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Policy

Appearance and Reality[1]

Overview of "Problems" and "Solutions"

"Gracious me! I've been talking prose for the last 40 years and have never known it." That exclamation was by M. Jourdain in Molière's *Le Bourgeois Gentilhomme.* I and my fellow applied social scientists, with no notable exceptions, would have to confess the same ignorance, with regard to policy, not prose, for the last 40 years. We have been that way since Lerner and Lasswell announced the emergence of the "policy sciences" in 1951 in a book with that title. In policy situations, we have gone on doing what we know best to do as social scientists. We have consistently evaded the question what it is about the policy sciences that makes them different from the other social sciences. We have been successful in that evasion, I suggest, because we have been sensitive to, and responded appropriately to, changes in context as we move from private to public organizations and from executive to administrative levels. In attributing the reasons for different practices to these contextual differences, we have been guilty, I further suggest, of the fallacy of misplaced concreteness. In what follows I argue that the significant differences are conceptual, not merely contextual. I go on to suggest how we might now try to realize Lasswell's vision that

> the policy science orientation . . . will be directed toward the knowledge needed to improve the practice of democracy . . . to affirm the dignity of man, not the superiority of one set of men. (Lerner and Lasswell, 1951 : 10)

That next step takes us beyond what we mean by policy to challenge what is meant by science when people talk of policy, or economics, as a science.

[1]From *A Systems-Based Approach to Policymaking*, edited by Kenyon B. De Greene. Dordrecht: Kluwer Academic Press. 1993.

Concepts and Definitions of Policy

Policy *formulation* must reflect the complexity and uncertainly of the environment within which choices are being made. We are not here referring to the choices that are made with respect to which goal or objective one should pursue; that is the domain of strategic planning and mission formulation. Our concern here is with forming policies. We are referring to a bias that an organization wishes to introduce with respect to a whole range of choice of means that might be made by those acting as agents of the organization; or by persons and organizations that are to some degree dependent on that organization. What is common to formulation of both strategies and policies is that both involve choices made by purposeful individuals or organizations.

Adoption of a policy should presuppose that viable plans have been made to enable the "bias" to operate in relevant areas of decision making. Unless ways can be identified so that the agents have to make choices that conform to organizational policy, e.g., follow-ups and inspections, the policy is no more than wishful thinking or window dressing. With respect to independent parties, adoption presupposes that their life-spaces have been modified in ways that lead them more often than not to make the desired choices. In this latter case, there often is no clear cut measure of effective adoption. To continually insist that there is a public policy in the absence of such evidence of adoption is to invite the so-called boomerang effect—as with many inhibitory policies, e.g., anti-smoking.

The above two statements presuppose a view of policy making that is not commonly held. A "good" policy statement would normally be held to be one which is simple and unambiguous with a clearly stated purpose that obviously serves some higher social or organizational good. The implementation of such a good policy statement could then be left to any person of common sense to work out. "Policy adoption" is simply not a problem if the policy is straightforward and stated "loudly and clearly." In this view, policy formulation is very much like formulating an advertising theme, and this may be why governmental and corporate policy making is so frequently associated with large public relations and media budgets. We shall try to explore the differences between these two views of policy. Unfortunately, we run into difficulties when we ask the first and obvious question of what makes a statement a policy statement.

In fact, the striking feature about the whole field of policy studies is the lack of definition of what it is that distinguishes policy studies ("policy sciences!") from political science, economics and applied social sciences. A common practice is to provide a simple postulate of what a policy is and then, without analysis or justification, proceed to attribute whatever meanings suit the matters under discussion. Equally common is the practice of simply ignoring the issue on the assumption that, if the author says he is writing about policy issues, then

they are policy issues (see Meehan's critique, 1985). Wildavsky, at least, in his classic study of *The Art and Craft of Policy Analysis* (1979), tried to confront the issue and admits that he and faculty colleagues have failed to resolve the matter:

> How can you teach (or write a book about) a subject if you can't say what it is?
>
> At the Graduate School of Public Policy in Berkeley, I discouraged discussions on the meaning of policy analysis. Hundreds of conversations on this slippery subject had proven futile, even exasperating, possibly dangerous. . . . Yet . . . students did learn to do (policy) analysis. . . . What was it, then, that could be learned but not explained, that all of us could sometimes do but that none of us could ever define (at least to anybody else's satisfaction?) (1971:2)

Their teaching experiences led them to conclude that this is a subject that is "better taught backward" (p. 3).

