A series of articles has recently appeared in which implications of second-order cybernetics for the practice of family therapy have been discussed. In this article, we attempt to advance the discussion by addressing ideas that we think have not been adequately emphasized thus far. Specifically proposed are ideas about conditions that might facilitate the emergence of consciously pragmatic strategy informed by the kind of systemic wisdom that delicately balances natural systems without the benefit of human planning. It is argued that a shift in the personal habits of knowing and acting that typically organize individual human experience is required. After attempting to specify what this shift might involve, implications of these ideas for the practice of family therapy and for human action in general are discussed.


While first-order (simple) cybernetic thinking has been of unquestionable value in promoting the development of systemic family therapies, there has been a growing concern in our field over the limitations of a first-order perspective. The basic concern centers on the idea that in first-order cybernetics the observer remains outside of or apart from the system being observed, and is viewed as being in a position to facilitate adjustments in the system without taking into consideration the observer's participation in the system. The potential danger is that an exclusive first-order approach may lead to an overemphasis on conscious control.

In recent years we have witnessed the development of a second-order cybernetics, sometimes called cybernetics of cybernetics, which concerns itself with complex layers of cybernetic process and addresses recursive connections between systems, including the connection between the observer and the system being observed (1-4, 13). Second-order cybernetics in no way replaces the validity of first-order cybernetics. Rather, they are related in complementary fashion. Ideally, pragmatic strategies gleaned from first-order thinking are contextualized by the aesthetic concerns of second-order cybernetics.

From the perspective of second-order cybernetics, the living world is viewed as organized in recursive layers of autonomous systems that are related through feedback structure, and are self-generating by nature. If left alone, these systems will balance and heal themselves. The appear-
ance of a symptom may be viewed as an indication that a system is adjusting itself, likely due to a disturbance created by an escalation of one of its variables (10). Bateson (1) believed that in human systems such disturbances are often a direct consequence of conscious attempts on the part of individuals to divide whole systems into separate variables, and to maximize certain variables at the expense of others (for example, mind against body, “us” against “them”). Bateson pointed out that, while higher order ecosystems will continue to balance themselves no matter how badly they are tampered with, there is a level of disturbance at which corrections may be triggered that are themselves deleterious. For example, the problem of excessive population will eventually be corrected by starvation.

From this perspective, the task of a therapist is to participate in treatment systems in a way that facilitates adjustment before more serious measures are required. The difficulty is to find a way to use conscious strategy in this regard without falling into the same trap as have other participants in the system: controlling certain variables at the expense of others, triggering yet higher-order corrective measures. The therapist must discover how to participate in systems in a way that promotes systemic self-control, rather than control consciously engineered by specific individuals.

The coupling of pragmatic strategy with aesthetic wisdom is perhaps the major emerging concern for therapists who seek to be responsive to insights of second-order cybernetics. Keeney and associates have done much to bring these issues to the attention of family therapists (10-12). More recently, Hoffman (8) has echoed Keeney's concerns about a narrowly pragmatic focus in therapy and set forth some ideas about what a second-order family therapy would be like, namely, one in which therapists give attention to their participation in therapy in terms of power and control. Golann (6) has expressed doubt that Hoffman's ideas will result in a therapy that is any less power-oriented, but he has offered no new parameters for second-order family therapy.

In this article we attempt to advance the discussion about second-order family therapy by addressing some ideas that we think have not been adequately emphasized in discussion thus far. Specifically proposed will be ideas about conditions that might facilitate the emergence of consciously pragmatic strategy informed by the kind of systemic wisdom that delicately balances natural systems without the benefit of human planning. We will argue that a shift in personal habits of knowing and acting that typically organize human experience is required. After attempting to specify what this shift might involve, implications for the practice of family therapy and human action in general will be discussed.

