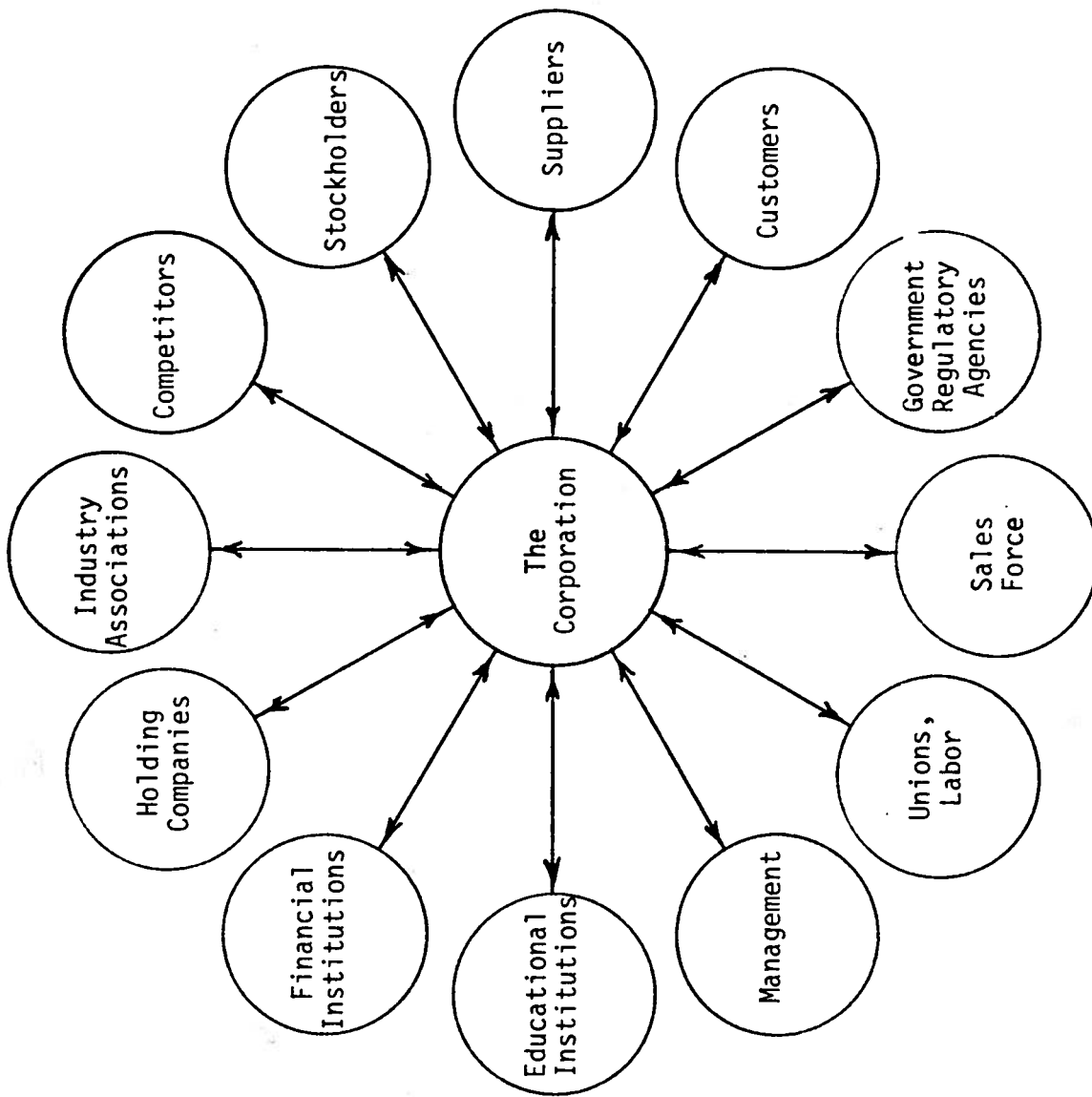


Figure 2
The World As A Complex System

the properties of those stakeholders internal to the organization.

An even more apt metaphor for this picture is that of "the world as an organism" (Ackoff, 1982). To take a simple example, the heart and the eye neither function nor exist separately from the brain or the rest of the body, i.e., the whole system of which they are a part. A human being is not an organization, i.e., a system whose "parts" supposedly have an independent and thereby separate existence and will of their own. Rather, a human being is with respect to his physical constitution a whole system. This even applies with respect to his behavioral and mental constitution. A human being is not a self-contained system but rather dependent upon the larger social system for his existence, beliefs, values, etc.