For the moment, let us just suggest that the success of "teaching backward" is probably due to the same factors that made the case-study method of Harvard Business School so attractive when we knew so little about what constituted good management. The case-study method, insofar as it works, can do so not from inductive generalizations but only in that some general principles are intuited that can then be put to the test. We hope, in what follows, to spell out what it is that might be so intuited. Hence our primary interest, for the moment, is in the definition of policy; its conceptualization. Table 1 provides some dictionary definitions.

If the leading practitioners and scholars cannot define policy, can some help be gained from the way the word is used in society at large? This is not an unrealistic ploy as in everyday life, as distinct from academia, it is often permissible to call a spade a spade.

In the last two sets of dictionary definitions, the most modern, the repeated reference is to "a course of action," even a "definitive course of action." These references blur the distinction between policy and means-end planning, strategy and problem solving. Each of these last three terms can be taken to imply a course of action that is adopted or pursued. However, the Oxford English Dictionary (OED) reference to prudent procedures seems to group together courses of action in terms of the qualities they have as means, as such, rather than their qualities as means to an end. The OED definitions abjure terms like efficacy and efficiency which would better describe courses of action as means to an end.

The apparent confusion in public usage of the term "policy" does not, however, appear in the definitions provided by Webster. It will be noted that the definitions in Webster's, original 1898 International edition, are focused on the

TABLE 1 Some Dictionary Definitions of Policy

Webster's International, 1898
- The settled method by which the government and affairs of a nation are, or may be, administered.
- The method by which any institution is administered.
- Management or administration based on temporal or material interests, rather than on principles of equity or honour; hence worldly wisdom; dexterity of management; cunning; stratagem.
- Prudence or wisdom in the management of public and private affairs; wisdom; sagacity; wit.

Webster's International, 1964
- A definite course or method of action selected (as by a government, institution, group or individual) from among alternatives and in the light of given conditions to guide and usually determine present and future decisions.
- A specific decision or set of decisions designed to carry out such a chosen course of action.
- Such a specific decision or set of decisions together with the related actions designed to implement them.
- A projected program consisting of desired objectives and the means to achieve them (formulation of policy).

Oxford English Dictionary, Compact Edition, 1971
- In reference to conduct or action generally: Prudent, expedient, or advantageous procedure; prudent or politic course of action.
- A course of action adopted and pursued by a government, party, ruler, statesman, etc.: any course of action adopted as advantageous or expedient (the chief living sense of "policy").

Macquarie Dictionary, 1981
- A definite course of action adopted as expedient or from other considerations.
- A course or line of action adopted and pursued by a government, ruler, political party or the like.

quality of means (methods) not ends, and that the criteria for judging the selection of means are notions of prudence, wisdom, sagacity and wit. (The explicit exclusion of equity and honor as criteria possibly reflects the decades of corruption of public policy formulation in late nineteenth century U.S. by the "robber barons" and their ilk.) Webster's 1964 International edition reflects the massive growth in the twentieth century of the "administration of people." It distinguishes between policies as potential guides to "present and future decisions," plans for implementation and formulated policy (program) as the combination of both features.

It is necessary to merge Webster's 1898 and 1964 definitions:

- A policy is a principle which is intended to guide the choice of means (methods) in the pursuit of objectives.

- A formulated policy is one which specifies how that principle will be implemented in given conditions.

Policy Compared to Strategy

It will be noted that a policy is not what is usually understood to be a strategic plan. Four distinctions need to be made.

A *strategic plan* typically depicts a strategic objective, to be achieved within a specified period, and a hierarchy of subgoals whose achievement will ensure the achievement of the objective, e.g., to land a man on the moon by year *X*, to seize *x* percent market shares in the next financial year, to graduate in law in five years. A *policy*, however, is typically one step removed from direct pursuit of an objective. A policy typically seeks to produce a change in the social environment such that certain kinds of ends are more or less easier to achieve, e.g., that there is less discrimination against female employees, that there is more equity in educational opportunities or that fewer people are motivated to violence. The benchmark for judging the worth of a policy is already given by the existing levels of such phenomena and has only to be pointed to by the policy-maker, not invented as in goal setting; past social experience indicates the rate of change in the occurrence of such phenomena that might be expected from policy interventions and thus serves to measure progress in the implementation of policy.

A strategy is expected to create both the *necessary AND sufficient* conditions for the achievement of the objective. At best a policy can only establish some of the *necessary* conditions for the pursuit of some strategic objectives—a producer-product relation not an analog of cause-effect relation (Ackoff and Emery, 1972).

With the achievement of its strategic objective an organization has usually managed to move itself to a more propitious place in its environment. By contrast, a policy typically seeks to change the environment or organizational culture within which objectives are pursued. By such changes it seeks to establish conditions that are necessary, although not in themselves sufficient, for the achievement of other objectives.