LIMITATIONS OF CONSCIOUS KNOWLEDGE

The arguments in this article are founded upon the assumption that an increase in conscious knowledge of ecosystems will never be sufficient to insure aesthetically informed action. Even if controlled observations could yield certain information about the world (a premise that is rejected by second-order cyberneticians), it is unlikely that we could ever observe broadly and rapidly enough to be able to safely predict the consequences of our actions at all systemic levels. Therefore, while conscious thinking about the effect of one's pragmatic action may be useful as a starting point, it seems a mistake to view it as sufficient. In fact, Rappaport (14) considers that an increased knowledge of systems may actually be dangerous:

Increased knowledge of the elements regulated by lower order controls, and the rela-
ations among them, does not necessarily, or perhaps even usually, lead to more effective regulation. The temptation to meddle, to subject directly to a higher order control the variables ordinarily regulated by lower order controls, probably increases with increased knowledge. But a little knowledge is a dangerous thing. An awareness of the principles of homeostasis does not supply the details of any particular homeostasis, and knowledge of some of the details does not provide knowledge of all. A number of attempts at ecosystem regulation by men informed by some, but apparently insufficient, knowledge of the systems to be regulated have ended disastrously. [pp. 58-59]

Rappaport further asserts that “knowledge will never be able to replace respect in man’s dealings with ecological systems” (p. 59), and maintains that great gardeners, political leaders, and psychotherapists are successful not because they know all the details of the systems within which they operate, but because wisdom leads them to respect the conditions necessary for the functioning of these systems.

Bateson’s “Shortcuts”

Rappaport’s ideas come close to those of Bateson, who was concerned with the consequences of using increases in conscious knowledge to develop purposeful strategies to alter patterns within ecosystems. Bateson (1) observed that individual variables within an ecosystem both depend on the presence of other variables for survival and constrain the other variables from excessive growth at the same time. In a healthy ecosystem, there is a tradeoff of constraints so that no one part of the system is constantly minimized and another part maximized. There is passing around of “difficulties” among members or variables in the system. Any conscious, consistent attempt to minimize or maximize a particular variable, action, experience, or pattern may lead to higher-order systemic problems.

Bateson noted that, unlike other living species, humans, aided by heightened consciousness, have an increased ability to design conscious strategy to minimize their share of natural and necessary constraints and maximize experiences or variables they consider more convenient. Bateson maintained that human preoccupation with conscious control is ultimately responsible for the most serious problems that now face our planet. Inventing ways to circumvent natural and necessary constraints or difficulties has become an accepted way of life in western culture. In this century, we have discovered ways to eliminate a seemingly unlimited number of difficulties that humans have had to contend with since the beginning of life on earth. For example, we have found ways to make food taste better and last longer, only later recognizing that our bodies are threatened by harmful chemicals. We have learned how to escape the inconvenience of hot summer days by refrigerating air, later realizing that chemicals used in refrigeration may be contributing to a hole in the earth’s protective atmosphere. The more successful we have been at eliminating inconvenient constraints, the more disastrous the repercussions.

Although it is much more difficult to verify through consensus, the same principles can be seen at work in human systems. Individuals who develop strategies to avoid the natural and necessary conflict in relationships frequently develop psychosomatic illnesses over time. Those who avoid the pain of loss by cutting off their negative feelings may recognize years later that they don’t feel anything. Individuals who devise ways to make others comply against their wishes later suffer the consequences of unacknowledged hostility in return. Keene (10) has postulated that whenever a symptom appears, one can assume that there has been a conscious and consistent effort to maximize experiences, actions, or patterns that promote the interests of some parts of
a system at the expense of the interests of other parts.

The Human Task

Following the above line of thinking, an important human task is to learn to recognize patterns of consistent, unilateral minimization or maximization of certain variables (experiences, actions, patterns, and so on), and then to attempt to influence these patterns in a way that might facilitate a more natural balance. It can be argued that this is exactly what family therapists have been doing for years, although practitioners seldom use this framework in conceptualizing their work.

