An analysis of power and stress using cybernetic epistemology

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An analysis of power and stress using cybernetic epistemology

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An analysis of power and stress using cybernetic epistemology

by

Randall Robert Lyle

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GENERAL INTRODUCTION

An Explanation of the Dissertation Organization

This dissertation is organized around two papers which are to be submitted for publication. The dissertation begins with a general description and explanation of cybernetic epistemology. Cybernetic epistemology serves as the foundation for the analyses accomplished in the two papers. The Myth of Power and the Power of Myth, is concerned with examining how cybernetic epistemology alters our understanding and use of the concept of power in our lives and in our society. Toward a Vibrant Stress Model presupposes a cybernetic epistemology as it creates an alternative model for the understanding and explanation of the experience of stress in human lives. Individually, each of the papers is intended to expand the dialogue surrounding two essential phenomena of human interaction. Together, they demonstrate how a radical shift in epistemology can lead to new, creative, and I believe, more ethical approaches to human dilemmas.

The introduction and the papers are followed by a general conclusion and the references cited in the introduction and general conclusion.

Cybernetic Epistemology

Epistemology, how we know what we know, has been a fundamental problem for every area of human study. The Enlightenment and its concomitant scientific revolution was deemed by many to be the beginning of the end for this complex and difficult problem. We were convinced that as we came to know more and more about the "real" nature of "things" we would also come to an ever clearer understanding of the processes that we human beings use to "know" reality. The result of this conviction has been the reification of such disciplines as science, history, physics, psychotherapy, and sociology. In fact, any academic discipline is susceptible to the idealization of "empirical facts."

In the early 1940s Arturo Rosenblueth, Norbert Wiener, and Julian Bigelow (1948/1968) wrote a paper which Wiens (1977) states:
... in effect, announced a new paradigm in science, according to which one seeks an overarching theory to include machines and organisms; the theory would clearly involve the ideas of information, control and feedback (p. 143).

Wiener later named this new way of thinking "cybernetics," from the Greek word meaning "steersman." Wiener states:

Cybernetics is a word invented to define a new field in science. It combines under one heading the study of what in a human context is sometimes loosely described as thinking and in engineering is known as control and communication. In other words, cybernetics attempts to find the common elements in the functioning of automatic machines and of the human nervous system, and to develop a theory which will cover the entire field of control and communication in machines and in living organisms (Wiener, 1948).

Cybernetics marked the beginning of a struggle for a new way of "knowing what we know."

Cybernetics

It has been stated that all of our conclusions are already resident in our presuppositions (c.f. Bateson, 1979). Another, more technical, way of stating this proposition is that our epistemology predetermines our organization and understanding of the world in which we live; our Sitz en Leben. Cybernetics represents not only a "new field in science" but a new way of thinking and understanding; a new epistemology.

Before we go on to examine how this new epistemology may inform and transform our analysis of two distinct human experiences it would be helpful if
the reader had at least a basic introduction to cybernetics and how it works. It is to this task that we now turn.

Feedback

In order to understand cybernetics one must understand the function of "feedback."

Feedback is a method of controlling a system by reinserting into it the results of its past performance. If these results are merely used as numerical data for the criticism of the system and its regulation, we have the simple feedback of the control engineers. If, however, the information which proceeds backward from the performance is able to change the general method and pattern of performance, we have a process which may be called learning (Wiener, 1954/1967, p.84).

The most common example given to illustrate a feedback loop is a home heating system controlled by a thermostat. The thermostat in the house is set to maintain an ideal temperature range. If the outside temperature begins to fall so will the temperature within the house. When the temperature falls below a set critical level the thermostat will engage the furnace. The temperature within the house will then rise to its upper critical level when the thermostat will then disengage the furnace. This process is generally called a "negative feedback loop" and describes the process of "a circular chain of causal events, with somewhere a link in the chain such that the more of something, the less of the next thing in the circuit" (Bateson, 1972, p.429).

Feedback may also take the form of "positive feedback." A positive feedback loop can be described as a "deviation amplifying system." Constantine (1986) has used the example of a couple in bed using an electric blanket in which the controls for the blanket have been reversed. The husband finds that he is too warm and so he turns down the control on the blanket which in fact reduces the
temperature on his wife's side of the bed. The wife, in turn becomes too cold and turns her control up which increases the temperature on the husband's side of the bed. The process continues until the wife is rolled into a little shivering ball and the husband has thrown all of the covers off until he once again becomes too cold and starts the whole process all over again. This positive feedback will continue in its wild oscillations until some sort of "second order" change takes place (e.g., both awaken and complain about the temperature and thus discover the "miswiring").

Either negative or positive feedback will eventually lead to runaway escalation and schismogenesis if there is not feedback of feedback. Keeney (1983) states:

Ultimately, uncontrolled escalation destroys a system. However, change in the direction of learning, adaptation, and evolution arises from the control of control, rather than unchecked change per se. In general, for the survival and co-evolution of any ecology of systems, feedback processes must be embodied by a recursive hierarchy of control circuits (p.71).

The simple fact that either negative or positive feedback can culminate in the destruction of the basic system implies that cybernetic process is never static. Even homeostasis must be understood as a dynamic steady state where balance is maintained by a constant movement within the critical range. Likewise, understanding how feedback of feedback works enables us to understand that deviation at one level may be the necessary element for homeostasis at another, higher level of recursion.

Feedback of feedback also implies that I am more than simply an observer of certain specific circuits of recursion. I also participate in a larger circuit which includes the observed and the observer. This inclusion of the observer with the observed marks a shift or evolution into what has been called "cybernetics of cybernetics" (Keeney, p.76).
Howe and von Foerster (1974) note that "while cybernetics began by developing the epistemology for comprehending and simulating first-order regulatory processes in the animal and the machine, cybernetics today provides a conceptual framework with sufficient richness to attack successfully second-order process (e.g., cognition, dialogue, socio-cultural interaction, etc.)" (cited in Keeney, p.77).

Cybernetics of cybernetics represents a fundamental change in epistemology. Traditional epistemologies have insisted on the supremacy of "objectivity" over "subjectivity" through its belief that it was possible to exclude the observer from the analysis of the observed. For example, traditional "hard" science insists that the experimenter must always remain "neutral" in the experiment.

"Self-reference" in scientific discourse was always thought to be illegitimate, for it was generally believed that the Scientific Method rests on "objective" statements that are supposedly observer-independent, as if it were impossible to cope scientifically with self-reference, self-description and self-explanation—that is, closed logical systems that include the referee in the reference, the observer in the description and the axioms in the explanation (von Foerster, cited in Keeney, p.78).

The epistemological shift encompassed in cybernetics of cybernetics does not negate "objectivity" and supplant it with "subjectivity." Rather, it sees the two as operating in a dialectical tension which is suggestive of a larger, more encompassing understanding.

We can name this larger and more encompassing understanding ethics. Understanding that it is impossible for me to disconnect my self from the systems in which I participate (even if that participation is nothing more than
observation) shifts the focus from what (implying thingification or anthropomorphism) to how I interrelate and interact with that which I observe.

This view follows from an understanding of the fundamentals of epistemology. In order to “know,” one must first make a distinction. The act of making a distinction itself suggests a choice or preference. A therapist’s view of a symptom therefore presupposes a particular preference, intent, and ethical base. This perspective suggests that any description says as much or more about the observer as it says about the subject of description. An obvious example is a critic labeling a particular film as “absurd.” Such a description often reveals more about the critic than the film. Descriptions of clients who are institutionalized, have electrical voltage charged through their brains, or have drugs pumped into their veins give us information about their therapist (Keeney, p.81).