In pursuit of strategic objectives we see an interdependent set of activities that are convergent on the objective. The objective acts as the system principle and the relation between the parts tends to be multiplicative. Failure in one step may undermine the whole, while success may make the other steps easier. In the implementation of a policy we see a divergent set of activities. Those activities add up to determine the extent of implementation but are largely subject to local determination rather than system determination. Failure in one area does not have any necessary implications for success or failure in other areas.

The distinction between strategy and policies appears to be the same distinction as that we make in military affairs between strategy and doctrine. The military have had no problem in distinguishing strategy from doctrine; for example, doctrines for the employment of armor from the strategies which those indoctrinated forces implemented. In civil affairs the distinction was less apparent as government administrators concerned themselves with how policies evolved, and corporate leaders concerned themselves with corporate strategies. The professionals advising these two worlds have tended to live in separate professional communities. Selznick (1957) tried to bridge the gap with his book, *Leadership in Administration*. He was ahead of his time.

Distinctive Problems of Policy Formulation

The differences between the formulation of strategy and the formulation of policy are not trivial differences: different concepts are required to explain or predict the different dynamics. And evaluation must be done in different ways.

Governing bodies are typically involved in both strategic planning and policy formulation and often, in practice, the activities will overlap. Thus, strategic planning may indicate a need for new policies in some areas, and the simultaneous failure of several policies may lead to the formulation of new strategies. Nevertheless, the distinctive problems of policy formulation need to be borne in mind with respect to conceptualization, construction, critical criteria and institutional supports (Meehan, 1985).

Conceptualization

It is wishful thinking to imagine that realistic policies can be arrived at by either deduction or induction. No social science—including economics—offers a theory that adequately represents social reality. Deductions from the theories that we have can only give our arguments a spurious rigor. Similarly, there is no inductive methodology that can be cranked up to yield reliable policies automatically, whether it be survey sampling, experimentation or computer simulation. We can only proceed in the way that scientific discovery usually proceeds, that is, by retroduction. Given the issue that happens to concern us—traffic accidents, child poverty or whatever—we can only study it from as many angles as possible until it occurs to us that the phenomenon might be a consequence of some general principle. Thus, for instance, we might be concerned with the dissatisfaction expressed by a particular workforce. However we look at it, the dissatisfaction seems very real and persistent. Then we call to mind the general proposition that "alienation causes dissatisfaction" and ten-

tatively entertain the hypothesis that these workers may be alienated and that that is what is causing the dissatisfaction that we observe. With this hunch we have begun to define a problem and a direction in which a solution might be found. If we find that there is no way in which these workers can be described as alienated, then the hypothesis has to be discarded and we are back at square one without a problem that a policy might solve.

In our search for hypotheses we have to remain "domain oriented." That is, we have to take the phenomenon as it presents itself and search for whatever principle appears to fit the phenomenon regardless of how that phenomenon might be defined by disciplines or professions.

We are typically looking for policies that can be effective for social groupings that are multinodal and heterogeneous and we cannot assume the level of authority that can pertain to uninodal, homogeneous groups (Ackoff and Emery, 1972:227–29).

Construction of Adequate Policy Statements

The most important consideration in the construction of policy statements is precision. Whether rewards or sanctions are used to induce compliance with a policy, the most important consideration is that there should be no fuzziness about what is being rewarded or sanctioned, and no more behaviors should be covered than is essential for the purposes of the policy. Thus, if there is a policy to protect a particular fish population, it should specify that only fish over x inches long should be taken, not that only "mature" fish be taken or that "under-sized" fish should be returned to the water. The underlying aim is that introduction of a new policy should make the least possible change in existing conditions of life and the least possible demands on—or threats to—those it is hoped will observe the policy. If an explicit policy is needed, it is because sufficient people have not already seen the sense of behaving in the desired fashion. However, it is rarely the case that people act as they do without some reason. Hence, it should always be assumed that a new policy will arouse opposition and some measures must be planned to minimize this opposition. An "unfreezing" of existing habits is a prelude to change of habits.

Critical Criteria

At the very least, a policy should meet the criteria of specifying what actions should follow from observing the policy, of identifying the target population(s) and of producing a measurable change for individuals (not just some superficial change in the behavior of aggregates or institutions).

Institutional Supports

Inducing a change in behavior is not enough in itself. Steps need to be taken to support the continuance of the new behavior. Policy-makers have been quick to take advantage of the marketing potential of television. They need to take a further leaf from the book of modern marketers. Those people know that a successful launch has to be prepared for with careful organization of continued support from branding, pricing and distribution outlets. Similarly, with policies there needs to be careful consideration of what institutional supports are going to be needed to sustain the changes in behavior once they have been induced. The social field needs to be "frozen" again so that the new behaviors resulting from the policy come to be seen to be as natural as the previous behaviors (e.g., wearing car seat belts, not smoking in aircraft).