The patterns that family therapists seek to interrupt generally appear to involve consistent (rigid) maximization of certain experiences and minimization or exclusion of others. For example, a family therapist may notice a family's tendency to minimize conflict, and the therapist may seek to intervene in a way that promotes a natural expression of differences.

The problem with this approach once again involves limitations of individual human consciousness. It is not possible for any human observer to take into conscious awareness the recursive complexity of the multiple levels of systems involved in any problem situation. Further, observations are always colored by the purposes of the observer. What may appear to one observer to be the minimization of a particular variable or experience may appear to another to be a natural and appropriate response to an impossible situation. For example, one therapist might see "conflict avoidance" while another sees a healthy ability to refrain from engaging in self-defeating, emotional battles. In another situation, one therapist may see an unhealthy maximization of parent-adolescent conflict while another therapist, focusing on another level of the system, sees the parent-adolescent escalation as helpful in keeping a more dangerous marital battle from getting out of hand. In short, individuals are always operating with limited knowledge of the systems they are observing. Unfortunately, action initiated with limited conscious knowledge, however well-intentioned, may actually trigger higher-order problems.

Given this situation, individuals may be inclined to become passive, not daring to intervene for fear of creating more problems. However, being passive may also be ecologically irresponsible. As Bateson has suggested, self-correction in ecosystems takes place through mutual constraint. Individual variables tend toward maximization unless constrained by the presence of other variables. In human systems it is likely that the views or actions of specific individuals are important in constraining views or actions of others that would escalate or dominate in the absence of such constraints. Thus, no view or action of an individual should be prematurely constrained or left unconstrained.

The difficulty is how to know when one has crossed the line from healthy constraint to unnecessary control. Keeney (10) has suggested that the best individuals can do is use their conscious views of ecosystems and responsibly develop actions designed to facilitate systemic balance, and then find a way to open their views/actions to a kind of systemic calibration that operates beyond the level of conscious awareness. Although the family therapy literature is full of guidelines for using conscious knowledge of systems to develop action designed to promote systemic health, little has been said about how individuals might subject conscious strategies to systemic patterns of organization that go beyond the level of conscious awareness.

Something beyond an increase in conscious knowledge of ecosystems is necessary. In fact, it could actually be argued that what is required is a decrease in individual human consciousness. It seems
that plants and animals are more directly connected to patterns of systemic wisdom than humans. Many ecologists contend that our planet would be much healthier if human consciousness had never evolved. While there may be a good deal of validity in this statement, few of us are ready to give up our human abilities to think and plan. However, we must find a way to come to terms with the notion that an increase in the ability of a system to determine its own adjustments may well require a decrease in the determination of individual parts to pursue their own goals.

A SHIFT IN PERSONAL EPISTEMOLOGY

Bateson (1) maintained that “the remedy for ills of conscious purpose lies within the individual” (p. 438), and indicated that perhaps the most important thing that humans can do in this age is to learn a way of experiencing a shift in personal epistemology, or way of experiencing the world. Bateson was quite serious about this matter, and was clear that the shift would necessarily involve more than an increased intellectual understanding of ecosystems.

Bateson (1) indicated that a shift to a cybernetic epistemology would lead to an experience of humility inspired by the realization “that man is only a part of larger systems and that the part can never control the whole” (p. 437). In his last book (3) Bateson explicitly discussed his observations regarding instances when individuals have achieved something of this order of change. In describing such individuals, he used the Scottish word fey, which refers to “an elevated state in which many previously unrecognized truths become plain” (p. 170). He likened this condition to the state referred to by Buddhists as “non-attachment,” which means freedom from appetitive drives. For Bateson, there was the possibility of seeing through the illusion that more conscious control results in more freedom.