It is this aspect of cybernetics of cybernetics which is most indicative of the radical shift in epistemology which is the foundation for our alternative understanding of power and for our suggestion of a different means for contextualizing and understanding stress.

Paper 1 is explicit in its use of cybernetic epistemology and how this alternative epistemology might lead to new ethical and moral conclusions. This alternative view is accomplished through a consistent and intentional application of our cybernetic presuppositions to our symbolic and mythic foundations.

Paper 2 does not explicitly examine the ethical dimension of the human experience of stress. It is, rather, a practical application of the ethical conclusions of paper 1 to a human dilemma. By examining stress from a cybernetic perspective we are better able to contextualize stress as a part of the human experience; as a phenomenon that provides information for our moral reasoning;
and as an experience which provides feedback and influences our construction of reality.

It is not the intention of these papers to provide the reader with a complete explanation of the various phenomena presented. I have sought to make the reading of these papers experiential as much as intellectual. My goal is that the reader will find the same dialectical tension that is described in this work arise in their own thinking about power and stress and that out of this tension will arise a new synthesis of thought and praxis around these phenomena.

The end goal of most dissertations is explanation. The goal of this dissertation is not only explanation but understanding as well. Understanding requires the additional step of a personal appropriation of the concepts and ideas presented. As a result of this additional goal, the reader is asked to place their normal expectations of what a dissertation is like on hold. I ask you, the reader, to first experience the ideas that are contained within. The reader is encouraged to suspend belief and disbelief for their first reading. After the first reading the reader will find it beneficial to spend some time in reflection on any new horizons of meaning that may have been brought into view as a result of the encounter with the ideas and symbols contained in the work. Following this time of reflection the reader should then re-approach the text with their critical apparatus engaged.

I realize that this is not the way that one would normally approach a dissertation. However, the attempt to explicate an alternative “world-view” through the use of a different epistemology and a challenging of traditional “beliefs” seems to me to require a different approach. I can only ask the reader to bear with me and hope that the “understanding” achieved is worth the effort. This is an hermeneutic process that I am asking you to engage in, the same process which I experienced in the writing of this dissertation.
THE MYTH OF POWER AND THE POWER OF MYTH
I. THE MYTH OF POWER

Introduction

I have recently been struck with the all pervasive use of the concept of "power" in our culture. This has been most dramatically demonstrated in the recent confirmation hearings for Judge Clarence Thomas where the issue of sexual harassment brought to the fore the underlying question of power in the work-place and power in relation to the interactions of the sexes. Wherever you turn today, whether it is sexual exploitation or animal rights, the assumed solution seems to be a redistribution of power.

But what do we mean when we say power? How does power function in human relationships? Is power an empirical reality capable of being divided up amongst the competing interest groups?

None of these questions are being addressed in the current discussions about power. What I want to do in this article is to begin a discussion of the structure and function of power in human relationships. I want to at least try to present a different understanding, a dialectic if you will, to the way we seem to understand power today.

I will begin this process by first examining power as myth. Myth is here understood to be a second order abstraction on some symbol or set of symbols which are foundational for our common description of life. Myth is not understood here as "mythology," a fanciful, fictional tale. Myths are the stories we create which reflect our most fundamental beliefs and which provide a foundation for our ethics.

Since the analysis of power as myth leads directly to a consideration of ethics, this will be the second step in our attempt to create a different understanding of the structure and function of power in our culture. In this analysis of ethics we shall see that our ethical principles arise from our commonly accepted myths. This signifies that our ethics will be determined by the content of our myths and
will likewise serve as a mirror, reflecting the truth or untruth of our own self-presentation and understanding.

Finally, I will try to offer an alternative mythic interpretation of our common human relationships which might provide a different way of relating to one another and which offers a more beneficial foundation for an ethic of caring and compassion.

The Myth of Power

Before leaping into the analysis of power it seems to be necessary to spend a few moments defining some terms. The use of the term myth in this context will certainly be seen as unusual for many of my readers. Myth is generally understood in our language to be a “fanciful, fictional tale” which relates accounts of such things as the creation of the world before “science” told us how it really happened. That is not how I am using myth in this analysis. I intend myth to be understood as a second order abstraction on fundamental symbols important to our culture. An example of this would be the story which the “Star Spangled Banner” tells as it attempts to highlight meanings drawn from a reflection on the symbol of the American flag. Myths, in this sense, are the stories we tell about those things which are so important to us that our normal language is not sufficient to contain all of the possible significations.

Power, given this understanding, is the concrete conceptual schema which we use to order and interpret our lives. All of our interactions with others, with institutions, and with societal structures, will be focused through the lens of power. This is the significance and importance of myth in our corporate lives.

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The problem comes when the myth becomes so ingrained in the socially constructed reality that it is understood to be "real," empirically real. Power is particularly susceptible to this problem because we find its roots in a metaphor taken from the physical world. Power certainly exists in the world. We can measure it. We can apply it to an element of our physical universe in such a way as to move a box or fly an airplane. Power is also an empirical reality resident in our political organization. Governments cannot exist without a measure of power. Government can and does limit our physical freedom, take lives, and elicit obedience through physical coercion. Because empirical power is such a pervasive element of our daily lives it is an easy step to begin to use power as a metaphor describing our human relationships. If I can meaningfully speak of how much force it will take to move my desk from one wall to another then it seems only sensible that I can also meaningfully speak of how much force it will take to move the Senate Judicial Committee to see my view on the issue of sexual harassment. But how much force will it take to move the committee? How will I measure it? How will I know when I have exerted too much and broken it?

These questions point us to another, deeper question. Is it ever legitimate to describe human relationships in terms of power? When I say that I am trying to empower a certain group am I really saying anything? Can I measure the amount of empowerment that I give to them? Can I be held accountable if I fail to "give" them any more power?

The myth of power does indeed legitimate the application of physical metaphors to human relationships. It presupposes that we agree on what it means to be empowering and that we know when we have used enough "force" to move someone to our perspective or position. The fact that we see no contradiction in this application of purely physical measures to immeasurable human interaction is an indication of how deeply integrated the myth of power is in our social construction of reality. This is inevitable in the construction of myth. A myth which is doubted is a myth without influence. It is only when a myth has become "invisible" to us that it has sufficient influence so that our
language arises from the myth itself, further confirming that we are indeed
describing life as it "really" is.

Remember that myth draws its strength from the symbols upon which it
reflects, democracy, patriotism, nationalism, male, female, etc.. As long as these
symbols are able to reveal to us a multiplicity of meaning, a "surplus of meaning"
as Ricoeur says, then the reflection on them will continue to be convincing. Power
can thus be seen as a particularly important myth because it serves as a
reflection on a whole set of vitally important symbols. These symbols serve as
repositories of meaning for me as a citizen of the nation, as an individual with
self-worth, as a productive member of society, and as an ethical being capable
of ethical behavior. Myth, as a second order abstraction on these symbols,
provides me with the means of enacting these meanings through meaningful
actions and interactions. Without the narrowing of myth I would be lost in a sea
of meanings with no reference points to guide me.

It is at precisely this point that we meet with the dilemma resident for us in
the myth of power. Because power is encountered as an empirical reality in both
the physical world of "things" and it is also encountered in the political world of
"ideals," we find ourselves bound to the myth of power if we are to remain faithful
to our concept of ethical government.