In Brief Summary

The points made about these four issues were meant as serious comment on the practice of policy making. However, the main point was to illustrate that the concerns of the policy-makers draw them into a universe of discourse that is demonstrably different from that of the strategic planners. We did not speak above of identifying strategic objectives, formulating mission-type orders, allocating resources to subgoal attainment or of operational, as distinct from tactical, planning.

A Systems-Theoretic Interpretation

Enough has been said here, I think, to justify a more formal statement about the differences between policy making and strategic planning. I shall try to state the differences in systems-theoretical terms because, as I shall try to show later, this links policy making to some well established and powerful lines of thought. I shall have to take this carefully as, in the past three decades, we have generated great confusion about what is a "systems-theoretical" statement; and we have generated a corresponding cynicism that such that such statements are just the traditional arguments dressed up in the new "buzz words."

First, if we take L_{11} to represent the system (or set of systems) with which we are concerned and let L_{22} represent the environment, then L_{12} and L_{21} can be taken to represent the effects of each on the other. To represent a total system-environment situation at any given time, there must be some lawful statements (L) for each one of the sets (11, 12, 21, 22). L_{22} can range from placid, randomized environments to turbulent-field environments and pos-

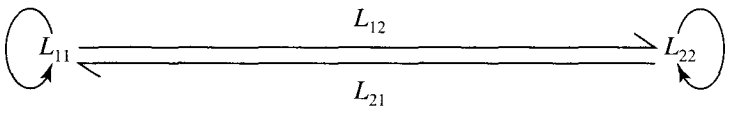

Figure 1. Parameters of the system-environment situation. Circular arrows represent lawful determining relations between parts of L_{11} and L_{22}.

sibly, in extremes, to Type V, vortical environments (Babüroğlu, 1988/Vol. III; Emery and Trist, 1972).

Figure 1 is an approximate representation of what I take to be the fundamental theorem of systems theory. Von Bertalanffy's (1950) concept of the "open system" totally ignored L_{22}; and Prigogine's (1980) concept allowed for only a minimal specification of L_{22} as random and hence with random bursts of relatively high energy in-flows. The position I took in the early 1960s was that changes in L_{21} are not all random but can sometimes be determined from changes taking place in L_{22}. Hence the concept, implied in Figure 1, that *a system can be fully characterized only if we can characterize its environment.* Either way, the testable assumption is that L_{12} and L_{21} are both greater than zero. With this formulation, the environment for living systems is much less than the universe of the physical scientists and much more than the world of the closed systems social scientists (e.g., Parsons's [1937] or Lewin's [1936] "perceived life space"). Two of the hoary problems of systems thinking just drop away; that is, what, apart from complexity, distinguishes a system from an aggregate of elements and how do boundary properties determine the system-environment relation.

In 1956 Hall and Fagan distilled out the classic definition of "system" as "a set of objects, conceptual or material, with their interrelations." This definition, like the sources from which it was distilled, blithely ignored the point that Angyal had made in 1941. Angyal argued that defining a system requires identification of the system principle which alone explains why these particular items enter into these particular relations; and which alone explains why we can confidently speak of systems as incomplete or having elements or relations that are redundant and alone explains why, if we find more than one system principle, we always find two or more entangled systems. The concept of a "system principle" is unacceptable to scientists if this is construed as "autopoiesis," a sort of Aristotelian essence inherent in the system. Thus Maturana and Varela (1980) define the organism as a self-regulating system and give the name autopoiesis to the self-regulating process. That is acceptable, but they go beyond that to assert that this is some sort of entelechy, within the organism, that drives the system. For them L_{22} is merely a source of perturbations. The metaphor they give (p. 51) is of a pilot flying blind on instruments without ever

knowing what it is that is outside and reflected, presumably accurately, on the instrument panel. Using their assumption, the scientific study of organism-environment relations is ruled out. A scientist would insist that only the study of organism-environment relations could lead one to entertain such an hypothesis. It is not a matter to be determined on a priori grounds. In line with the formulation of system-environment relations presented above, we are asserting that the system principle, as with system goals, is to be found in the special forms of interdependence that exist between the system and its environment. These interdependencies are open to scientific study; they are not speculations about untestable essences. It is this concept that is embodied in the dictum that any organization that seeks to influence its future must first ask itself, "What business are we actually in?" Get this wrong, then the organization's offers of dependency will not be reciprocated; there will be no interdependence and no future.