It should be noted that "the world as complex system" picture shares some features in common with the first picture, "the world as simple machine." Both view the interactions between stakeholder entities as largely rational. That is, in both pictures we are still at the egoic or surface layer level of social analysis (Mitroff, 1983). To be sure, the second picture recognizes the existence, or even more basic, the legitimate right to existence of more parties that have a hold on the modern corporation, but it is still limited in the number of parties deep within the psyche of individuals and of institutions that it recognizes. For this reason, the second picture can still be called "the world as a complex but rational (i.e., economic) system." A good label for this view is the term "syste-nomics."

I can only mention in passing the methods of research that this view promotes. Since synthesis of parts into ever encompassing wholes is the main preoccupation of this view, we should not be surprised to find that

those methods which are founded on the ever finer analytic reduction of the world into smaller and smaller atoms are viewed with extreme suspicion if not disfavor. Instead, methods are promoted which attempt to aid the imagination to envision the whole system of which any component must of necessity be a part (Ackoff, 1982; Mason and Mitroff, 1981). That is, as much emphasis is put on the connections between parts as the parts themselves.

This does not mean that experimentation is shunned in its entirety but rather it is insisted that the experimenter is as much a part of his experiments as are his so-called subjects. Even more basic, it is insisted that as a method of inquiry, experimentation does not stand on its own. Every method is part of the larger system of background ideas that must be presupposed in order to conduct any investigation. None of these ideas can be rigorously controlled, fully known, tested, or removed prior to the experiment. Thus, experimentation must always be part of some other larger system of inquiry in order for it to function. These "other systems of inquiry" attempt to supply the needed conceptual ideas and the appropriate tests of those ideas by conceptual means (i.e., by non-experimental means) that every experiment requires. There is no such thing--period--as the self-standing, self-contained experiment. Some sort of conceptual analysis must precede and follow after every experimental investigation. The nature of what these other inquiry systems are for supplying and testing needed conceptual ideas have been described elsewhere in extensive detail (Churchman, 1971; Mitroff, 1974).

To summarize, in dealing with complex systems it may be more important to identify as many different potential stakeholders as possible and the broad outlines of the nature of the potential interactions (assumptions) between them

than it is to know the behavior of any particular stakeholder in excruciating detail. Since perfect certainty is not accorded the same exalted status in this picture as in the first, getting different pictures of the social system out on the table for explicit debate is regarded as more important than having perfect certainty within any single picture of a complex social system (Mason and Mitroff, 1981). That is, more accurately Figure 2 is not a single picture but stands for the case of multiple pictures by multiple stakeholders of the social system. In principle there are as many different pictures of Figure 2 as there are potentially different stakeholders within any given picture. Little wonder why experimentation within any particular picture is not given as much weight as examining the assumptions between pictures that warrant belief in any particular picture (Mason and Mitroff, 1981).

(3) The World As Complex Hologram

The last picture I want to present is the one to which I have come most recently to adopt (Mitroff, 1983). It is important to note that this picture evolved out of pictures one and two. In this sense while I no longer believe in the adequacy of the former two pictures to capture the complexities of modern social reality, they are necessary in the sense that the latest picture could not have been achieved without them. They may be necessary but they are no longer sufficient. In this sense at least I am no longer personally able to appreciate their way (i.e., their aesthetic) of viewing the world.

Figure 3 presupposes Figure 2. It starts from it. Indeed, it was out of Figure 2 that Figure 3 was developed (Mitroff, 1983).