Thus, if I "demythologize" power I will have also removed my conceptual
schema for interpreting myself in relation to my world. This means that I will
have to find another way of integrating those foundational symbols, nation,
democracy, male, female, etc., into a world view that has meaning and which
can serve as a source for creating meaningful action for me. This implies that I
can now reflect on my nation or my government in a different way than before.
I will no longer simply assume a fundamental beneficent ethic in its use of power.
I may now come to understand that while power can be used in a benign way,
any government which uses power to take life cannot be understood as benign
nor be seen as ethical. This reflection also enables me to understand that as long
as I was living within the myth of power I defined ethical behavior in myself and
in others within the parameters allowed by the myth. In fact, my ethics were
predetermined by the myth, for only those meanings allowed by the myth were made available for my reflection. I may still decide that capital punishment is necessary for the practical functioning of the State but I may now describe it as wrong though necessary. (In truth I cannot see how capital punishment could ever be seen as anything other than evil and unethical but my imagination says that it might be possible for someone to see it differently. This is not the place for an exploration of this subject but I think it would be interesting.)

Ethics, then arise from and are limited by the myth. We cannot enact that which we do not know or cannot believe. I may disagree with the common perception of what is ethical but this disagreement is really only in theory. I cannot provide any alternative schema for ethical power other than the exertion of another opposing power. This shifts our discussion to the second element, ethics and its relation to the myth of power. It is time now to examine in more detail how ethics and power are related and how ethical behavior might be changed if we were to operate from a different myth.
II. ETHICS AND THE MYTH OF POWER

“Symbols give rise to thought.” We have called these thoughts second order abstractions or myths (Ricoeur, 1967). Myths are the concretization of reflections which represent our fundamental beliefs. Additional reflection on these beliefs gives rise to guiding principles which serve to anchor our beliefs in such a way as to grant them connectedness between ourselves and others. These principles are given credence by virtue of the fact that they are agreed upon by the majority of the others in my social context. The principles that guide our moral life choices are what we name “real.” This reality is socially constructed. However, the fact that I have said it is a socially constructed reality in no way diminishes its “reality” for us. It is the only reality we “know.” The acknowledgement that all of our reality is socially constructed is simply the acknowledgement of the “how” we come to “know” what we know. Even our conviction that our empirical universe operates the way we think is a given only in the context of our social environment. It wasn’t that long ago that people were convinced that the world was flat and that planet earth was the center of the universe.

The question remains however: What are these principles which result from reflection on symbols and then myths? I believe that these “first principles” are always ethical principals. If we recall that these reflections are already at least a third order of abstraction, that is to say they are at least three times removed from the original encounter with the foundational symbols, then it is logical to assume that the time has come for these reflections to begin to give some concrete guidance to the ordering of our lives. This ordering is already taking place within a social context and it is precisely this social context which now must be given some structure and form if it is to become a functioning whole. Ethical principles are those “first principles” which provide this structure.

Where do these principles come from? How are they related to the myth and symbols from which the arose? What exactly are these principles and how do we know that they are the true ones? The answers to these questions should by
now have become obvious. Whether the principles are true or not will depend on how well they integrate the previous reflections on the foundational symbols. This integration, in turn, is dependent on how ingrained the myth has become in the social “unconscious.” I say “unconscious” because none of this process takes place in the “conscious” mind of an individual. The process of reflection is usually accomplished in an area of the mind that is not readily accessible to intentional reflection. In addition, since the process takes place over time (often generations) it is usually only available to an intentional reflection on history. It is impossible for me even to reflect on myself (whom I presumably know best) in this immediate moment. My reflection on myself requires that I suspend present time and project myself into my past, there to rummage through my past action searching for patterns of action which seem related to a self projected into some future action all the while trying to find a consistent pattern of action which relates me to those ethical principles which hold me in communion with my fellows. If I find the pattern that connects both the past self and the future self then I return to the present unchanged. If however, I should discover through my reflection that the pattern no longer connects I will likely find myself in crisis. This is because the basic principles which provide order and structure for my life are in danger. These principles serve as a touchstone from which I can determine whether my social interaction with other fellow human beings is good or evil. I presuppose the connection will be there. Reflection, of necessity, presupposes at least the possibility that it may not be there. And, it is precisely here that we meet with one of the greatest threats of the myth of power. The myth of power presupposes itself.

...[T]he myth of power is, of course, a very powerful myth and probably most people in the world more or less believe in it. It is a myth which, if everybody believes in it, becomes to that extent self-validating. But it is still epistemological lunacy and leads inevitably to various sorts of disaster (Bateson, 1972 p.486).
One of the greatest disasters which this myth leads to is an ethic which is, at its core, amoral. Power requires a morality of expediency. "It is better that one man should die for the many." Exploitation is a prerequisite for power to maintain itself. "All power corrupts and absolute power corrupts absolutely." The distinction between good and evil becomes so blurred by the self-validating nature of the myth of power as to become non-existent. The ultimate value measure for power is that it continue to be seen as ultimate reality. No measures are too extreme to perpetuate the myth and its reality.

The potential for disaster becomes truly great when we begin to reflect on the potential for further destruction of ethical principles when marriage and family therapists actively advocate for the perpetuation of the myth of power. I agree whole heartedly with Bateson when he says: "Haley slides too lightly over the real epsitemological differences between himself and me ... I believed then—and today—that the myth of power always corrupts because it proposes always a false (though conventional) epistemology" (Bateson in Sluzki & Ransom (Eds.), 1976).

If anything, I would say that Bateson did not go far enough in his critique of those who actively use the myth of power in a therapeutic setting. If our analysis of myth and its role and function in human interaction is correct then the use of power in therapy can only be seen as amoral at best. The inevitable ethical principle underlying such a therapy must be that the end justifies the means. As the end becomes increasingly reified, the means likewise become reified and thus more and more exploitive of the human beings involved. Reflection, in this scheme, is reduced to technique, technique being the interaction of two similar concepts to produce a constant result. The introduction of dialectical material is actively discouraged because this has the potential for threatening the self-validation of the myth.

The implications of this analysis are for me significant. Through the use of the self-validating myth of power, the cybernetic cycle which was so very rich in dialectical material for valid reflection on the human condition, has become the age old "vicious cycle" depicted throughout human history. While we may
see positive results in short lineal arcs of brief therapy, reflection on another level also reveals substantial dangers to our social reality and our ethical principles. All power corrupts, and as we are drawn closer to the creation of absolute power (the end goal of every power structure) the more absolute our corruption becomes.

The final question yet remains. Is there any alternative to the “vicious cycle?” Can humankind, with its thousands of years of history residing within the myth of power, have any hope for breaking out of the cycle and living out of a myth which is more inclined towards caring and compassionate human interaction? These are the questions that we will address in our third and final section.
III. DIFFERENT MYTHS : DIFFERENT REALITIES

Contrary to what the myth of power would have us believe, our lives have not always been lived out under the sway of power. Power, indeed has always had an influence on our lives, just as gravity (a concrete, empirical example of power) does. Some historians argue that the average life span of a “world-power” is about two hundred years. I think that the intervals between the ascendancy of the various “cults” of power have provided us with a variety of myths that can be reflected on as alternatives to the myth of power.

For our purposes here I want to reflect on the christian myth, particularly as it finds expression in Jesus’ “Sermon on the Mount.” I have chosen this example because of our culture’s rootedness in the Judeo-Christian tradition, and because of the sermon’s supposed centrality to our ethical principles and resulting moral life.

What is characteristic about the Sermon on the Mount is its juxtaposition of seeming opposites to provoke a reflection on what constitutes an “ethical” life. The things which are extolled as virtues are not the things which are held to be valuable by the society but rather those things which, if a society was living in accord with an ethic of love, would logically be considered as “good.” The sermon thus creates a dialectic between the symbol of love (the foundational symbol upon which the sermon is reflecting) and the symbol of obedience (a foundational symbol for the jewish people of Jesus’ time).