The argument represented by Figure 1 also does away with the hoary concept of "system boundary" as a third type of thing—like a fence or a wall—that mediates between system and environment. Instead, the boundary is represented as a process involving the *interaction* of L_{12} and L_{21}. It is a negative reflection on systems thinkers that they should have reified the concept of boundary for so long. Militaries long ago recognized that physical obstacles did not constitute boundaries between social systems (armies). The dynamic property of a boundary is that any uninvited crossing has the potential of invoking purposeful reaction. Obstacles covered by a reaction force can become a boundary, but without such covering defensive fire they are simply physical obstacles.

The theorem represented in Figure 1 can be better represented as shown in Figure 2. This representation has the advantage of highlighting

- that purposefulness is the result of the imbrication of two or more causal strands (we do not resile from causal relations within each strand, and we do not resort to teleology).
- that time is intrinsic to the transactional relation defined by the four terms. The emergent—and unpredictable—characteristics of the event at t_2 de-

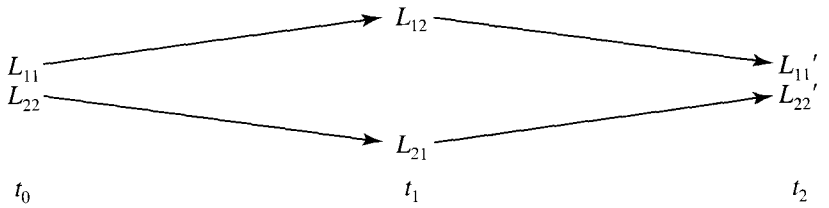

Figure 2. Temporal relation of the parameters of the system-environment situation.

fine it as later in time than the events at t_0 (time is extrinsic to the two-term interactions that can fully characterize any mechanism. Interactions define only a change in the arrangement of parts; the change could take place in either direction. Hence, only some external criteria can establish which was the prior arrangement). The period $t_0 - t_2$ constitutes "the present" for the temporal gestalt defined by the transformation of L_{11}, L_{22} to L_{11}', L_{22}'.

- that change and novelty are inherent in the transaction because the interaction of the independently determined processes L_{12} and L_{21} at t_1 and t_2 is a unique, one-off event.

Systems Definitions of Policy-Making and Strategic Planning

Having laid this groundwork, we are in a position to give a more rigorous, formal definition of strategic planning and policy making.

If, in *strategic planning*, an appreciation of L_{22} and the capabilities of the system L_{11} has revealed that new and more desirable forms of interdependencies are possible, then the plan for implementation is typically as shown in Figure 3.

If, in *policy making*, it is considered desirable to change the behaviors of the system, or set of systems, from L_{12} to L_{12}, then the plan for implementation is typically as shown in Figure 4.

Naturally, both strategic planning and policy making are working within the same model of system-environment relations but, aiming for different kinds of changes, they start from different places and work in different directions. The end result may not appear very different.

This presents us with two theoretical extremes. In practice strategic plan-

1. $(L_{11}, t_0 \longrightarrow L_{11}', t_1) \longrightarrow (L_{12}, t_0 \longrightarrow L_{12}', t_1)$
2. $(L_{12}, t_0 \longrightarrow L_{12}', t_1) \longrightarrow (L_{21}, t_0 \longrightarrow L_{21}', t_2)$
3. to give at t_2 a new steady state level of

$$L_{11}' \rightleftharpoons \begin{matrix} L_{12}' \\ L_{21}' \end{matrix} L_{22}'$$

Figure 3. Formal definition of strategic planning.

1. $(L_{22}, t_0 \longrightarrow L_{22}', t_1) \longrightarrow (L_{21}, t_0 \longrightarrow L_{21}', t_1)$

2. $(L_{21}, t_0 \longrightarrow L_{21}', t_1) \longrightarrow (L_{12}, t_0 \longrightarrow L_{12}', t_2)$

3. to give at t_2 a new steady state level of:

$$L_{11}' \underset{L_{21}'}{\overset{L_{12}'}{\rightleftharpoons}} L_{22}'$$

Figure 4. Formal definition of policy formation.

ning and policy making are not always such exclusive concerns. I shall return to this point but for the moment another matter should be considered.

Four World Hypotheses

The theoretical position outlined above corresponds with Pepper's (1942) world hypothesis of *contextualism*. No apologies are needed for that "coincidence." The leading theorists concerned with policy making (Lasswell, 1971; Meehan, 1982; Wildavsky, 1979) have unanimously stressed that any scientifically guided policy making must accept the rich diversity of interests, concerns and understandings of the contexts within which need for policy emerges and within which policy, once implemented, must find a home.