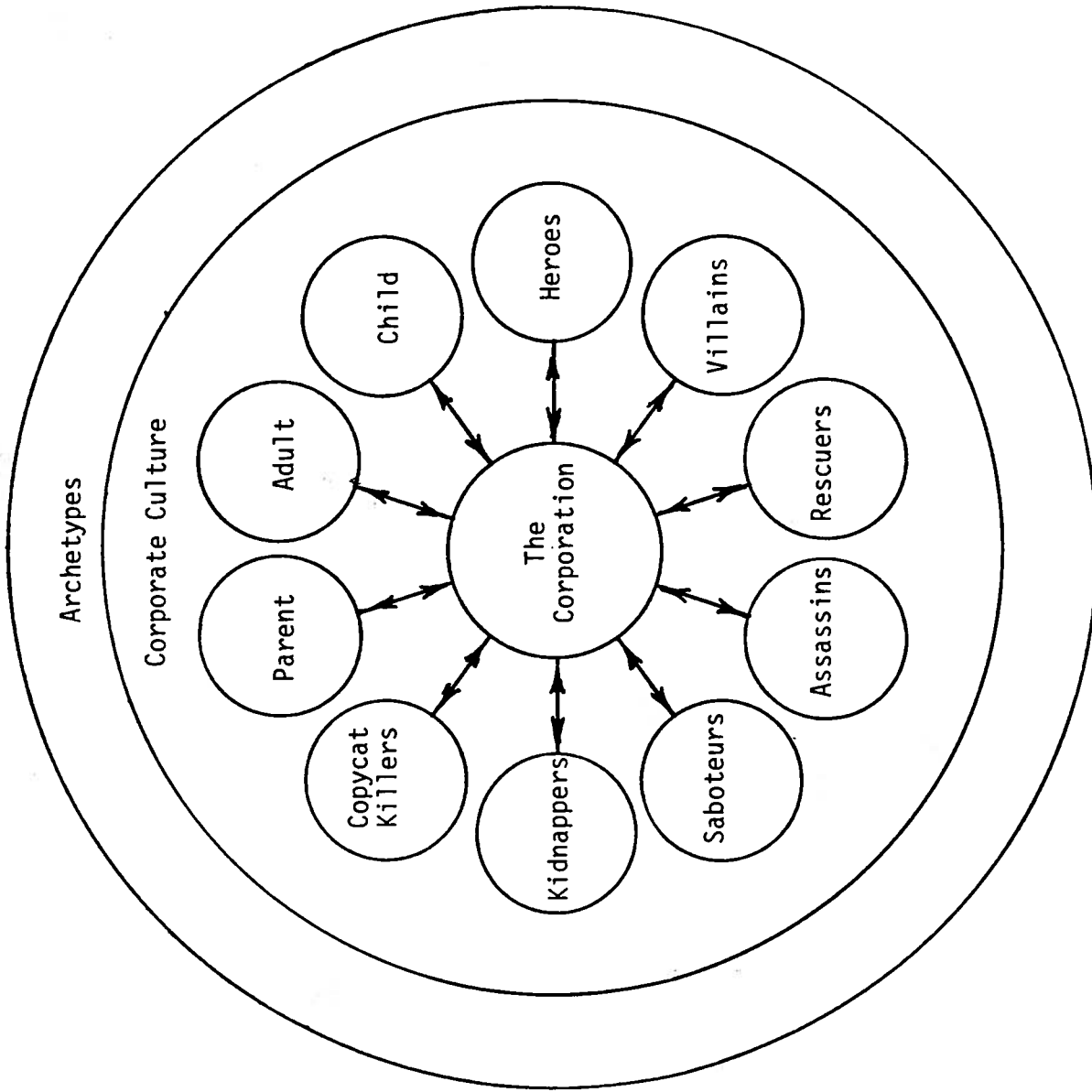


Figure 3
The World As Complex Hologram

Figure 3 adds a number of things that Figure 2 does not contain. First, it adds a number of additional stakeholder characters that Figure 2 on the whole is oblivious to. For the most part these additional characters derive from psychoanalysis in general and from the study of psychopathic and sociopathic behavior in particular (Mitroff, 1983).

Recent acts against corporations such as the placing of poison in Tylenol demonstrate that the term "stakeholder" if it is confined to such parties as suppliers, salespeople, customers, etc., is far too benign to capture the full nature of the environment in which business now operates. The traditional concept of stakeholders is too limited to capture the range of evil and bizarre characters that now potentially impact on the modern corporation. Thus, the first set of additional characters surrounding the inner circle standing for the corporation is meant to represent the impact of these other very different kinds of stakeholders on the corporation.

For the most part, the stakeholders indicated in Figure 2 represent the impact of stakeholders at the sociological or institutional level of analysis on the corporation. This level is not wrong; it is merely incomplete. Figure 3 adds another set of stakeholders which emanate from the deepest impulses which are rooted in the psychic structure of man.