The dialectic created by the dialogue between the symbol of love and the symbol of obedience opens a space for a reflection on the past and a projection of different interpretations of the past onto an as yet unformed future. This recursive cycle through imagined provinces of meaning constantly reinterprets my “self” in the present. When the recursion finally closes in on itself I am able to discern a pattern which connects my past with a desired future that matches the reinterpreted self that I wish to be. Because the reflection takes place in the context of a dialogue between two seemingly opposing ideals my reinterpreted self will necessarily be an idealized self, different from the one which existed
before the reflection: the proverbial “new person.” Equally important to this now “newly” created person will be the reinterpretation of the past so that it reflects my new self-understanding. As a result, I will return again to the process of recursion with the intent of re-structuring my history in such a way that it will coincide with my new self-understanding. If the patterns remain the same in this new recursion I will emerge as an integrated and authentic self. If I discover a new connective pattern I will simply begin the process all over again. What is important for us to see here, in contrast to the myth of power, is that this process cannot be self-validating. The self recursive cycle is encompassed or enclosed by a dialectical recursion between two foundational symbols. Until one of the symbols is exhausted of all of its meanings the symbols will continue to give rise to thoughts on who I am in relation to the principles and values that each suggests.

One caveat should probably be stated here: while I believe that it is true that these myths tend to create the habit of reflection in the individuals fortunate enough to live them, it is also important that individuals cultivate the habit of reflection with some intentionality. This becomes all the more critical when we are unfortunate enough to be born in a time when power is predominate. This skill is best learned by reflection on our actions. Since so much of our action is based on an “unconscious” response to “unspoken” myths it is generally our actions that will tell us what principles we really hold. Reflection on what I did as opposed to what I think I “ought” to have done will open that same dialectical space described above which is essential to the creation of meaningful change.

What kind of ethic might emerge from our reflection on the Christian myth as represented by the Sermon on the Mount? Would this ethic be any different from that which arose from our reflection on the myth of power?

I hope that by now the answer to the second question is clear. Obviously, different myths are going to give rise to different ethical principles. The answer to the first question, however, is not quite so simple.

As we have seen, the reflection on the sermon is not self-validating. This implies that no single reflection will necessarily be the same as another. Multiple
versions of reality are not only possible but probable. But this works to our advantage in the establishment of ethical principles. The fact that no single truth is likely to emerge from our reflections on the myth signifies that additional social dialogue will be required to formulate the fundamental principles. This suggests that the reality constructing dialogue must be continually expanded in an intentional and rational way. This moves the recursive cycle to another level and broadens its impact from the purely individual, to the communal, and to the societal level. This means that space is once again created for the dialectical process to continue, thus creating additional space for creative and meaningful change at a new and more encompassing level.

What we see then is ever broadening circles of recursion, each circle encompassing the one before. Each circle is dotted with moments of dialectical reflection which creates the opportunity for a leap to a new order of abstraction, which in turn encircles more of the human enterprise in its depth. This, for me, is an hermeneutical description of Bateson's concept of Mind, or "the pattern which connects." Because the hermeneutic is reflective in nature it at least provides the possibility of choosing to respond to positive and negative feedback loops in creative and life giving ways. Because even the broadest recursive circle holds within it the kernel of self-recursion, I can simultaneously understand myself to be finitely insignificant and yet infinitely important. It is here that I place my hope. Through reflection I am always a part of the "pattern which connects" and through that connection what I do has great significance. This, for me, implies that my ethical principles must be very carefully formed and connected to the highest principles which reflection on life can offer and to seriously reflect on how the myth of power influences and directs my life and relationships. Am I creating a world in which I can live?
REFERENCES


PAPER 2

TOWARD A VIBRANT STRESS MODEL
INTRODUCTION

Since the introduction of the ABCX model (Hill, 1965) of family stress, the vast majority of family studies scholars have used this model as the fundamental point of departure for all family stress studies. However, the increased use and understanding of systems theory and an emerging consciousness of the social construction of reality has resulted in some questioning about the lineal nature of the ABCX model. The purpose of this paper is to provide a broader theoretical context for understanding stress. We do not eliminate or replace the ABCX model but provide a context in which the model can better perform its limited function.
BACKGROUND

*Families Under Stress: Adjustment to the Crisis of War Separation and Reunion* was published in 1949 by Reuben Hill. This work became the foundational theory for all subsequent study of family stress. In it Hill described a "roller coaster" pattern of adjustment enacted by families in stress. This pattern saw families existing in homeostatic balance until a stressor event occurred which then caused the family to become disorganized. A process of trial and error was then used by the family until successful resolution of the crisis at which time the family returned to a homeostatic state.

This patterned behavior, homeostasis—stressor event—crisis—resolution—homeostasis, led Hill to the development of the ABCX model which functioned as the explanatory model of the descriptive analysis presented above. The ABCX model is made up of these variables: A—the event which precipitates the crisis, B—the resources which the family has to respond to the event, C—the perceptions of the family which define the event as stressful or not, and X—which is the outcome of A, B, and C, the severity of the crisis. Later work with this model first added the idea of a continuum to the X variable which expanded the range of possible outcomes from maladaptation to bonadaptation. As the model continued to be used and refined by later family studies scholars it was noted that the model tended to exist outside of any actual context. "We do not have a complete understanding of the process of families under stress. ... it is argued that understanding will not occur unless we attend to the multiple interdependent levels of the social system: individual, dyadic, familial, social network, community, and cultural" (Walker, 1985). As a result, the "Double ABCX" model was created (McCubbin and Patterson, 1982, 1983). This model seeks to,

redefine precrisis variables and adds postcrisis variables in an effort to describe (a) the additional life stressors and strains, prior to or following the crisis producing event, which result in a pile-up of demands; (b) the range of outcome of family processes in
response to this pile-up of stressors (maladaptation to bonadaptation); and (c) the intervening factors that shape the course of adaptation: family resources, coherence and meaning, and the related coping strategies (Lavee et al. 1985, p.26).

While the Double ABCX model did accomplish the difficult task of placing the families experience of stress in a more contextual setting and it recognized that crisis could be a response to a “pile-up” of stressor events rather than to one single isolated event, it was still a lineal model of cause and effect with a limited ability to distinguish between different levels of the social system, an unclear understanding of resources and their function in perception, and an inability to effectively relate perception to event in any but a linear fashion. A case study may help us to understand some of the limitations of the ABCX model.

Mrs. Smith, aged seventy-nine, whose mental and physical condition had been deteriorating for several years, fell and broke a small bone in her leg. The cast that was put on the leg created a pressure sore which would have become gangrenous without constant attention. As a result, Mrs. Smith was put in the hospital in an attempt to save her leg. Ned Smith, Mrs. Smith’s son paid for the hospitalization and the nursing care for his mother. Mrs. Smith had also required a live-in companion for the past five years and the cost for this had also been assumed by Ned. Ned was beginning to feel the financial strain of caring for his mother. Ned was married and had one child and another on the way.

Ned had some important decisions to make. His mother had practically stopped walking before the accident so the surgeon was encouraging Ned to allow him to amputate the leg. Ned was the only child; his father having died 25 years previously. To
further complicate matters, Ned could not communicate with his mother and he felt that the decision was entirely up to him. Ned leaned towards doing whatever was necessary to save his mother's leg, but at the same time he realized that her time was limited and that she could die any time. Ned's life was further complicated by the fact that his wife was upset by the financial burden that Mrs. Smith Sr. represented. Additionally, Ned's aunt was constantly criticizing him and his employer was beginning to get concerned about all of the time he was taking off from work.