Granted that we have no place for policy making that is derived from interpretation of sacred texts or the whims of autocrats, there are only three alternatives to proceeding from contextualism. These are organicism, mechanism and formism.

We could proceed from the world hypothesis of *organicism*, that is, that the state is a living organism, like one big family. Under the influence of Hegel much of the welfare system of Bismarck's Germany appears to have evolved as a form of paternalism. In a family it is usual for the welfare of one member to be positively correlated with the welfare of the other members. In a modern society it is usual to find that at any given time (but not always) the welfare of some members is negatively correlated with the welfare of other members. This is Karl Marx's thesis of class conflict. Much more prevalent these days, and just as deep-seated, is "dissociation," the perceived lack of any relation between one's own welfare and the welfare of others (Emery and Emery, 1976:64–71, 109–14/Vol. III). The other side of the modern coin of social

exchange is the widespread sensitivity of age, gender and ethnic groups to anything that vaguely smells of paternalism. Whatever other faults the organicist world hypothesis has (Pepper, 1942:295–304) it does not adequately describe modern societies and for a policy-maker to presume otherwise is to enter a political minefield.

The *mechanist* world hypothesis has much more relevance to policy-makers. If they have had any tertiary education in the physical or the social sciences (not including economics), they will be deeply steeped in the categories and methodologies that have, since René Descartes and Isaac Newton, been associated with this model. In the public eye the quintessential scientific activity is the experimental demonstration in the laboratory of what causes what. When policy experts seek help from these sciences, it is likely to come in the forms suggested by this world hypothesis. If the policy experts consult the scientists about Problem *B*, the answer will take the form "*A* causes *B*" (more or less); therefore, if you change *A*, then *B* will change. Despite the usual passing reference to "multiplicity of other causes," this model seems always to encourage tunnel vision and single issue politics. More importantly, the logic of causes and effects seems more relevant to the pursuit of strategic objectives than the formation of policies. The logic of the policy expert is not usually "if *A*, then *B*." The logic of the policy expert is more appropriately that of "not *A*, therefore not *B*." A policy is argued on the grounds that if the policy is not in place, then *B* will not occur; if it is in place, it is possible that *B* will occur, but still possible, for other reasons, that it will not.

At the practical level it might seem that policy experts need not give much attention to advice from the mechanistic schools in the social sciences as they have produced so little knowledge that matches the rigor of the physical sciences. This is not so. There are many social scientists who will argue forcefully and persuasively that their sciences can achieve this stature if only they are given enough resources and encouragement. It is obvious that the policy-makers of the Western democracies are not impervious to such persuasion. Often the support given to social scientists is cynical window dressing. Exercises like the massive U.S. Congress support for James Coleman's (1966) study *Equality of Educational Opportunity* suggests that sometimes the policy-makers do believe that social science can deliver the goods. Or, at least, give that impression to the electorate.

The kind of promise that is held out to policy-makers is well illustrated by two of the textbooks on systems theory for social scientists:

> If we have a full description of the input signals and a full description of the system, it IS possible to derive a full description of the output system. Thus dynamic system analysis remains a determinate discipline. Perhaps it is even

> more significant that any two of the three descriptions . . . can be used to derive the third. (Heise, 1975:225)

> Interpreted in social terms, the theory of linear systems supplies a logical apparatus for treating the dynamics of social process. The fundamental premise of this logic is that the manner in which some states of society are transformed into other states depends upon the structure of the social system that is involved in this transformation . . . the structure of a system determines its function. This last assertion is true not just under any set of assumptions but rather is valid under the set of assumptions and interpretations of systems theory developed in this book. (Cortes et al., 1974:ix)

Policy experts could be forgiven for not noticing that these social scientists are not talking about the world in which policies are supposed to work. In both cases, the assumption is made that social organizations and societies are mechanical systems but the assumption is hidden behind verbiage. Social scientists then celebrate their "discovery" of the explanatory power of their fully determinate models. They have, in fact, discovered nothing, but simply demonstrated that a logically consistent model can be constructed on those assumptions. In the first case, the assumption is that the systems are incapable of exercising genuine choice. But policy experts have to work with purposeful systems. The responses of purposeful systems are not fully determinate. We cannot rule out responses that are wholly or in part a change in state of the system; for example, when a community gets fed up with attempts to interfere with its life-style. We cannot rule out novel responses to the situations created by new policies; for example, the criminal responses to the U.S. prohibition of alcohol. In the second case, the assumption that "the structure of a system determines its function" is not an assumption policy experts should readily accept. Inputs into a social system, including policy inputs, may produce specific outputs or a transformation of structure. Nowadays, policy inputs about freeways and forests seem to produce both, in indeterminate mixtures. The image of structure, as in a machine, is fundamentally flawed because, in human societies, "organizational structure is a functional structure describing the allocation of choice" (Ackoff and Emery, 1972:222).