A major thesis of this article is that aesthetic wisdom cannot be accessed apart from a fundamental shift in the personal habits of knowing and acting that typically organize individual human experience, the kind of shift that Bateson alluded to in his later years. Further, we think that it is of little use to consider what specific kinds or classes of actions might promote aesthetically responsible adjustments in human systems without considering what kind of personal habits of knowing or experiencing (epistemology) could enable this sort of action. In the remainder of this article we will consider in practical terms what kind of personal experience might best facilitate the emergence of aesthetic patterns in human systems.1

AN ALTERNATIVE BASE FOR PERSONAL CONTENTMENT

From our perspective, it seems that a fundamental implication of second-order cybernetic thinking is that humans must find a way to become less determined to reorganize the world to suit their individual purposes. Typical human experience is characterized by an orientation in which individuals respond to difficult or inconvenient situations primarily by attempting to change the situations rather than first attempting to orient themselves so that they will be content regardless of whether the situation changes or not. The more an individual's experience of personal contentment is based on the ability to eliminate or change situations that are personally inconvenient (but perhaps necessary for the health of others), the less likely it will be that the individual will act in ways that

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1 The reader may observe that we present our arguments with a considerable amount of conviction or enthusiasm. Indeed, the ideas in this article have become important to us; but we in no way mean to attribute privileged status to them. We are confident that they will be put in proper perspective by those who read them.
facilitate health in human systems. Ecosystemic health will be promoted by individuals who learn to find contentment in the midst of external circumstances that seem less than optimal.

A widely held assumption in western culture is that individuals who are able to reorganize the world to suit their own interests and gain material rewards will be those who are most satisfied. Happy people are thought to be the ones who are able to set goals and pursue them to the finish, those who “get ahead of the pack.” The aspiration to maximize one’s own interests is generally seen as not only socially acceptable but also as admirable. Most people spend extraordinary amounts of time and energy trying to insure that events in their lives will go in certain directions, and they experience anxiety if things don’t go according to plan. This kind of thinking is evident not only in the popular culture but also among certain mental health professionals. Consider a recent television commercial for a book, written by a popular-psychology author, that concludes, “... if you’re not getting ahead, you’re falling behind!”

A base of personal contentment that is grounded in the ability to change the world inspires action that is “willful.” In describing this orientation, Friedman (5) writes:

The most serious symptoms in family life, e.g., anorexia, schizophrenia, suicide, always show up in families in which people make intense efforts to bend one another to their will. Indeed, over the years I’ve come to see that it is the presence or absence of willfulness that determines the extent to which any initial, abnormal behavior in a family will become chronic. And I have learned that the key to most cases is getting at least one member to let go of their willfulness. [p. 29]

Applying this notion to the therapist, Friedman recognizes that “in almost all unsuccessful cases, the family therapist has been locked into a conflict of wills with his or her patients that is identical to the struggle of wills the family members are engaged in with one another” (p. 29). Friedman concludes that it is “difficult... to will fundamental changes in any social system, even when it is the most well-meaning, best-educated, wisest members of the human species who are doing the willing” (p. 27).

We think that Friedman’s term “willfulness” points to a phenomenon that is centrally related to problems in human systems. In the remainder of this article, we will use “willfulness” to refer to an orientation in which individuals respond to difficult or inconvenient situations primarily by attempting to change the situations rather than first orienting themselves so that they will be content regardless of whether the situation changes or not.

A contentment with life that transcends individual circumstances requires the ability to enjoy experiences that do not involve eliminating difficult situations and maximizing personally convenient ones. Individuals must discover ways to derive satisfaction from situations that spontaneously occur in their daily lives before they consider changing them. Having experienced a cultural socialization that emphasizes changing the world before one can enjoy it, most individuals have done little to cultivate the ability to enjoy the world as it is.

The experience of being content with life as it is requires that individuals be fully present and attentive to the ordinary happenings of daily life. Typical human experience, however, shifts the individual’s attention from immediately available experiences to the task of planning the next move in a never-ending attempt to organize life’s circumstances. The more people become preoccupied with changing circumstances, the less they are available to become enchanted with interesting details of life as it passes by. Conversely, the more individuals become attentive to the unique aspects of life
in each presenting moment, the less they will feel the need to change situations previously perceived as inconvenient or difficult.