As a result of all the pressure that Ned was feeling, he began to contact extended family and friends, both to inform them of what was going on and to solicit their advice. Much to his surprise, many of them began to phone and write with messages of support and help.

Mrs. Smith Sr. remained the same for quite some time and then, rather miraculously, her leg began to heal. She was able to return home but shortly after her return, a visiting nurse wrapped a bandage too tightly and Mrs. Smith developed gangrene. She returned to the hospital where her leg was amputated.

Ned was able to secure financial assistance for his mother's care and this alleviated some of the financial burden that Ned was feeling. As a result, Ned's wife was able to relax some and she and Ned were able to talk about the situation in such a way as to alleviate some of the concerns that each had. Their conversations seemed to relieve some of the marital pressure that Ned had been feeling and they were better able to support one another both in relation to Ned's mother and in other situations as well.
Mrs. Smith Jr. was able to share some of her difficulties with her congregation and they decided to take on some of the burden of Mrs. Smith Sr.'s care. She was frequently visited by members of the congregation which meant that Ned and Mrs. Smith Jr. were relieved of some of the constant care.

As the network of those involved in Mrs. Smith Sr.'s care enlarged, Ned found that he was able to communicate better with his mother and was able to genuinely enjoy her company in her more lucid moments.

One of the first difficulties that we note when we seek to apply the ABCX model to this case is the question of just exactly which event is the “real” event? Is it the fall? Is it the amputation? Is it Mrs. Smith Jr.’s pregnancy? Without making some very fundamental assumptions we really cannot state with much certainty just what the “event” is. And if we do “name” the event, then what is the “crisis.”

Additional difficulties can be seen with perceptions and resources. We can make a good case for describing Ned’s improved perceptions as his greatest resource for adapting to the stress of his mother’s failing health. Are his perceptions resources then? Within the category of resources we can also define Ned’s wife as both a positive (social support) and a negative (a lack of support) resource, the only variable being time. If we analyze Mrs. Smith Jr.’s function at the beginning of the case then she is seen as a negative. If we analyze her role toward the end then she becomes a positive resource. If this was a purely logical lineal model (as it seems to be) then the wife should cancel out as an effect and not be a factor in adaptation; of course, this is not the case.

Another common criticism of the ABCX model is its failure to adequately account for social context, values and beliefs, and the impact of life events on the entire process (Walker, 1985). We can describe the congregation and the network of family and friends as adaptive resources but this does not really help
us to understand how or to what extent they are an aid or a hindrance to adaptation. Likewise, if Ned did not perceive family and friends to be a resource, would they continue to be a resource in this model? Would they still be helpful even if Ned did not perceive them as helpful?

A final, and even more critical concern is how does the person applying the model know what Ned's perceptions are? This presupposes an external observer who is able to "deduce" the perceptions of those involved. The fact of the matter is that we have assumed that Ned is experiencing stress in this situation. However, if Ned does not perceive himself to be under stress and in crisis then there is no stress and no crisis.

The ABCX model may do a good job of providing an understanding of short term, cause and effect relationships but as our case study clearly demonstrates it encounters serious difficulty when confronted with multiple stressors and the confounding of variables due to time. Likewise, it has no mechanism for understanding the perceptions of the individuals or systems involved, which is critical for determining if a crisis even exists.

The Vibrant Stress Model, because of its systemic nature, is better able to cope with the multiple stressors and additional variables. Additionally, perception, context, and multiple levels of interaction can be addressed by this model.
VIBRANT STRESS

A negative feedback loop serves as the first component of our Vibrant Stress Model.

Negative Feedback Loop

One of the major difficulties with Hill’s initial description of stress adjustment was the notion that stress was a singular experience. Stress, in this description, was understood as being a singular response to a single precipitating event. The family existed in a homeostatic state until some event came along which caused disorganization in the family which, in turn, caused the family to try a variety of responses until one worked which then caused the family to return to a static, balanced state. While Hill acknowledged that the family might return to a higher or lower level of functioning than before, it was still seen as basically a static, cause and effect relationship.

Later systems theory has given us a more dynamic understanding of how homeostasis functions within a negative feedback loop. Negative feedback has commonly been described as similar to the functioning of a thermostat in a home heating system (Constantine, 1986). The thermostat is set to establish the parameters of homeostasis in the home. If the thermostat is set for 70 degrees for example, and the temperature outside begins to fall then the thermostat will turn on the furnace when the temperature inside falls below a certain critical point. Once the desired temperature has been achieved inside of the house then the thermostat turns the furnace off. This cycle constantly repeats itself until some outside variable intervenes (e.g., the home owner turns the thermostat off because summer has arrived).

Two important elements of the negative feedback loop are critical for our purposes. First, homeostasis is achieved through a dynamic process of adjustment. Like the tightrope walker, balance is maintained through the constant motion of the balance pole. The closer we look, the more we see that any crisis in the balance of the family will be the result of perhaps hundreds of adjust-
ments. The family is involved in a constant process of responding to "mini-crises" (e.g., "daily hassles") as it strives to maintain homeostasis.

Secondly, it is important to note that crisis and coping is a response to both internal and external pressures. It does not necessarily require an external event to set the process in motion. As noted above, the entire process is constantly in motion. What is required for coping may need to increase as the dynamic range of experienced stress increases, but as long as the stress remains within the limits of the system, then balance will be maintained and a major crisis avoided.

As will be seen later, the ABCX model is integrated within this portion of the theory. Figure 1 shows how stress is perceived as a constant presence in the life of the family. Crisis and coping are a constant process going on all around the cycle in response to pressures from within the family or from without. Stressor events in this portion of the model are understood to encompass normative transition types of events.
FIGURE 1. Negative Feedback Loop with Double ABCX model.
An example of how this portion of the vibrant stress model works might be helpful. Let us imagine that a particular family has a young adolescent member. The transition from late childhood to adolescence can be understood as a normative family transition. It is something that all families with children experience. Our experience of our own adolescence, our experience of other families with adolescent children, our reading and study, our culture and traditions all combine to help us understand and contextualize this experience. Because the transition implies change, it is possible that we might perceive this transition to be a crisis. If the changing behaviors and demands are not too extreme our resources and perceptions will combine to enable us to cope with the transition within the dynamic limits of the homeostatic balance of our family.

This we would call first order change. The structure of the family may have changed but the fundamental organization of the family remains the same (Keeney, 1983).

The process of coping can be analyzed at any level; How does dad cope with his adolescent son? How does the family cope with this budding adult? How do the schools, churches, and other social institutions cope with the changes in this individual and his family? The elements of analysis change with each level but the dynamics of homeostatic balance, the give and take between crisis and coping, remain the same at each level of analysis.

As with our thermostat example, the family is experiencing a constant flow of information, perceptions, behaviors, experiences, and internal and external pressures which keeps it moving from crisis to coping in a never ending cycle.

Normative transitional stress does not, however, describe the totality of our experience of stress in our lives. Precipitous events and the "pile-up" of normative stress can both result in a level of stress well beyond the coping ability of a negative feedback loop.

When we experience stress in our lives that is beyond the deviation dampening range of our coping mechanisms we discover that our "organization is no longer capable of maintaining the 'balance' in our family system. What is
required if stability is to be achieved is a ‘second order change’.” This level of change represents a change in perception as well as structure (Keeney, 1983). This leads us to the next element of the vibrant stress model.