Behind the facade of systems theory, the policy expert must be able to detect the difference between causal thinking and systems thinking:

> In causal research the task is to single out from a multiplicity of data pairs of data between which there is a necessary connection (i.e., if *A*, then *B*). In systems thinking the task is not to find direct relations between members but to find the superordinate system in which they are connected or to define the positional value of members relative to the superordinate system. (Angyal, 1941:35)

Limitations of Formism and Formal Rational Models

We could proceed from the formist (Aristotelian) position, the last of the four world hypotheses, of assuming certain postulates about human nature, or the nature of human society, and deduce what must necessarily, and naturally, be good for people. When this is attempted we discover that neither people nor societies quite fit our preconceptions. The temptation is then to discard the people who do not fit our preconceptions. It is easy to understand that policy making still proceeds in such a fashion in Eire where the medieval influence of Thomism still prevails. It is harder to understand the dominance of economic theory in the policy making of modern secular societies when that theory proceeds from the same basic world hypothesis. It is approximately half a century since Northrop (1947) proved that, despite the mathematical trappings, economic theory was not a scientific enterprise. The scientific enterprise is inextricably involved in external reality at the beginning and end of its projects. It starts with reductive assumptions about reality but these are reviewed and amended as the outcomes in practice differ from predictions. In contrast, economic theory is a logical enterprise. It is a machine that reviews and amends its assumptions in the light of the interest generated by the deductions derived from those assumptions. The development of economic theory has been influenced by neither the empirical relevance of its assumptions nor the empirical validity of its deductions. When theoretical economists define preferences, markets, equilibrium etc., they are concerned only with precise *nominal* definitions; they are not concerned with the scientist's painstaking efforts to determine valid *empirical* definitions. Thus, the theoretical economists are concerned only with possible worlds that do not have actually to exist. Then economists do not have to concern themselves, as theorists, with whether the outcomes predicted by their models correspond to any changes in reality. It is enough for them that they prove that, if such and such a world existed, then change *X* must necessarily (logically) result in *Y*. The diagrams from Northrop (Figures 5 and 6) tell it all.

Northrop was a competent analyst. His paper was read before the Economics Clubs of Yale and Princeton Universities before being accepted for the *Quarterly Journal of Economics* in November 1941. No economic theorist came forward with a rebuttal. Subsequent evidence suggests that the economic enterprise is even more deeply entrenched in its scholastic, nonscientific enterprise. In his presidential address to the American Economic Association in 1970, Wassily Leontieff was severely critical of the fact that economic theorists did not need to have any knowledge of economic realities. "Unfortunately, anyone capable of learning elementary, or preferably advanced, calculus and algebra and acquiring acquaintance with the specialized terminology of economics can set himself up as a theorist" (1971 : 1).

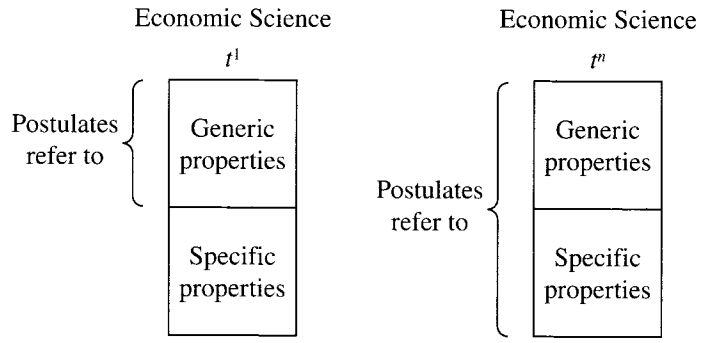

Figure 5. Properties to which the postulates refer. Source: Nothrop, 1947, p.252.

