Public Policy Planning in the Interregnum

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"Planning is an unnatural process. It is much more fun to do something. And the nice thing about not planning is that failure comes as a complete surprise rather than being preceded by a period of worry and depression."—Sir John Harvey-Jones

"You can't depend on your eyes when your imagination is out of focus."--Mark Twain

Abstract

Public policy planning may be in a problematic interregnum partially characterized by an onto-epistemological incongruity between two referent images of reality (Stokes, 1996) where, to paraphrase the Tao Te Ching, "those who know cannot say: those who say do not know. So be it." This response, of course, is seen as wholly unsatisfactory to many.

We are in an interregnum of public policy planning; between approaches characterized by Newtonian models and ideas—that the public policy domain is best modeled as a linear mechanical system—and new approaches drawn from the sciences of complexity. The interregnum corresponds to a period of incomparable deliberation upon the onto-epistemology that has sustained positivistic public policy planning.

Cybernetics, chaos theory, complexity theory and the theory of dissipative structures suggest that the public policy domain is an open nonlinear dynamical system, punctuated by emergent phenomena and characterized by richly integrated yet often-ambiguous, feedback relationships. Sustained by the onto-epistemological convention, the continued use of conventional models, though not without occasional successes, will serve to increase the risk and failure rate of public policy initiatives, which in a Panglossian manner, will encourage a greater demand for the ever more rigorous application of conventional thinking, leading to another round of failure. The emerging insights from the sciences of complexity need to be complemented by a major methodological initiative. This is needed to formalize new models and operationalize public policy planning in pursuit of constructive social change.

Introduction

That we live in a time of great and growing uncertainty and contradictory tendencies has become a commonplace observation (Beck, 1992). Along with the growing capacity of socio-technical possibilities there is a growing incalculability of their consequences. Indeed, the unknown and unintended consequences of social action have become a dominant force in history and society. The optimism for the future that was latent in the expression of "knowledge-based society" has been replaced by an awareness of non-calculable risk; for indeed, as Hans Gadamer notes, "the certainty of science is very different from the certainty acquired in life" (1975: 238).

Gradually this growing appreciation will undermine the legitimacy of institutions and organizations as people are engaged in a discourse about the hazards of everyday life. A basic experience of risk society is to live with and act upon hazards. This awareness, while it may yet undermine the popular legitimacy of science, is challenging conventional forecasting and planning (Kitschelt, 1985). Giddens obliquely suggests that forecasters and planners bear a particular responsibility in such circumstances insofar as they are indispensable for normalizing social action (1990: 28).

A prominent gauge of uncertainty is the international money market, which today symbolizes the notion that a process of globalization is creating a world beyond control; one that has become unrational. [1] In recent years and weeks a series of financial crises—the East Asian financial meltdown and turmoil in the Euro-currency markets—have rocked the financial world (Kennedy, 1993; Gray, 1998; Strange, 1998). The liquid kinetics of money has reinforced the identification of our current situation with heightened risk and

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[1] Rationalism may be understood as the capacity to control the world through calculation. In a second meaning rationalism refers to the systematization of meaning patterns. However, rationalism also refers to the achievement of a methodical way of life. The distinctive feature of rationality is the degree of control of life by conscious ideas that are sometimes formalized in terms of planning models. The concern is that our ideas, theories and models

chaos. However, the nature of international finance is but one example of the growing complexity and governance problems.

It is becoming apparent that the problems we face at all levels in the world today resist unilateral solutions. While the web of interdependencies tightens, our capacity for thinking in terms of dynamic interdependencies has not kept pace. As the gap between the nature of our problems and the ability to understand them grows, we confront increasing perils on a multitude of fronts. Indeed, the problems that we currently face have been stubbornly resistant to solution, particularly unilateral solution. As we are painfully discovering, there is no way to unilaterally solve the problem of carbon dioxide buildup, which is steadily and inexorably raising the temperature around the globe. The problems of crack cocaine, ozone depletion, the proliferation of nuclear armaments, world hunger, poverty and homelessness, rain forest destruction, and political self-determination also fall into the category of "resistant to unilateral solution." The connections among the various subsystems conspiring to manifest a problem were once less tight. Then, it was possible to score a Pyrrhic victory by deferring a problem into the future or shifting the province of the problem. With institutional abandon, we have forgone this dubious luxury. Every generation of human beings has employed these techniques, but ours is the first generation to confront diminished possibilities for deferral and/or transference.

The global economy is appreciated as simultaneously more powerful, more dangerous and more uncontrollable (Mundell & Fleming, 1962).[2] It is a frenetic world in which trillions of dollars fly around a computerized financial system whose diverse consequences few if any can comprehend, never mind control. Yet control is increasingly called for and sought in shifting networks

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may no longer well correspond to concrete reality. The emergence of heightened levels of complexity and problem of control suggests a condition of diminished rationality.

[2] The Robert Mundell and J. Marcus Fleming model (IMF Staff Papers, 1962) essentially showed that governments and central banks overseeing open economies cannot simultaneously maintain the Unholy Trinity" of: 1) the independence of their domestic monetary policies, 2) stable exchange rates, and 3) uncontrolled global capital flows.

of alliances and proposals for new institutions and public policy initiatives (Dunning, 1997; Strange, 1998; UNRISD, 2000). While the interest in control is generating political - and economic challenges, the growing state of complexity in the world system presents a comparable intellectual challenge that is our focus in this commentary.