**Not Passive**

We do not mean to imply that individuals should stop trying to change situations that seem difficult, inconvenient, or unhealthy. A passive orientation can be as harmful as becoming determined to control. What we suggest is that, as long as individuals rely on conscious goal attainment for a base of contentment, their abilities to formulate and carry out ecologically responsible action will be impaired. Their decisions regarding directions for action will be colored by the need they think they have for the world to conform to their expectations. It is possible to engage in vigorous action without being too attached to the intended outcome of the action. It could be said that this sort of action is initiated from a experience of “want” that arises from a realization of the conditions necessary for systemic health, rather than from an experience of “need” that arises from the an inability to enjoy life as it presents itself.

It might be argued that this orientation is cold or heartless. How can one be content while there is pain and suffering in the world? Again, we are not suggesting that individuals be content and passive when faced with seemingly serious problems. However, unless action is launched by people whose contentment is not based on the successful outcome of their purposeful action, their well-intended action may lead to worse pain and suffering.

This is not to say that action should be initiated in a passionless way. Most people would agree that some situations in the world are clearly destructive (for example, violations of fundamental human rights). Such situations evoke appropriate reactions of indignation and anger. The experience of emotion provides an important motivation for action. The strength of emotion accompanying an action is not necessarily related to the probability that the action will lead to systemic health. Rather, health is related to the extent to which individual actors assume that they must have the conditions they are trying to promote in order to be content.

Of course it is possible, and even likely, that action initiated by individuals who are not driven by a perceived need to reorganize the world according to their purposes will nevertheless result in systemic situations that are less than healthy. However, few destructive actions are relentlessly pursued in the face of increasing indications of their destructiveness unless they are initiated from a base of willfulness. As all husbands and wives know, confrontation initiated from a determination to change the other does not have the same result as confrontation in which each partner is operating from a posture of open-mindedness.

Many actions that may actually be in the best interest of human communities are opposed because they are zealously promoted by people who seem determined to make others conform to their wishes. How many of us have been offended by the determined efforts of a religious enthusiast or ecology-minded citizen to humiliate us into acting more responsibly? Willfulness is not something that can be covered up by action. You can smell it if not see it; and most people can smell it a mile away and prepare their responses accordingly.

In summary, ecosystemically responsible action requires conscious, pragmatic action that is implemented by individuals whose personal contentment is not dependent upon the extent to which their actions are successful in producing desired outcomes. An aesthetic orientation does not deny the importance of conscious strategy, but it must involve more than ecologically responsible, conscious strategy.
IMPLICATIONS FOR SECOND-ORDER FAMILY THERAPY

In considering the implications of second-order cybernetics for family therapy, Hoffman (8, 9) has expressed concern that current family therapies may be overly instrumental. She calls for a second-order family therapy in which therapists move away from designing specific strategies for change, away from giving direct interpretations or suggestions regarding behavioral or interactional changes, away from assessment or diagnosis in therapy, and away from communicating normative ideas regarding systemic health. Hoffman sees a second-order family therapy as moving toward setting a context for change rather than suggesting specific changes, and toward seeking to change premises and assumptions rather than behaviors.

Rather than seeing second-order family therapy as a departure from existing family therapy models, which draw primarily from first-order cybernetic premises, we view first- and second-order family therapies as complementary. A second-order perspective is more encompassing, building upon the insights and strategies gleaned from first-order models. While each existing model of family therapy applies a unique conceptual framework, all models provide maps for defining redundant patterns of interaction in which some experiences, actions, or patterns are consistently maximized and others minimized. A second-order family therapist may draw upon any of these maps in developing conscious views of systemic patterns (including patterns among therapist and family members) while keeping in mind that conscious views alone will never be sufficient to insure aesthetically informed action.