**Positive Feedback Loop**

For our purposes, a positive feedback loop can be understood as a process which, rather than trying to diminish crisis as in negative feedback, tries to effect change by amplifying the coping/crisis cycle. This represents an impetus toward second order change. Let us return to our example of the home heating system. Imagine that John comes home and decides that the house is too warm and stuffy. Rather than turning down the thermostat he opens a window. When Mary comes home she decides that the house is too cool and so she turns the thermostat up. John notices that the house is getting too warm again so he opens another window which results in Mary turning up the thermostat again, and so on. No system can continue on forever in this manner. Eventually, either John or Mary will figure out what is happening and so close the windows and adjust the thermostat to a level acceptable to both, or the furnace will blow-up, or the utility company will turn off the power because they can't pay the outrageous bill. The point is that a positive feedback loop will of necessity require new perceptions (ie. second order change) and resources in order to stop the runaway escalation and provide an opportunity for homeostasis.

In the case of our family with an adolescent child we can imagine a positive feedback loop which develops as follows: One day the parents receive a call from the principal asking them to come to the school. It seems that the child has

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1 “What is sometimes called ‘positive feedback’ or ‘amplified deviation’ is therefore a partial arc or sequence of a more encompassing negative feedback process. The appearance of escalating runaways in systems is a consequence of the frame of reference an observer has punctuated. Enlarging one’s frame of reference enables the ‘runaway’ to be seen as a variation subject to higher orders of control” (Keeney, P.72).
developed a strong interest in the opposite sex and is spending all of his/her time passing notes, talking, and giggling in class. As a result, the child is failing Introductory Algebra. Dad happens to be an engineer and has always wanted his child to follow in his footsteps and so over-reacts and grounds the child for a month. The next night when they call the child for dinner it is discovered that the child has climbed out the window and is nowhere to be found. When the child eventually returns the child is thoroughly reprimanded and grounded for the rest of the semester. The next morning mom discovers that the child is not in his/her room. A frantic search discovers that the child slipped out in the middle of the night and stayed with a friend. Dad calls the police and asks them to pick-up the child and return him/her home. This results in the social worker arriving at their doorstep informing the family that there will now be a hearing on whether or not they are fit parents, etc.

As noted above, a system cannot escalate forever. Eventually, either a change of perspective from within the family or a mandated change in perspective from outside will produce a coping strategy for the family. Perhaps the child will be removed from the home (enforced change in perspective and structure), or maybe dad will decide that he has been over-reacting and will back-off and give the child more space (a change in perspective from within or a “second order change” in perspective). Whatever the outcome, some form of coping will have been achieved in response to an extreme stressor event (e.g., adolescent acting out) or to a pile-up of stressors in the family’s daily life (e.g., adolescent acting out, failure at school, rebellion, and argumentativeness).

It should be evident by now that the Vibrant Stress Model requires more than a simple change in methodology. It really represents a shift in our epistemology. The need for this shift can be readily seen when we examine how a lineal model tries to cope with all of the necessary variables for an adequate description of our experience of stress. The “Family adjustment and adaptation response model” (FAAR, McCubbin & Patterson, 1982) is one such lineal model. In essence, what McCubbin and Patterson did was to add all of the elements previously discussed to the “Double ABCX” model in order to try to make the
model function in a more systemic and process fashion. The result is a lineal model so complex as to be nearly unusable. Additionally, the model still only gives passing notice to such essential variables as perceptions, time, socio-cultural influences, and others already mentioned. However, if this model is transposed onto the Vibrant Stress Model we can see that all of the elements described by McCubbin and Patterson are still there and can now be described in their relationship to one another and to the broader socio-cultural, developmental, and temporal realms as well.

For example, if we take that portion of the FAAR model labeled “Adjustment Phase” and imagine it as a circular process where “Bon Adjustment — Mal Adjustment” feeds back information to the “stressor” (a), then we have described a negative feedback loop. Likewise, if we do the same thing to that portion of the model labeled “Adaptation Phase” and we connect “Bon Adaptation — Mal Adaptation to Crisis (x) we have a potential positive feedback loop. Explaining how the two loops are connected is the task of the following section of this article. In the meantime, what should be evident at this point is that by providing a means for information to be fed back into the system we have greatly simplified the cause and effect relationships involved in any specific event. As a result, the FAAR model can be reduced to a simple “Double ABCX” model which is asked only to operationalize the experience of stress in relation to a specific stressor event.

The question remains, however, of how our negative feedback loop and our positive feedback loop are integrated in our Vibrant Stress Model.
INTEGRATION: STAGE I

The Vibrant Stress Model is made up of two feedback loops which are interlocking elements of the human experience of stress. Figure 2 shows how the two loops are connected. It is important to note that the two cycles do not overlap but in fact only connect at one point around the cycle. This graphic representation results from our belief that each loop has a separate and distinct function depending on the severity and nature of the stressor involved. While it is certainly true that dysfunctional families may live in one or the other cycle all of the time, this is to our mind indicative of the dysfunction of the family. "Normal" families move back and forth between the two according to internal and external needs to respond to a variety of stressors.

We describe the point of contact between the two cycles as a switch. The family is not able to voluntarily throw this switch in order to change from one loop to the other. Rather the switch is activated by the family's response to stressors in their environment. As long as the family's coping/crisis process remains within the limits of their system's homeostatic balance then the family will proceed to operate within the confines of the negative feedback loop. If however, the stressor(s) push the family balance too far out of range then the switch will be activated and the family will move to the positive feedback loop. The family will continue to function in this loop until sufficient coping has been achieved which opens the switch once again and the family returns to normative functioning in the negative loop.
FIGURE 2. Interacting Negative and Positive Feedback Loops.
In other words, the family experiences a “second order” transformation. This transformation expands the repertoire of coping strategies available in the negative feedback loop, thus expanding the range of “control.” For the sake of simplicity we have described the family as returning to the same negative loop from which they came. In fact, the family returns to a different loop, one which functions at a higher order of abstraction than the previous one. The second order change always implies a transformation of the previous order.

This movement back and forth should not be construed as movement up in a developmental sense. The family may return to the negative loop at a higher or lower level of functioning than they had before. What is certain is that the family will return to the negative loop changed in some fundamental way. It is our contention that what level they return to can be predicted by the coping strategy which is “discovered” on the positive feedback loop.
ABCX AND VIBRANT STRESS

We mentioned above that the ABCX model was not eliminated in our model of stress. One of the common excesses of systems thought has been that since everything is circular and cyclical then it is wrong to ever think in lineal terms. We do not agree with this perspective. As Keeney has pointed out, (Keeney, 1983) while the earth is indeed round, if you're going to build a tennis court you will want to build it on a flat piece of ground. It is possible therefore to punctuate the circle with short lineal arcs which can be described using empirical, cause and effect language. Thus, at any point in the cycle it is possible to select a specific event and apply specific hypotheses, measures, and outcomes using the ABCX model. For example, we can describe the arc between points a and b in figure 1 as one such "partial arc" which would then represent a specific event for analysis using the ABCX model (e.g., Ned's mother's amputation measuring the congregations support as a specific resource). This, to our mind, has the positive effect of removing the burden of global explanation from the shoulders of the ABCX model, something it was never capable of doing anyway. This implies that studies such as Lavee's, "The Double ABCX Model of Family Stress and Adaptation: An Empirical Test by Analysis of Structural Equations with Latent Variables" (Lavee, et. al., 1985) are perfectly appropriate if they are understood as being limited to explaining a specific response to stress and crisis on a short arc of the broader cyclical pattern of the human experience of and response to stress.