The intellectual challenge constitutes a drama of social knowledge such as has not been seen since the sixteenth century's scientific revolution in Europe. The scientific revolution brought about, in the minds of a small but increasingly influential minority, a new world-view, a new perspective on nature, the universe and man's place in it. This scientific revolution, world-view and the myth it entailed, were to lead eventually to enormously increased powers of control over nature. There have been considerable modifications to the seventeenth-century scientific world-view, but they are much less striking than the break with the medieval tradition that preceded it. Its full implications are still being systematically worked out, both intellectually through the theoretical development of the various sciences, practically through the various projects of technology, and politically through a variety of institutional settings.

Today we are once again at a turning point in the history of ideas. With its roots in the study of open systems, the turning point is animated by the new sciences of complexity and of uncertainty including theories of dissipative structures, of complexity, cybernetics, and of chaos. Simply it suggests that we will never have the kind of control envisioned by Newton, Laplace, Comte, Marx, Weber, Parsons or any other classical theorist—but that we may have some part to play in the unfolding drama.

The sciences of complexity perceive the complexifying reality as characterized by emergent phenomena, dynamism, instability, nonlinearity and change. In this world, prediction is unassured and control is nothing short of a peripatetic ambition. Complexity theorists view the Newtonian project as relevant only to relatively simple mechanical systems. The failure

of the Newtonian project, as a model for economic analysis and not less for public policy planning, is that it places a simple deterministic view of mechanics on the complex and indeterminate realm of human and social systems behavior.

At a time when many have been greatly disappointed in the exaggerated hopes that they attached to the mathematical dimensions of public policy analysis, the new sciences have begun to colonize the scholarly literature in a variety of disciplines (Gregersen & Sailerm 1993). Indeed, it seems to have become a veritable cottage industry (Beinhocker, 1997; Ilinitch, D'Aveni, & Lewin, 1998; Levy, 1994; Stacey, 1992; 1993; van de Vliet, 1994; Wilson, 1999). It is seen as ubiquitous, functional, and necessary. "The image of organizations as complex, dynamic, self-organizing systems will improve our ability to become administrative in the times of apparent chaos and newly emergent orders" (Overman, 1996: 490).

A non-dualist science, it has been employed to explain the evolution of life, both autopoiesis and mutation, irregular patterns in life processes, consciousness, the behavior of crowds, economic patterns, war and many other aspects of living systems (Cederman, 1997; Combs, 1995; Lane, 2000; Maturana, 1980; Maturana & Varela, 1980; van Staveren, 1999; Zeleny, 1980). Out of this new science may come new modes of economic analysis, new sociologies, as well as new ways of thinking about public policy and planning (Phelan, 1995; Radzicki, 1990). But our more immediate concern is with aspects of a transition from conventional Newtonian models of public policy and that offered by the post-Newtonian sciences of complexity. This is the fractious domain of the interregnum.

Discontinuities in the Interregnum

Our society and plausibly civilizational and, for that matter, evolutionary processes may be characterized as being an emergent phenomena characterized by increasingly degrees of complexity (Teilhard de

Chardin, 1959; Morin, 1992). Evidently, our society's aspirations and activities do not integrate with one another; do not cohere conceptually, operationally, linguistically, or psychodynamically. The contributing circumstances described here will continue to exacerbate the situation, themselves being disjointed and incoherent, vis-à-vis each other, even though they share some characteristics that also contribute to the dislocations.

In this light consider that the chief function of forecasts and policy planning is to enhance focus, direction, and coherence for whatever ends. To accomplish this function requires a material and symbolic context that can be rendered coherent. However, despite alliance formations and efforts at institution building there may be little prospect of removing the complexities for the foreseeable future, given the nature of the sources and their reinforcement by the circumstances they engender. In an era which places a premium upon the role of leadership and equates it to control (Dodds, 2000; Youngblood, 1997), we are beginning to appreciate that one cannot lead unless circumstances produce those who wish to be led; so, too, with the potential usefulness of forecasts and planning. Nevertheless, the unfastened circumstances that constitute our complexifying situation will, singly and in combination, result in more needs and requests for forecasting and policy planning producing an "Oedipus effect" in which simulated possible futures exert an increasingly pronounced influence on today's policy options (Morin, 1993; Moiseev, 1984).

However, because of the complexities, that which is sought is unlikely to be either fruitful or enduring. The pressures for short-term responses to critical issues will also increase and dominate social action at all levels (Macintosh & Maclean, 1999; Strange, 1999). Indeed, the efforts of forecasting and planning as conventionally practiced, may only serve to further complicate the context, if they have much effect at all (De Greene, 1987; Luhmann, 1990; Senge, 1990).

In order to speak at all meaningfully about emergent complexity, let me refer to three categories: the epistemological, the social, and the psychodynamic. In order that forecasts and planning have the potential for enhancing coherence, it is necessary that these categories or contexts be compatible; that each can depend on the other for elucidation, confirmation, and collaboration; and that they are addressing perceptibly correlated matters. Alternatively, it must be possible to ignore or repress the incompatibilities between them. It shall be argued that neither requirement can be met; for these contexts are unambiguously and mutually disjointed, and in the case of the social category, internally fragmented as well.