We share Hoffman’s concern about therapists becoming too invested in producing specific changes, but we have reservations about the idea of trying to specify ahead of time what general classes of techniques or actions would more likely lead to aesthetic patterns in treatment systems. Although it can be argued that some types of action (for example, asking questions) may generally be less harmful than others (for example, murder), there are always exceptions; and we think that it would be more productive in the long run to focus not so much on the particular class of action initiated but, rather, on the way action is initiated and on the personal epistemology of the actor.

What might distinguish a therapy based on principles of second-order cybernetics from one based exclusively on first-order cybernetics is not necessarily how directive or nondirective, active or passive, instrumental or noninstrumental, judgmental or nonjudgmental the therapist appears to be; it is more related to the extent to which the therapist is determined to have clients accept ideas or suggestions the therapist proposes. Therapists can avoid problems of too much instrumentality not by becoming less specific in formulating and sharing opinions or giving suggestions but, rather, by giving attention to how much their personal experience of contentment is dependent upon their success in getting clients to accept the opinions or suggestions they give in therapy. Second-order family therapists will continually recognize and acknowledge that their views are not objective or “true” in any determinable way, but, rather, that they are constructed from the limited (but important) viewpoint of the therapist, and that clients should feel free to disagree. However, second-order family therapists will recognize that their ideas and suggestions may be helpful if heard, and they will not hesitate to share them.

Following our earlier discussion of how natural systems achieve balance through mutual constraint, a therapist who is too passive could be just as harmful as one who is too active. For a treatment system (therapist plus family) to self-correct, each mem-
ber should be given the opportunity for full expression. It may often be the case that the therapist's ideas provide calibration or correction to ideas of specific family members that are being consistently maximized or minimized in a system that is losing balance.

Further, we think that concerned therapists cannot avoid developing specific ideas about what kind of interactions might lead to greater health. Nor can therapists avoid making normative judgments in connection with their views. Even the view that one should not have a view implies a preference. Second-order cybernetics implies normative ideas regarding health (that is, health is characterized by the balance of diversity in an ecosystem) that can be used by therapists to formulate ideas about directions for change in the systems in which they participate. We agree with Golann (6) that normative ideas and preferences will likely be communicated in therapy no matter how subtly or indirectly, and we consider it best for the therapist to be in touch with these values and communicate them directly.

As second-order family therapists formulate specific ideas and strategies for change, they will above all continually monitor their own personal investment and determination to produce a change, asking themselves questions such as: "Do I enjoy being with my clients even if they don't accept my views or suggestions?"; "Am I determined to make them see it my way?"; "Am I considering the possibility that my view could be misguided?" In doing so, second-order family therapists seek to engage fully in a goal-directed treatment process without becoming too attached to outcomes. Therapists will develop the ability to enjoy the experience of being with their clients before they begin to facilitate a change, and regardless of whether the clients accept their ideas or not.

Although a change in a therapist's level of willful determination to get clients to act or think in specific ways may result in a change in the typical kinds of action the therapist initiates in therapy, this may not always be the case. Consider the following example. Most therapists recognize from time to time that they are involved in sequences in which their repeated attempts to convince family members to accept their views or suggestions are failing, and that further efforts will likely result only in more "resistance." In these situations, therapists often become frustrated and angry with family members. Upon recognizing the futility of the situation, one therapist might decide to stop trying to get family members to accept his suggestions because he suspects that if he backs off, the clients will more likely do what he wants than if he continues in a power struggle. This approach might exemplify what Hoffman (8) has referred to as "going one-down to be one-up" (p. 382). The therapist has discovered a more clever way of getting clients to do what he wants them to do.

Another therapist, however, might go "one-down" for different reasons. This therapist might recognize that her rising anxiety and frustration could be an indicator that she has become too invested in getting the clients to accept her views or suggestions. This therapist may decide to stop trying to convince family members to change because she believes that action initiated from a base of personal willfulness will ultimately not promote health in the systems in which she participates, regardless of whether she is successful in getting the clients to change in specific ways or not.