The Vibrant Stress Model is amenable to a broad variety of empirical testing. We believe these tests would result in a confirmation of the overall theory. One example has already been given; predicting the adjustment level of a family from the coping strategy found in the positive feedback loop. We believe that there are any number of ways that short arcs in the cycle might be identified and operationalized in such a way as to provide empirical verification of the larger theory.
One further task remains to be accomplished before we can call our vibrant stress theory complete. Up to this point we have focused on the experience of stress for the family. We have not yet placed the family in its social context and described how this relationship interacts with the double loop process. It is to that task that we now move.
EMBRYONIC SYMBIOSIS

The last element of our vibrant stress model is one of the most critical for a global description of the human experience of stress and the means of coping. We call it the embryonic sac as a way of elucidating the organismic relationship which exists between the family and the socio-cultural milieu in which the family exists (Figure 3).

Like its biological counterpart, the embryonic sac is filled with all of the elements essential for life. In it can be found a common stock of knowledge, biological data, values, traditions, and a variety of structures which inform, enlighten and limit the family's range of coping behaviors and skills. The relationship between the two is symbiotic. What is resident in and effects the sac also effects the family and vice versa, though the degree and the range of effects may differ.

As can be seen in Figure 3, the double feedback loop exists within the embryonic sac. It is probably best to view the sac as a sphere rather than as a simple circle and the loop as capable of movement within the sac, moving closer to one side or the other, or drawing more elements from one part of the sac rather than from others.

The embryonic sac graphically depicts the autonomous nature of the family system. It is essential that we understand that autonomy is a fundamental characteristic of all whole systems. "The autonomy of living systems is characterized by closed, recursive organization" (Keeney, 1983, p.84).

A system's highest order of recursion or feedback process defines, generates, and maintains the autonomy of a system. The range of deviation this feedback seeks to control concerns the organization of the whole system itself. If the system should move beyond the limits of its own range of organization it would cease to be a system. Thus, autonomy refers to the maintenance of a
systems wholeness. In biology, it becomes a definition of what maintains the variable called living (Keeney, p.84).

The embryonic sac then, represents this closed, recursive nature of whatever system we are dealing with (individual, dyad, family). Stressors are experienced by the system as perturbations of the whole system. And it is the whole system which responds by either dampening or amplifying the deviation as a means of

**FIGURE 3.** Negative and Positive Feedback Loops Interacting within the Embryonic Sac.
maintaining the stability of the organization then the organization will change. In other words, the organization (i.e., system, organism) will die.

Again, the closed organization, autonomy, or wholeness of a system, say, a family, cannot change, or there would be no family. If a family system loses its autonomy, it would not be distinguishable as a unity. In that regard, it would cease to be a recognizable whole (Keeney, p. 86).

Understanding that each system is autonomous enables the stress researcher to look for specific perturbations at specific levels of recursion and whether these perturbations are engaged by a positive or negative feedback loop. This will substantially simplify the task of operationalizing the experience of stress. Likewise, it opens the way for much more specific hypotheses about the elements used for resources. Finally, understanding that any whole system is an autonomous system should eliminate the researchers habit of mistaking his/her own perceptions for those of the family. The experience of stress will always be defined by the perceptions of the system which perceives itself to be “in stress.”
CONCLUSION

The human experience of stress is an exceedingly complex phenomenon. Over the past 40 years family studies scholars and researchers have struggled to fit the phenomenon to a limited model which requires that the data be fixed in a linear pattern of cause and effect. While this work has provided a vast amount of understanding for specific elements of the experience of stress and its results, the model has done little to help us to understand the broader implications and functions of stress in our human existence.

The Vibrant Stress Model seeks to apply some of the new theoretical knowledge gained in the past 40 years to the problem of stress as a better way to describe and provide a theoretical foundation for the understanding, explanation and prediction of outcomes as related to stress in our lives. Much of the explanation and probably all of the prediction will continue to be dependent on empirical studies done by family studies researchers. The placement of the Double ABCX model within our broader and more inclusive theory should, we believe, facilitate this research.

We do not believe that the Vibrant Stress Model provides the final word in theoretical development about stress. We do believe that it provides a more encompassing model that better reflects the actual experience and structure of our relationship with stress. We hope that researchers and theoreticians will add to our theory and that eventually we will have developed a more thorough understanding of stress which will be of benefit to all as we deal with the ever constant presence of stress in our lives.
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GENERAL CONCLUSION

Introduction

Our conclusion must function as both a synthesis and an elaboration. The synthesis will attempt to explicate some of the common elements which our new epistemology provides in two different forms of analysis. The explication portion will attempt to elaborate a methodology for interpretation, a hermeneutics, which can be used in the analysis and explanation of human experience.

Synthesis

Paper 1 can be understood as a phenomenological analysis of how humans create meaning and how that meaning is concretized in our social structures, values and interpersonal interactions. We accomplished this analysis by following the path of the myth of power from its roots in the foundational symbols of our society through the second order of abstraction represented by myth to its eventual explication as a moral code of our society.

As mentioned earlier, we believe that all of our conclusions are resident in our presuppositions. Paper 1 sought to make explicit through an analysis of the human experience of power not only the presuppositions of individuals but those of the broader society as well. By establishing cybernetic epistemology as our organizing principle we discovered that our analysis had to move backwards, toward an explication of underlying principles, before it could move forward, toward a creation of new meaning, a new Sitz en Leben.

This movement backwards represents a searching after the causal links in a cybernetic circuit encompassing not only social interaction but history as well. Our epistemology shifted our historical search away from historical “facts” toward a search for patterns of historical significance for the creation of human meaning.
In our search for patterns of significance we discovered two essential elements to all meaning creation. The first is that all meaning creation occurs through a dialectical process. The second is that this process usually occurs through the creation of or an encounter with metaphor.

We define dialectic as the encounter between two seemingly opposite principles or ideas in such a way that reconciliation, while seemingly impossible, is absolutely essential. The tension created through this encounter is what leads to the "learning" inherent in cybernetics of cybernetics. Synthesis becomes possible in this encounter because the encounter is always metaphorical. Unlike a simile, metaphor leaves the connective principle silent.

For example, if I say to a client, "You seem to be a real paranoid." I have already limited the number of ways that the client can understand himself. However, if I say, "When I am with you I feel like I am on one of those photographic safaris in search of some wild and elusive animal." I am leaving the conclusion blank and the client can choose a variety of ways of understanding.

This pattern of significance remains consistent when we move our inquiry from meaning creation to understanding a common human experience such as stress.

Paper 2 establishes a dialectic between the lineal concept of stress as exemplified by the ABCX Model and a cybernetic model as exemplified by the Vibrant Stress Model. The ABCX Model presupposes a direct lineal, cause and effect relation between specific stressor events and the amount of stress experienced. These presuppositions are founded on a epistemology of rational empiricism which believes that the world is known through verifiable empirical data which are known by careful rational experimentation on "objective" realities which exist in the "real" world. This epistemology stands in stark contrast to the cybernetic epistemology which, as we have seen, understands reality to be an ever changing reality which is defined by a circular causal chain of events which are always subject to interpretation. The rational empiricist believes that s/he can stand outside of the phenomenon and thus describe the
phenomenon as "it really is." The cybernetician understands him/herself to be a part of the phenomenon observed and believes that the phenomenon will be influenced by and through the observation.

We say that the ABCX Model reduces the experience of stress to a simile. This does not negate the model: life sometimes works as if event A in conjunction with resource B and perception C results in crisis X. However, we believe that it is more consistent with the actual experience of stress to understand stress as one potential interpretation of a series of connected events and experiences; each experience moving the broader system towards some sort of homeostasis. This more "metaphorical" description implies that stress can be defined in a variety of ways. It can be interpreted as either good or bad, problematical or beneficial, destructive or creative. That is to say, the metaphorical description establishes more dialectic complementarities which in turn present the possibility of new meaning creation.