Daniel Bell (1973) among others sought to explain discontinuities in social development. "Postindustrial society" is the historical period that begins when the concept of industrial society ceases to provide an adequate account of actual social developments. This definition is meant to locate the key changes as occurring at the level of ideas and understanding--that is, our loss of a persuasive master concept for making sense of our own society. However, it is growing apparent that even this appreciation is inadequate.

Epistemological Discontinuity

The image of particular past events or situations is often based on a tapestry of fact and fiction not always clearly distinguished. It may be a combination of things from merely aesthetic impressions to concrete facts, from mass media reports to mythologies. Society's nominalist epistemology derives from and is sustained by its mythology, which may be appreciated as its social construction of reality (Baldwin, 1986; Berger & Luckman, 1989). Its mythology assumes the dimension of a worldview that defines how the "world" works, and why it is as it is, and to what ends it is directed (Barthes, 1972). More conventionally, that which describes how the world works is science. So let us understand science as a multifarious human activity that is not only a body of knowledge or theory, it is also a methodology, a praxis, and a

network of habits and roles through which knowledge is appropriated, tested, and transmitted. Further, science is a philosophy, an ideology, and, sustains a paradigm—an outlook that contains considerable connotative and symbolic potency. As such it can be grossly inaccurate with regards to detail, yet sufficiently accurate so as not to be completely misleading. It may be relevant depending on the purpose and, importantly, the context in which it is used.

The Newtonian worldview that has shaped Western culture asserts that the world is controllable (including the human component) because it operates according to lawful processes, expressed as relations between cause and effect. While the prevailing worldview has its detractors and would be challengers, it dominates much of what we are and do. It is embedded in our way of making sense of life, and it has worked very well for a portion of humankind. In particular, we still presume, even if tacitly, a determinable, under girding lawfulness of cause and effect in the human realm. This presumption is strong enough, at least in the minds of those who look to forecasts and attempt planning, to shape their actions and expectations.[3] However, if human activity is describable as sequences of causes and effects, that is, much in the way that mechanical processes seem to be, we may be a very long way from any reliable theory of social or individual change under turbulent conditions (Stokes, 1996). This is demonstrated by our inability to forecast and by the disarray in economic theory (Hodgson, 1991; Lal, 1983; Stokes, 1996). Insofar as the strategic choice view of public administration derives from neoclassical economics this inability is crucial.[4] Indeed, our abilities to

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[3] Moreover, the administration of the public sphere under the guise of a positivistic worldview and reinforced by the mystification of knowledge—of supposedly scientific expertise—and expertise, has an important ideological function for it may serve as a pledge for public apathy and acquiescence.

[4] Following Child (1972), Tichy (1983), and Tichy and Devanna, (1986) the strategic choice frame of reference allegedly determines an organization's formal development. Here survival is a matter of self-determination. In making this argument, the strategic choice approach makes the same unquestioned assumptions about the system the choice is applied to as does neoclassical economics, namely, that individual organizations are stable equilibrium systems just as economies are, for only then is it possible to make the predictions which make it possible for managers to connect their visions with their actions.

cope with complexification may be undermined by an epistemology that has made a virtue of stylization and caricature.

We may subscribe to Michael Polanyi's (1966) argument that creative human activities have an emergent quality: that the "whole" is not merely more, but unpredictably "greater" than the sum of the parts (Levy, 1991). The order of the world is not of a static kind given as the sum of its elements, but a dynamic, far-from-equilibrium, state generated by the nonlinear interaction between the elements. Order is an emergent phenomenon rising out of this process of interactions and a phenomenon that requires continuous work (Prigogine & Stengers, 1984). This seems obvious in the conduct of art, science and politics and in interpersonal relations. One cannot predict with a high degree of certainty a new theory or aesthetic or new political and personal development from what has gone before. Nor can one predict the consequences of predictions about the consequences (Cochran, 1980). After the new state of affairs has emerged, interpretations arise that purport to relate causes and effects so as to connect the new condition to what preceded it. Note please that such interpretations do not arise before the new state of affairs emerge (Unger, 1975). However, even if it should prove possible to represent some aspects of aggregate human behavior through the new science of complexity, our ability to predict or control that behavior may be slight because of the very circumstances that characterize complex processes. Moreover, humans experiencing chaotic processes through the vantage point of their consciousness and the depths of their unconsciousness cannot act toward those chaotic circumstances as they would if they were merely

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It is not surprising that the strategic choice school makes the same assumptions as neoclassical economics because the former is derived from the latter. From the strategic choice perspective one interprets business success as the realization of some powerful, possibly charismatic person's plan or vision. One believes that the success is secured by implementing the plan that requires tightly controlled behaviour, measured and monitored within management information and control systems that employ damping feedback to sustain stability. However, this image has recently given way to attention to the interaction of choice and context.

observing them as dispassionate spectators. They/we live in them and are not about to wait out the painful and problematic transformations.

If we listen to the post modernists, the epistemological crises implied herein may run deeper still. The ideas and evidence from the de-constructionists in literary theory (Eagleton, 1983), the constructionists in social psychology (Gergen, 1985), and Wittgenstein's *Tractatus* argue that our entire edifice of ideas constructed and expressed in words is ungrounded in "objective reality." It is grounded only in communal agreement on other categories and words. Here we have verbal constructs, metaphors generated from other metaphors and leading only to other metaphors (Lakoff & Johnson, 1980). It seems that, no matter how we try to do otherwise, when we write or talk, we are writing or talking about words, which, in turn, are anchored only in other words rather than in "objective reality."