Second, Figure 3 is meant to indicate (picture) that all of the stakeholders in Figures 2 and 3 are potentially in contact with one another. When men either individually or in institutions interact with one another, they do more than merely engage in impersonal economic transactions. Man is more--much, much more--than a mere economic calculating machine. He possesses more than an ego. He also possesses an id and a superego, if

one is a Freud, and a complex archetypal structure, if one is a Jung. The point is that whenever two people or two institutions interact with one another they do more than merely exchange goods, services, utilities, etc. To be sure they do this. I do not doubt or deny this for one moment. However, they also exchange something far deeper. They form images of one another. They project their hopes, fears, dreams, wishes, doubts, worries, joys, and anxieties on to one another. For instance, the recent case of Hitachi's attempted stealing of secrets from IBM is a gold mine from a psychoanalytic standpoint. It shows that whenever two competitors interact, they inevitably form a distorted picture of one another. They inevitably see the other as more evil than the other "really" is; or stronger, wiser, braver, etc.

It would take us too far afield to describe the psychoanalytic mechanisms whereby stakeholders influence one another at this level of social analysis. I have already mentioned one such mechanism, i.e., projection. There also exist other well-studied mechanisms such as compensation, identification, and introjection. Needless to say, we have only begun to study the extreme complexity of the interactions that are possible across both stakeholders and the vastly different kinds of transactions in which they are capable of engaging (Mitroff, 1983).

Man is complex not only because he engages in seemingly impersonal economic transactions but also because he engages in psychodynamic transactions simultaneously. Thus once again, it is not so much the case that Figure 2 is wrong per se as much as it is the case that it is seriously incomplete. At a minimum there is potentially a double line of influence

(economic and psycho dynamic) between each and every stakeholder in Figures 2 and 3. Man is complex because both consciously and unconsciously he engages in transactions across very different levels of social reality all at the same time, and more often than not, without his conscious awareness that he is doing precisely this.

One of the strong implications of this way of thinking is that at present we have no truly adequate theory of economics. As was remarked earlier, current economic theory is largely a theory of transactions which hold only at the level of the ego, i.e., conscious reality. When it comes to the ways in which the other aspects of man's complex psyche conduct transactions, we have no theory of economics that is based on the deeper aspects of the psyche.

There is another way in which Figure 3 differs significantly from Figure 2. Some of the most recent and radical philosophical speculations concern the proposition that the world may be akin to a hologram (Wilber, 1982). A hologram is a very interesting three-dimensional projected figure. It has the interesting property that if any part of it is enlarged or blown up, then one does not get merely an enlarged picture of the part being blown up but a fuzzier picture of the whole holographic figure! That is, a hologram has the strange property that the whole is contained in every part but not to the same degree of clarity or sharpness. If a hologram is a good metaphor for a complex social system, then is each stakeholder an imperfect recreation and projection of all other stakeholders?

Implications For A Theory of Practice

The preceding discussion should be sufficient to help understand (i.e., picture) why we have no real formal theory of practice nor any really adequate methods of applied social science. How does one do an experiment on a system of the complexity of Figures 2 and 3? How does one study a complex social system whose constitution is holographic?

If one simplifies the system down to the level of Figure 1, then one can certainly perform an experiment, but of what good are the results in helping us to understand the behavior of the parts in the context of the entire whole system? Conversely, how does one put on the psychoanalyst's couch individually, let alone two, three, ..., at a time, the various stakeholders of Figures 2 and 3?

One way out of this impasse may consist in combining the insights and instincts of both the experimentalist and the psychoanalyst. I think the psychoanalyst is needed in both the framing of a limited experiment and in interpreting the results carried back into the context of the larger system. I have no qualms with experimentation per se as long as we attempt to get to some of the real psychodynamic factors acting in both the experimenters and the subjects in an experiment. Why do experimenters project what they do upon a social situation so that they can later experiment with it, i.e., break it apart? Conversely, what must be projected upon the results so that we can put the parts back into the nature of the whole?

I think the time is way overdue to take the notion of an aesthetic of science very seriously. How do people form pictures of the systems of which they are a part? Which different kinds of pictures do they form of systems, stakeholders, and assumptions concerning them? Why do we not hire as our associates such characters as graphic artists, set designers, architects, dramatists, etc., to help us draw out pictures of complex systems?

Notice carefully that I am not advocating that we throw out any of the traditional methods in which we have been schooled. These tools are what make us scientists. I am merely saying that they are no longer enough. We need more than ever before to develop our artistic side. Why? Because I think that fundamentally what the applied social sciences are up to is how people make sense of a very fuzzy, large, complex and loosely coupled whole system. Precision per se is not how people make sense of their world no matter how much they would like precision to result.