Each of the therapists may end up acting in similar ways and getting more cooperation from his or her clients, but we believe that the second case will likely result in greater systemic health in the long run. The difference is in the therapist's attitude.
or personal orientation rather than external behavior.

Thus, as we see it, a second-order family therapy does not require the rejection of any existing first-order family therapy model or the development of a new generation of "second-order techniques." Any existing family therapy model can be applied in a way that is or is not consistent with the implications of second-order cybernetics. The personal habits of the therapist are more relevant than the particular model of therapy or class of techniques.

**Beyond "Family" Therapy**

Throughout this article we have emphasized that, while a second-order perspective may draw upon conscious strategy, it requires more than conscious strategy. We have argued that second-order family therapists must address their own experience of willful determination to change their clients. It follows that second-order therapists will also be interested in addressing the same kind of determination experienced by individual clients.

An important distinction can be drawn between the consistent maximization or minimization of specific variables in a system and the consistent determination to change their clients. It follows that second-order therapists will also be interested in addressing the same kind of determination experienced by individual clients.

An example of the distinction between levels of focus can be seen in a case in which a father and son are engaged in a battle of wills. Many family therapists would seek to alter sequences of interaction in which father and son attempt to control each other. One intervention might include trying to facilitate a reversal in the behavior of one of the individuals. For example, rather than taking a one-up position with his son, the therapist might suggest that the father take a one-down position in the midst of conflict. The therapist might be able to convince the father that the son is more likely to do what the father wants if father backs off. In this case, the therapist teaches the father a more effective way of getting what he wants from his son. The result is that the sequence in which father was actively attempting to maximize his interests over those of his son is interrupted.

A second approach might directly address father's assumption that son must act according to father's standards in order for father to be content. The second approach differs from the first in that the focus of the therapist's concern is on the assumption behind the sequences of control as well as the sequences themselves. Both approaches might end up in a change of basic interactions between father and son. However, the level of systemic change is different. We propose that a systemic therapist will be interested in both levels, although the level directly addressed in therapy may depend upon the level of change the clients are interested in or are willing to consider.

**CONCLUSION**

We have addressed what we consider to be necessary conditions for the emergence of aesthetic patterns in human systems. These conditions involve conscious modeling of systemic process, formulation and implementation of action based upon conscious models, recognition of the limitation of conscious models and strategies, and a shift in personal habits of knowing and acting (epistemology) that leads to an experience of less personal willfulness.

These ideas apply to human action initiated at any systemic level. For example,
when considering the level of the individual, those informed by a second-order cybernetic perspective will be concerned with patterns encountered when individuals divide their own experience into separate parts and then consistently try to exclude certain parts of their experience and maximize others (for example, exclusion of expressions of affection or grief). At another level, patterns will be addressed that result from the tendency of individuals to divide themselves from their natural environments and consistently maximize variables experienced as convenient to them, but minimize the interests of other participants in the systems (for example, plants and animals).

Many broad cultural patterns of minimization/maximization also seem apparent. The rights of women and minorities are minimized. The rights of the affluent are maximized. Clearly, social action is needed and, many times, vigorous action. Individuals informed by second-order cybernetics will seek to define unhealthy patterns and initiate action directed toward restoring balance. However, these individuals will recognize the self-reference involved in their observations, and will continually monitor their own level of willful investment in producing a change.

As we wrote this article, we experienced the dilemma we have attempted to articulate. The article represents action on our part that may potentially lead to ill effects, even though our conscious intentions are to the contrary. Thus, we must ask ourselves: How determined are we to have people accept our ideas? Are we open to the possibility that our views could be misguided? Do we feel a need to be “right”? Will anxiety surface if this article isn't published? Although such questions can probably never be answered with certainty, we have a growing conviction that it is precisely these kinds of questions that must be asked and addressed personally by those seeking to initiate action within our discipline.

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