The patterns created in a discursive process, become objects in a consensual reality, that is, one created by agreement. This "reality" vaguely exists in pre-understandings before the discussion started (Gadamer, 1975). The discussion alters the world for the participants, since the perception of the world is partially filtered through the words and metaphors in the vocabulary. The longer people work at developing a vocabulary to speak of whatever they observe, the words, and the metaphors are embedded in their minds. As they emerge new metaphors become intuitively "true" representations of reality for the people involved. The vocabulary becomes a shared linguistic domain, not just because of the language, but also because of the set of shared perceptions created about how the world works. The very process of careful abstraction and clear modeling where the map is not the territory leads to an intertwining of pattern language processes and models that are the very ground of our existence. However, not only is the map not the territory, but neither the "map" nor the "territory" are "real" either. Assuming a radical constructivist posture Catherine Bateson (1994) insists "Any organism acts not in response to external reality but in response to an internally constructed version of that

reality after it has passed through a series of filters. Human beings filter through what we call attention and on the basis of what we call relevance." Words, metaphors and models are thus lenses that effect what is perceived, what is ignored, and how perceptions are interpreted.

Knowledge may be seen as something that we cultivate in the attempt to create order from the amorphous flow of reality by establishing repeatable experiences and relatively stable relations between them. To put it differently, knowledge is not passively appropriated but constructed by the cognizing subject, where the role of cognition is adaptive and serves to give structure to the experiential world, rather than the discovery of ontological reality. The possibilities of constructing "order" are then in-formed and constrained by the preceding steps in the construction. This means, for instance, that the "real" world manifests itself most fully where our constructions, i.e., models, break down. Our customary models are not adequately representative of the complexity of the environment within which organizations find themselves. Indeed, with the science of cybernetics as our guide we are reminded that, "every good regulator of a system must be a model of that system" (Conant & Ashby, 1970: 89). If our models are inadequate, management is likely to be as well.

But since we can describe and explain organizational pathologies and societal breakdown only in the very model we have used to build the failing structures, this process fails to yield a picture of a world which we could hold responsible for their failure (Von Glasersfeld, 1984). "No problem," Albert Einstein wrote, "can be solved from the same consciousness that created it. We must learn to see the world anew."

What is important here is not only these ideas *per se,* but also that the recognition of them and an appreciation of their enormous implications for the legitimacy of the processes of governance will spread to a widening audience of thinkers, the very people who contemplate the utility and validity, and hence the ethics, of forecasting and policy planning. If genuine intellectuality is to

continue to have a place in social policy formulation, planning and evaluation, then sooner or later these ideas shall challenge the whole process and purpose of these activities. The clash between traditional thinking about social reality and the meaning of words and the new thinking about these matters will further compound the discontinuities. Both Habermas (1971) and Churchman (1968) appreciated this some time ago when they argued that it is the further rationalization of reason itself that remains the greatest challenge to reason.

Some Sources of Social Discontinuities

The story of the eroding, but still dominant, worldview that underpins our social construction of reality and its contemporary epistemological drift may well obtain from the growing social discontinuities. These do not point in any one direction, rather, they contradict, conflict with and slew past each other, and they amplify each other. They call for inspiration and yet obstruct and undermine the feasibility of forecasting and planning. Ozone depletion, greenhouse effects, terrorism, fresh water shortages, substance abuse, AIDS, urban growth, crime, the multiple consequences of diverging age distributions, and an absence of third world employment opportunities are some examples of a multiplying collection of circumstances, all of which require enormous expenditures of thought, effort, and money to even begin to address. What is clear is that, within our prevailing perspective, all of these entail vastly expanded material and operational infrastructures and an institutional architecture for coordination, regulation, collaboration and social invention. The longer remedial actions are delayed, the more costly the solutions, if indeed there are such, the farther off in the future the rewards for current sacrifices, and as the process of complexification continues, the more interconnected the outcomes. Insofar as the gains and losses deriving therefrom obtain from the creation, distribution and protection of public goods, the political risks will be very great particularly since the outcome of any

major effort will be problematic, subject to unknown systemic and chaotic processes and stochastic events. Moreover, we lack models, concepts of governance, political incentives and a system of norms for undertaking much more than a fragmented approach (Beer, 1974; 1975; Bücherl & Jansen, 1999). What becomes particularly obvious is the troubling mismatch between the institutional capacities and customs of governance and the problems that need solving. We are simply not organized well to manage our affairs. This is, for instance, why the dynamics of globalization inspire such dread and resistance, whether among Swiss farmers afraid for their livelihoods, or suddenly unemployed South Koreans, aboriginal peoples tenacious in defense of their cultures, or concerned pension fund managers with under-hedged investments in rickety securities (Cerny, 1994).

The problem of effectively managing climate change gives proof of how unprepared we are with institutions to secure global public goods. The problem is global, but policy-making is still mostly national. The problems may be addressed by networks of firms, scientists, engineers, producers, and consumers, but our institutions and negotiations are still mostly intergovernmental rather then transgovernmental. Moreover, as long as the indissoluble links between economic, social and political reform are not systematically explored, the economic adjustment model will continue to produce situations that make it impossible to solve basic problems of governance.

Each set of problems of governance excites the others and all are heightened by their synergistic effect. The mercuric complex of instabilities is the predicament of complexification. However, perhaps the most fundamental of all regulative problems are social, personal and above all moral. These are the problems of setting standards, sufficiently self-consistent, attainable and popularly legitimated, to preserve coherence through time and change of humankind and its societies.