Paradoxically enough there is an emerging tool on the horizon that may help to merge as never before the untapped aesthetic dimension of science with the more traditional analytic modes of analysis. This is the rapidly ex-

panding graphics capabilities of personal computers (see Mitroff, 1983). Computer packages are available which allow one to create, manipulate, and store exceedingly sophisticated and potent images of stakeholders.

Concluding Remarks

I have always felt that the applied social sciences seriously missed their mark by trying to ape the methods of the so-called more exact sciences (Mitroff, 1974). I have always felt that they needed something different to capture their phenomena but just what that something was never became clear until the years passed so that this paper could be written. It now seems clear to me that the inroad into the methods for the applied social sciences lies through a serious appreciation, consideration, and enactment of the aesthetic.

Capturing a complex system may be like sitting a victim before a police artist. As the artist flips over pages of different kinds of noses, he asks the victim, "Is this nose right?" Then, "Is this mouth right?" and so on. Our task is infinitely more difficult for we are trying to paint a simultaneous and composite portrait of many more actors who are intertwined in a complex world.

If every man is as much an innate though naive artist as he is an innate though naive scientist, then we owe him the dignity of allowing him to express his artistic as well as his scientific side. If he is a naive poet as well, then we also allow him the dignity of speaking in a richer language than scientific prose alone. We need more artists and playwrights in our midst to capture the drama of everyday life. Our traditional media are not up to the complexity of the phenomena we have been trying to capture for too long with only mixed success at best.

Finally, I would like to share some thoughts that came to mind as I read the excellent list of questions put together by my colleague Ed Lawler to stimulate the thinking of the participants in this conference. The first thought is that almost all of the distinctions that misguide contemporary science (e.g., subjective/objective, descriptive/prescriptive, fact/opinion) are appropriate only for the first picture of the world (Figure 1). They are either not appropriate for or irrelevant to pictures two and three. For instance, in worlds 2 and 3, there is no such thing as "description" independently of some "prescription" and vice versa (Churchman, 1971). In short, the dominant philosophy of science which is still largely a holdover from the industrial revolution is out of date for the pictures of the world that I believe are now more appropriate.

If you think I am overly critical in this regard, listen to the words of the noted philosopher of science Paul Feyerabend:

All the distinctions of the [philosophy of science] discipline (context of discovery/context of justification; logical/psychological; internal/external; and so on) have but one aim: to turn incompetence (ignorance of relevant material and lack of imagination) into expertise (happy assurance that the things not known and unimaginable are not relevant and that it would be professionally incompetent to use them) (Feyerabend, 1978, pp. 201-202).

The second thought concerns the following simple matrix:

		Academic Knowledge or Smarts	
		Hi	Lo
Street Knowledge	Hi	I	II
or			
Smarts	Lo	IV	III

I believe that as a gross oversimplification there are two very different kinds of knowledge: (1) formal or academic knowledge and (2) practitioner, "moxie" or street knowledge.

Most of us perhaps most of the time are in cell III of the matrix. That is, we have neither in depth, inside "street" knowledge of the organizations we study (we lack the intuitive knowledge of the real and for that reason largely "unwritten rules of the game" that it takes to "make it" in the organization) and we don't really have very good formal theories of organizations that explain much beyond the obvious. (I'm afraid that much that passes for theorizing in managerial science all too commonly rarely rises above the level of showing $X = X$.)

Now traditional academia or academic values stress cell IV. It values formal theory over practitioner knowledge if it even recognizes that practitioners are capable of having anything called "knowledge" at all. Practitioners are of course supposed to value or stress cell II over the others.

There is of course one cell remaining, cell I. Here is where I think our emphasis must be. It is here we must work. I don't believe we can de-

velop anything approaching an applied social science if it is not grounded in and respectful of both kinds of knowledge. To do so however requires that we develop very different conceptions of the terms "knowledge" and "theory."

Lastly, there is the thought that occurred when pondering the implications of Erik Erickson's work. Most of you are familiar with his notion of the life cycle and with the different challenges to one's identity that must be met as one ages. The thought that occurred to me is that as the kinds of questions one asks vary over one's life cycle so perhaps should the methodology one adopts to pursue the questions. As the questions that once concerned me no longer possess the same force, so it is also the case that the methods I was once so interested in no longer seem to exert the same compelling force. In a word, most of the methods that dominate conventional social science are appropriate for the earlier stages of the life cycle, what I would call the "engineering" phase of one's career. We have almost no methods or journals for the second stages of life, the reflective, the philosophical. This is intolerable. No wonder the older I get the angrier I find myself towards what we have done to that once beautiful promise called "social science."

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