Both papers are built on a cybernetic epistemology. If we are to remain true to our epistemology we must understand the world to be a "reality" which is intersubjectively created. There is no "really" real other than that which we corporately determine to be real. Our reality is always constructed through meaningful dialogue (dialectic) with one another, with our history (both corporate and private), with our available stock of knowledge (sedimented layers of previous constructions of reality), and our biological data (our genetic heritage and biological necessities). Any analysis proceeding from these presuppositions will necessarily highlight an entirely different portion of human experience than have traditional empirical epistemologies. The two papers in this dissertation are examples of how this new perspective understands our world and each seeks to point to new ways of experiencing our world that are more humane and more ethical.
Elaboration

As was mentioned in the introduction to this dissertation, the goal of this work is not only to provide an alternative explanation of the human experience of power and stress but to also have the reading of these papers be an experience of the process of thinking cybernetically.

It is logical to assume that a different epistemology is going to require a different means of analysis. Scientific experimentation or statistical analyses are unlikely to provide us with solutions to dialectical dilemmas. It is important therefore, that we provide some elaboration of the methodology implicit in both of these papers.

The method of analysis used in both papers is what we call hermeneutics. Literally translated, hermeneutics means interpretation. Hermeneutics has been used differently throughout time; for Aristotle hermeneutics was the interpretation of logic; for Plato it was the method for understanding obscure sayings. Its most common and consistent use has been as a method for the interpretation of “sacred” texts such as the Bible. Over the last forty years hermeneutics has been used as a method for understanding human action and the meaning inherent in that action. It is this latter application of hermeneutics that is of interest to us and it is to the explication of this methodology that we will now turn.

Hermeneutics

The application of hermeneutics to human interaction revolves around the belief that meaningful human action is analogous to the experience of meaning creation in the reading of a written text. In order to justify this analogy we must have some idea of how a text is like meaningful human action.

The first similarity between a written text and meaningful human action has to do with content. Reading a text has significance beyond the immediate moment. The content of what I have read will continue to influence my thinking.
long after I have finished reading the text itself. Likewise, the content can be identified and thus interpreted. The text not only speaks to me but it also acts upon me. This is also true of meaningful human action. Such action leaves its mark. Its influence continues to be felt long after the action itself has ceased. As with the written text, there is a content to meaningful human action which can be identified and interpreted and which continues beyond the action.

A second similarity between meaningful action and written texts is that each has the potential for unintended consequences. Once a text has been written, the intentions of the author are of secondary importance. What is of primary importance is what the text itself means. We might say that once the written word is shared in the public domain it takes on a life and meaning of its own, regardless of the author’s intentions. Meaningful action functions in a similar fashion. For example, a therapist might compliment a client on how attractive she looks, intending to raise her low self-image and esteem. The client, however, understands this to be a message of attraction and invitation. She goes home and tells her husband that she wants a divorce because she has found someone who loves her and finds her attractive just the way she is. The therapist’s actions, while well intentioned, resulted in a painful crisis for the client and her family. The fact that meaningful action always has the potential for unintended consequences raises an important ethical concern. Once we are aware of this potential in meaningful action the statement, “I did not intend for this to happen” becomes an insufficient response to the question of taking responsibility for one’s actions (Capps, 1984).

Written texts are openings to new horizons of meaning. That is to say, texts may disclose or create new worlds which were not visible before we encountered the written text. Meaningful action, similarly discloses or creates new worlds. A meaningful action develops meanings which can be actualized or fulfilled in situations other than the one in which the action first occurred. For example, the confrontation of the woman with her husband in the previous example may disclose for the first time to the husband that all is not well in his marriage and
that joining his wife in therapy may be his only chance to maintain their relationship.

Finally, written texts and meaningful actions are always open to reinterpretation. We can go back and read a book time and time again. Each time we may “get something new out of it.” Likewise, meaningful action can be returned to and each return will provide the opportunity for new thinking; and through the new thinking, new action.

It should be clear by now that the application of hermeneutics to meaningful human action is basically the application of the presuppositions of cybernetic epistemology to significant human interaction. What is of interest to us is always that which has significance. Meaningful human action, like significant interaction has a content which is identifiable and which is capable of interpretation. This content is capable of producing unintended consequences and these consequences may disclose new horizons of meaning, new worlds. However, the process of world disclosure is not determinate. Rather it is recursive in nature and always holds out the possibility of new constructions of reality; new understandings of significant human experience.

Hermeneutics is a method for the interpretation of meaningful human action. The interpretation begins with a guess as to what the action means. This is followed by attempts to validate the guess and culminates in comprehension of the action (Capps, 1984).

The guess is an act of preunderstanding. The guess arises naturally out of my critical perspective. If I am a therapist operating out of the Mental Research Institute’s school of systemic therapy my guess will likely be related to recursive feedback loops in which the solution has become the problem. If I am a therapist trained in a traditional psychodynamics approach then I will guess that the problem is related to psychological trauma experienced in childhood which resulted in a malformation of the psyche in adulthood.

The validation of the guess is an act of explanation. Once I have my guess I will begin a process of validation that will seek to determine if my guess coincides with the action. The question which this stage of the process seeks to answer is,
"Does my guess sufficiently explain the action?" If the answer is "no" then I must make another guess arising from a different critical perspective. If the answer is "yes" then I can move on to the next stage of the process, comprehension.

Comprehension is an act of understanding. Understanding implies a personal appropriation. "The ultimate goal is to comprehend an action through appropriation of its meaning, and this means gaining an understanding of its world-disclosive power" (Capps, p.41). Understanding as an act of personal appropriation is the step which distinguishes hermeneutics from traditional methods of analysis. The first two steps of the hermeneutic process really differ very little from traditional empirical methodology. It is the process of seeking to understand the world disclosed by human action so thoroughly that I can claim it as my own which enables hermeneutics to function as a method true to the presuppositions of a cybernetic epistemology. Meaningful action leads to a guess. The validation of the guess leads to explanation. Adequate explanation leads to understanding which is always understanding of world disclosure. The world disclosed leads back to the meaningful action and a possible reinterpretation by beginning the entire process all over again. This process operates in complete agreement with the epistemological presuppositions which cybernetics proposes.

Final Conclusion

We began this work with a synopsis of what cybernetic epistemology is and how it informs the analysis of the myth of power and the experience of stress. In paper 1 we provided an alternative understanding of the myth of power which made explicit the different conclusions reached when we use different epistemologies. We also sought to point to some of the ethical dilemmas that different epistemologies may create and to describe one possible resolution to our current moral malaise.

Paper 2 assumed the presuppositions of a cybernetic epistemology and through the establishment of a dialectic with the ABCX model of the experience
of stress created a new model which, we believe, offers a more helpful way to understand stress, rather than simply explain it.

Our conclusion made explicit many of the commonalities of the two papers and showed how when viewed together the two papers provide not only an explanation of specific human phenomena but also an experience of a cybernetics of cybernetics. In order to make this experience possible we postponed until the end an explanation of the hermeneutic methodology which was used throughout the work. The hermeneutic methodology is itself recursive in nature and the conclusion of the entire work with an explication of the method hopefully directs the reader's attention back to the world disclosed by the analyses thereby once again creating the possibility for a new creation. I hope that this work may function as a symbol, that which gives rise to thought, and that that thought may give rise to an ever more comprehensive understanding of the human enterprise, life.
REFERENCES