"The human mind," Jay Forrester says, "is unable to understand human social systems." This may well be true. Our instinctive conceptions were selected to cope with the modest causal environment of our primitive ancestors. But they are inadequate for dealing with the responsibilities our current technocracy[5] presumes in this world (Cotgrove, 1975). Our one-dimensional causal thinking is unqualified to find a solution. Society therefore constructs social truths and causes that alternatively cancel each other out, and the decision is still in the hands of that blind power which fills us all with fear (Jünger, 1956).

Not only do we lack concepts of governance appropriate for guiding an increasingly interconnected world, but more to the point, we lack the models and concepts appropriate for viable governance under conditions of emergent complexity and for managing the transition from now to whatever and whenever more coherent forms might emerge.

Nevertheless, this turbulent period is precisely when, in the disjointed and ad hoc ways characteristic of our society, various organizations will seek help from forecasts and planning (or to the sub-set referred to as "crisis management" operating at a variety of levels) in the hope that somehow, with such help, they will regain control of what they misperceive as their environment of rights and opportunities. Unraveling these efforts, of course, will be the familiar political pressures that result in confused attempts at crude pragmaticism, that are themselves the conjunctural products of short-term crisis management strategies. At stake here is not just a series of formal or tactical shifts, but also the practical re-articulation of political capacities at

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[5] Technocracy may be understood as a mode of governance exercised through use of knowledge, expert power, and the ability to solve relevant problems. It is that whose very existence we tend to impute to reason as such and to a highly rationalized industrial society. Technocracy's claim to legitimacy is based primarily on the epistemological presumption that ultimate reality in its varied manifestations is finite, exists independently of a knowing subject, and can be known objectively through conjecture and refutation. When applied to forecasting and public policy planning this paradigm results in abstract, past-oriented knowledge.

various levels where the tendential loss of autonomy creates both the need for higher ordered coordination and the space for lower ordered resurgence.

Indeed, running counter to the requirements for higher ordered coordination and collaboration there will continue to be the demands at all levels--from the person to the nation state—for autonomy, sovereignty, decentralization, competitive edge, rights, liberation, and "freedom from" and "freedom to." These aspirations and demands are, of course, encouraged and legitimated by belief in, or admit a recourse to, those attributes of the still dominant dualist Western worldview that separate cause and effect, subject and object, we and they, and which make the world out to be either/or rather than both/and when it comes to values and beliefs.

No doubt proponents of many causes or groups will seek help via forecasts and planning to further their own ends. But if the providers of such services have the intelligence and integrity to recognize the limitations as well as the value of separatist objectives in an increasingly interdependent world, the client is not likely to be very pleased with the confrontations to concept and purpose such services should provide.

A richly interconnected world—and whether or not this is a useful way to perceive it, we are trapped with that perception, given our epistemology, dominant ideology, and language structure—will require restructuring systems and subsystem boundaries to whatever is appropriate for the welfare, and the coherence, of the rapidly emergent interdependencies. But restructuring the boundaries means institutional changes and corresponding shifts in the allocation of power and status. These are sure to be resisted and challenged and may merely add to the turmoil and the complexity (Krut, 1997).

Underlying these difficulties is perhaps a deeper problem—what values should determine the appropriate location of system boundaries? Currently there is no coherent set of shared moral values within the Western world, much less worldwide. All we possess are fragments of previously demolished

value systems. Nothing holds these remnants together so we are left with eclectic personal preferences applied to inconsistent collections of irreconcilable bits and pieces from the past. For Jacques Monod the kernel of the central paradox confronting technified society, is not the threat to nationally differentiated interests, but rather that the objective knowledge which assured scientific advance is ignorant of ultimate values and meaning; and that while it has triumphed in dismantling the traditional buttresses of religious ethics, it cannot, by its very nature, provide any other (Moiseev, 1984; Monod, 1969). Indeed, Kantian ethics, for instance, is substantially problematized by the sciences of complexity (Stokes, 1997).

While ecological and psychodynamic understanding point in constructive directions, there is nothing remotely available on which to base a value system that must adjudicate among and reconcile a human environment that is partly chaotic, partly systemic, and partly punctuated in its processes and purposes and mostly unconscious in its motivations and reactions (Bateson, 1972; Stapely, 1995).

This is more than merely a case of philosopher's angst; for it is the values held by a person, organization, and society that determine what information is important, what interpretations are useful, and what actions acceptable (Toulmin, 1950). Indeed, values determine what defines a "problem" or "opportunity" or "challenge" and the ways of responding to them. They are a fundamental way in which the social construction of reality is operationalized and reinforced. Even when not explicit or acknowledged, that is when they are tacit; they select perspectives and proposals, and, as Vickers (1965) indicated, the facts bolster both. Moreover, the methodologies we engage are typically problem-focused; they seek to solve or manage identified problems or issues taking the values that have given rise to the identification of these particular problems as given. Here we again Einstein's remark of earlier is apropos.

Consider, too, that more complexity plus more (inevitably) incomplete information about the human condition encourages selecting from these multiple, confusing and uncertain signals those most compatible with one's routinized ways of seeing and evaluating the world. Indeed, our routinized ways of seeing and interpreting the world are often so pervasive that they effectively prevent the emergence or alternative "ways of seeing" and, implicitly, of organizing the world. Or, as Mark Twain noted it is a case where "our imaginations are out of focus." Such normative structures also condition the ways in which priorities and agendas are conceived and constructed. The grounds for choice and action multiply and are legitimated by whatever values from our splintered collection that are presented as "reasonable" and "rational," and conveniently situated within our traditional worldview.

Conventional technical/logical rationality, that is, the "technical perspective" is only one value priority. Alternative rationalities also claiming priority prevail as well, such as protecting organizational turf, political expediency, employment protection, or power acquisition. Other examples include the time-honored refuge of habit, religious doctrine, or ideological commitment, or culturally given, and hegemonic, norms of "acceptability."

All such value priorities shift and cut across organizations and individuals and, most assuredly, those persons who perform leadership roles. Living with the discontinuities and complexity constructively and humanely and endeavoring to rise above them will require greater intellectuality and maturity from leaders and citizens. However, our formal systems of education make poor or negative contributions to the shaping of a generation able to grow into emotionally mature, cognitively competent individuals capable of social responsibility essential for maintaining a humane world (Chisholm, 1999). For the most part, schools, even graduate schools, are maladapted for they seem to reinforce discontinuity, rather than developing critical perspectives and coping mechanisms (Stokes, 1999). They do not educate for a citizenry competent to live with and manage ways through the discontinuities

that envelop the world today. Those who act to affect the conduct of society, either as politicians or as so-called activists, appear unable and unwilling to think with the subtlety, skill, and persistence required for critical rather than ritual participation in the conduct of governance that seeks to overcome the conditions described here. At the least what is required is the ability to engage discursively, in terms of dialectical processes, systems behavior, both/and as well as either/or logics, and circular rather than linear cause-effect relationships (Beer, 1995; Espinosa, 2000; Geyer, 1994; Hardy, 2000). What is also required is an appreciation for the basics of psychodynamics as they affect one's own behavior and that of others in the public arena. But, of course, no such educational goals or norms exist in society at large, if for no other reason than the worldview that guides Western societies (and most others) does not require such competencies of their members. They simply have not been necessary until recent times. Instead what are typically conveyed to the next generation are the consequences of our own neuroses and counterproductive values and life styles.

Given this situation and in the years ahead, the conduct of governance will be increasingly bedeviled at all levels by an increasing discrepancy between the sophistication that is needed and the available emotional and cognitive capabilities of leaders and the led. However, even if we were to put the leadership issue aside, and argue quite correctly that one of the functions of groups, organizations, etc., is to offset or compensate for individual incompetencies, we will be disappointed. Indeed, we can draw little comfort from disclosures of persisting misuse of personal and corporate power as well as the vulnerability of governance groups to the same incompetencies (Dugger, 1989).

In today's organizations, decision-makers are operating further and further from certainty, using methods upon which they are further and further from agreement with each other. It is especially ironic that this situation has arisen not from communicational inefficiency, but its opposite. With the

arrival of the Internet, email, the World Wide Web, teleconferencing, data sharing and true trans-global teamwork, the regional, national and international linkages between organizations are proliferating more and more rapidly.

Swamped with information and opinions, researchers, policy-makers and decision-makers at all levels have to cope with more diversity amongst themselves, in ways of perceiving and evaluating situations. In this climate, organizations have to cope with faster and larger flows of information. Uncertainty and disagreement about roles, purposes, tasks and outcomes is rising to a critical level, which may in turn provoke anxiety and fear about individual security.

With these problems besetting them, governance structures and the governed are apparently being forced to operate further from certainty and agreement. They have to work with and in paradoxes. The period of time over which they can foresee their action and therefore the available landscape from which they can draft their plans is getting shorter and shorter. The ability of all managers and policy-makers, at any level, to comfortably foresee the governance systems long-term direction is diminished.

This, in fact, may be why so much of public policy planning invokes iterative processes which means going back to re-write past scenarios so they correspond with the actuality of today rather than the predicted actuality in the plans. Here the past becomes altered to fit in with our view of the present in order to reconstruct our "world" as a comfortable surrogate of reality.

We respond to these anxieties in a very predictable fashion by placing more trust and emphasis on our plans. We cling to structures and procedures. This is very typical of large organizations, and most typically bureaucracies, where anxiety and instability may be dealt with by the imposition of single-looped learning (Dodgson, 1993). These bureaucratic systems and tools may be the plans which are never realized, the agendas for meetings which decide in advance what will be said, the reports that reinforce our interpretation of

reality rather than reflect concrete reality itself. When we become unsure of our role in a position of responsibility, we re-arrange the functions, divisions and departments to meet whatever administrative fad is currently sweeping the corporate world, whether it is downsizing, empowerment or re-structuring. This is, indeed the domain of cognitive dissonance!

But, more often than not, we end up paying lip service to whatever our plans (if we have any) dictate, and instead rush around doing something quite different. For as Sir John Harvey-Jones noted: "It is much more fun to do something. And the nice thing about not planning is that failure comes as a complete surprise rather than being preceded by a period of worry and depression." Under severely pressured conditions our policymaking may even be generally satisfactory, and occasionally we have brief flashes of brilliance and creativity. We can see the results with our own eyes, but prefer to shy away from the thought that these results were achieved as a direct result of the mess in which we have been working.

We question our plans, and put the blame squarely on ourselves. With a commitment to the worldview that defines the world as controllable and therefore defines the competent person as one who can control causes to produce specific effects, it is our lack of skill and competence, resistance to change and sheer stubbornness that are to blame. We are the victims of our own inadequacies, which increase our sense of anxiety and loss of control. We feel that our inability to predict the future accurately is a weakness!

Not surprisingly, this often reinforces a need to cling to conventional modes of forecasting and planning, pushing organizations further away from certainty and agreement, and so the whole vicious circle continues.

Some Sources of Psychodynamic Discontinuities

Ours is a socially constructed reality where we often go to great lengths to avoid recognizing how profoundly unconscious biological and psychological forces and cultural definitions of reality implacably shape how we think, feel

and act. That we are driven by unconscious, and thus uncontrolled needs, aspirations, terrors and furies has been demonstrated in clinical studies by the likes of Freud and Jung and in literary works by Kafka and Dostoevesky. (Here I am referring to unconscious and often-obsessive needs such as those for power, affection, recognition, order or disorder, and needs to dominate or submit, to destroy or to create, to nurture or to be nurtured.) How these are expressed through individual behavior varies, of course, from socially constructive and interpersonally sensitive to the pathological. In part, this depends on what a given culture permits, what it constrains and what, as well as how it rewards the individuals and organizations. Today, these norms of acceptability and constraint are all in flux and represent a major contributor to discontinuity at all levels.

There are, of course, pernicious consequences of the unconscious processes of denial and projection, when these are the means by which persons who see themselves as highly competent unconsciously protect their deeply held image of themselves when faced with the enormous ambiguities, uncertainties and complexities of this world. Ideas, events or experiences that undermine that image undermine an individual's very sense of self. It is a grave threat to one's very being. A typical way psychodynamic processes operate to "cope" with such a threat is by denying its existence. Denial may be accomplished by trivializing a threat so its enormity is not accepted consciously, so that the threat is not consciously noticed or acknowledged. The threat is repressed and transferred to the unconscious where it may persist in disguised forms, for example, displaced or projected onto other less threatening "objects" such as an enemy, or taxes, or liberals or conservatives, unions or management.

The theory of cognitive dissonance, formulated by Leon Festinger (1962), can be reduced to the following thesis. If one finds oneself in a situation of conflict (which occurs often not only to individuals but also to specifically structured groups of people), when one's ideas, reference images and models,

beliefs and attitudes (in the sense of readiness to act) do not correspond with the objective reality and are falsified by this reality, then three possibilities may present themselves:

1. To change reality in such a way that it starts to correspond with our ideas, beliefs and attitudes. However, this exercise in control, especially in structures of richly connected feedback, as we have argued above, normally proves to be impossible;
2. To change our ideas, beliefs and attitudes to make them correspond with reality; this is easier, but often it would mean an ideological catastrophe for the person or group of people involved, and therefore they will resist the acceptance of such a solution to the utmost;
3. To ignore the evidence of facts, to close one's mind to them, to become immune to the voice of reality which falsifies our beliefs.

This third possibility—it is not a theoretical speculation but an empirically verified theory—is the defense mechanism of cognitive dissonance that interests us, (and may be apparent in policy making today with respect to global environmental protocols). It causes a sort of schizophrenia—social schizophrenia—when one understands intellectually what one is told but erases emotionally the content of the statement because its acceptance would demolish beliefs that are dear to one's self-identity. This is a typically schizophrenic situation; when a one knows something and at the same time does not know it. Here we approach saying of Tao Te Ching quoted earlier.

This mechanism functions all the more easily when we have to deal, not with a clear statement of facts, but with an epistemological conundrum that psychologically hinders our perception. The complexifications of everyday life with which we are dealing belong to the class of those phenomena that activate the defensive mechanism of cognitive dissonance.

This is not to say that by some indicators, success will not continue; that technology will create new products, and more people will get university

degrees. Yet fundamental discontinuities will persist and grow under and between these categories of success.

The United States as a whole bears witness to the symptoms of the accumulating dichotomies and discontinuities. [6] Consider sumptuous apartments and homeless people, mindless consumption and hunger, a deteriorating infrastructure and ever more "gated communities," magnificent museums and problematic garbage disposal, endemic crime and high sounding though ritual pronouncements on ethics from political candidates, etc. Consider, too, that there seems to be little real political will to do much about it. The dichotomies collide and lead to deadlock in an ever more complex disarray and with an ever mounting human and dollar cost. Instead of beginning to confront the problems with novelty they are pushed out of mind, out of action, and out of meaning.

Denial means that we are able to deftly ignore schemes that are required, in order to evaluate and act upon the growing complexity instead of facing directly the denied threats. Moreover, by denying the overwhelming seriousness of the issues, the person who denies can reject the proposal on the grounds that it is politically infeasible or someone else's problem. The psychodynamic processes of denial or projection, sometimes maintain the injunction of "business as usual." As suggested earlier, no longer as a species can we afford "policies" of deferral.

In this way, when these processes are operative—and by no means are they always—responses in a leader or citizen mismatch the social issues and the awareness of the epistemological dilemma. The response is disjointed and inappropriate in relation to the issue, and it lacks continuity across issues. Of

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[6] A baby born in Shanghai in 1995 was less likely to die in its first year of life, more likely to learn how to read, and could expect to live two years longer (seventy-six years) than an infant born in New York.
The US has by far the highest rates of child hood suicide, homicide and firearms-related deaths of any of the world's twenty-six richest countries.

course, this discontinuity can be amplified when denial or projection make use of the already ill-fitting epistemology to justify a reaction that arises from repressed needs, fears or hopes.

The point is that forecasts or planning efforts that presume that responses to them will be, or can be, exclusively conscious and "rational" will always slew by their intended audience. There is a pronounced disparity. A major consideration is left out of the dialogue: the meaning of the effort is different from what is said, or what is said about what is done, and the forecast or plan lacks congruence with the unconscious world of the recipients.

The global forces of complexification mean that we face unprecedented demands for integration, coordination and regulation of society, and unavoidable demands for and expectations of security and fulfillment through autonomy at all levels of society. However, the social complexity that elicits these demands is not comprehensible or containable through the conventional application of the dominant worldview or its epistemology by which we have long constructed our social reality. Also inadequate are our disjointed legitimating values that predate a world of richly interlocked processes. Nor apparently is there leadership and citizenship that is aware of, and skilled in, coping with the powerful unconsciously driven responses elicited by the threats to self-images of competence that these demands convey. Consequently, we lack the norms and processes for governance appropriate for meeting either of these demands, much less for synthesizing them. Nor do the sciences of complexity yet offer a worldview that can quickly and easily be widely subscribed to. This is in part because our models of education reinforce the dominant worldview and are reinforced by it. Add to all this that our chief mode of influencing is through language, and language is now understood, by many, as ungrounded in "objective reality."

High rates of crime and incarceration in the US go in tandem with equally exceptional levels of litigation and numbers of lawyers. America has at least one-third of the world's practicing lawyers.

Among the disjointed responses these accumulating discontinuities will elicit are those that deny, or seek to deny, all this by recourse to forecasts and planning for the purpose of regaining control or at least providing a coherent context as prelude to regaining control. But these aspirations are very likely to be frustrated even though there are temporary, local successes. Their destiny will much more often be attenuation and dissolution in the cross currents and counterforce that are deaf to, uncomprehending of, or unable to discriminate among the cacophony of messages glutting their parochial perceptual and operational boundaries. In this situation, we must ask: "Is there a utilitarian role, beyond the exercise of mere ritual and ineffectual outcomes, for forecasting and planning?"

Strategic Scenario Planning in the Interregnum

Given mounting evidence of societal disarray and lack of success in significantly reducing the incoherency that obtains from growing complexity, it occasionally may become more acceptable, even good politics, to concede this in public and make a pronouncement such as the following, "We really don't know where we are on this matter or what will work for sure." We must rediscover what questions are useful to ask and what approaches we might experiment with. Therefore, we must cultivate learning organizations and institutions (Kim, 1995). Rather than deny or project our troubles on the wrong "causes" or hide our uncertainties, we must use them vigorously as means not only for designing error-detecting, and error-correcting processes, but also for learning.

This kind of assertion becomes possible because not all those whose self-image is threatened become subject to the psychodynamics of denial or projection. And not all who do succumb are threatened into that state by the same enormities. Within this perspective, the latent evolutionary dimension of the sciences of complexity becomes not merely an alternate vision for public

policy planning, but more immediately a pedagogical tool for social learning (Keys, Fulmer, & Stumpf, 1996; Senge, 1990; Schwartz, 1991).

Whereas the conventional vision of public policy planning has been about the maintenance of institutional homeostasis, the evolutionary vision embraces strategic capacity building. In this connection formal procedures associated with scenario planning may serve as an especially rich source of specifiable risk. Among these uncertainties are assumptions about the dynamics of social change, the validity of data, and the consequences of ambiguities in the choice of categories for conceptualizing and of words for conveying the scenarios. In this perspective, strategic scenario planning is a means for learning what can be planned and coped with, but also what must be avoided. But it also means developing a greater awareness of the administrative implications of the worldview associate with the Newtonian control paradigm and the distinct possibilities that obtain from the sciences of complexity.

The learning curve here for strategic scenario planning as strategic - learning will be a very shallow slope with many valleys. It can hardly be otherwise given its dependence, at least to begin with, on myth, epistemology and language that will often detour an enterprise. Many traumatic events, as well as powerfully salutary ones, will intervene, disrupting the slope of the learning curve. It is from these events, and in unpredictable ways that new sciences of complexity will become embedded in the consciousness of public policy planners as they make sense of what has happened and what may yet happen.

Conventionally learning has focused on "maintenance learning" (single-looped learning) that emphasizes the "fixed" and the "known" that serve to reinforce the status quo. Evolutionary strategic learning (double-looped learning) focuses on the development of "capacity" directed at providing means for the individual or organization to enhance their own capacity for learning and adaptive response. While single-loop learning is a form of adaptive coping,

double-loop learning is strategic learning (Stokes, 1996). It is about the creation of new reference images, the norms, and the possibilities that attach thereto.

There is no knowing what are the fuller implications of the sciences of complexity, or how quickly their practical implications will penetrate the consciousness of public policy planners. During the period of the interregnum what will require fresh interpretation will depend on what events disrupt the social reality constructed by the Newtonian worldview. It is from such apparently incoherent sources that a coherent view may obtain from the sciences of complexity. Meantime, the perspective offered here—strategic scenario planning as the pedagogy for social learning—has the potential for helping planners, their clients, the recipients of the consequences of plans in action, and the creators of forecasts to be self conscious enough and humble enough to recognize that all are explorers in a strange place that is the interregnum between Newton and chaos.

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