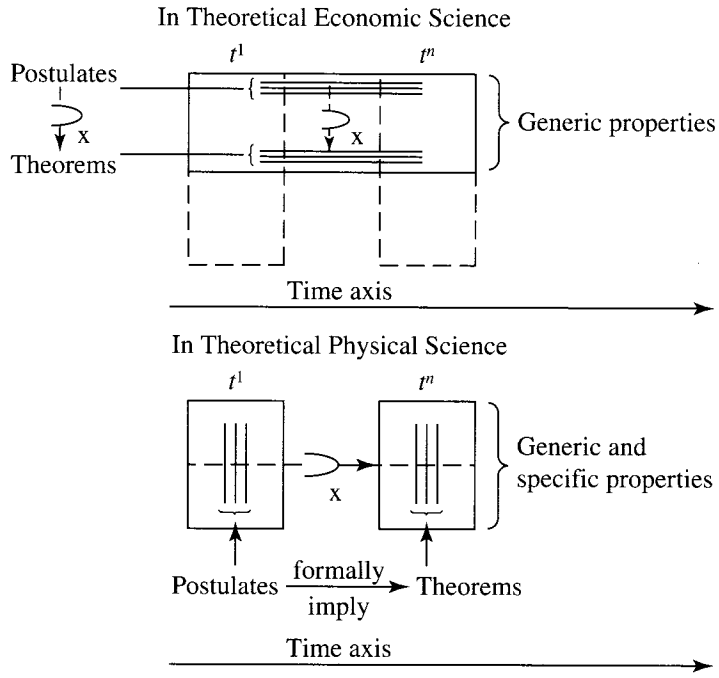

Figure 6. Factors between which the relation of formal implication ($\supset_x$) joining postulates and theorems holds. Source: Nothrop, 1947, p.252.

In 1982 Eugene Meehan published a study based, in part, on an analysis of the contents of the leading U.S. economic journals during 1970–1979. Only 5 to 10 percent of the articles published in those journals over the decade met Northrop's criterion of a scientific contribution, that is; starting from earth and coming back to earth. And most of those few were only dubiously tied to the real world. Even more striking was the apparent lack of any professional pressures toward producing scientific publications rather than self-contained logical exercises. Unlike mathematical exercises, the ones in economic theory—and computer econometric modeling—are replete with words like "markets," "preferences," "goods" and "values" that have ordinary everyday meanings. However, as used by economists those words have only the special *nominal* definitions that are arbitrarily chosen by the economic theorist. This lends their work the spurious and misleading appearance of being about the real world of economic transactions. But

> the principal finding of this study is unequivocal. From the policy-maker's perspective, both economic theory generally and econometrics are virtually useless. Their present products cannot be used in reasoned policy making and their approach to inquiry makes future improvement extremely unlikely. (Meehan, 1982:125)

A similar study that I did in the late 1970s of 10 years of the journal *Operations Research* yielded results that paralleled Meehan's. Operations research had found a home in academia and the published articles were exercises in applied mathematics. To repeat the analogy I used at the time, they were like a ship with an engine room but no sharp end and no blunt end with screws and rudder—not exactly a seaworthy condition. The published papers neither started from an empirical problem nor ended with a testable hypothesis. The editor over this period was retiring; he pointed to the same fault and lamented that all of his efforts to attract properly scientific contributions had come to naught.

The developments in economics, econometrics and operations research suggest that universities are not inherently structured about the ends that policy experts pursue. Universities, quite universally, are most concerned with the pursuit of academic excellence and they seem to be in agreement that excellence is best demonstrated in the mastery of the logical interplay of abstract universals; that is, the peak achievement in the formist (Aristotelian) world hypothesis. (As universities go into the business of educating policy experts, one has to wonder about what protects them from being turned in the same direction as the economists, econometricians and operations researchers have been turned.)

This review of the implications for policy experts of the world hypotheses of organicism, mechanism and formism has necessarily been sketchy. Enough

has been said, one hopes, to suggest that serious attention should be paid to the *contextualist* hypothesis.

For the policy expert the biggest obstacle is that the formal logic, which is the final arbiter of arguments in the other world hypotheses, is inadequate in the contexualist world hypothesis. We have pointed to the difficulties that economics—and now operations research—have gotten into with the pursuit of syllogistic perfection. The reason that the formal logic is inadequate is that contextualism takes time, not space, as the basic category; that is, contextualism focuses on time-space, not space-time. It accepts Peirce's (1982:392) dictum that, while there can be no motion *in* an instant, there can be motion *at* any instant in time. By contrast, in the classical world hypothesis

> every state of the world at each particular instant was defined as a huge instantaneous configuration of an enormous number of particles, each of which was moving according to the laws of classical mechanics while preserving its physical identity through time. World history was thus viewed as a continuous succession of such instantaneous configurations. (Capek, 1991:326)

On this assumption that everything is determined by everything else, abstract universals could be taken as referring to possible determinants. Democritus is credited with first formulating this assumption ("By necessity are foreordained all things that were and are and are to come") but it is in the formal logic of Aristotle that this metaphysical view of the world has been enshrined (Harris, 1983:161). The laws of identity and the excluded middle precisely reflect this world of successive, determinate instants. The fact that, by mere assumption, Aristotelian logic ruled out the world view of Heraclitus ("Nothing is but is always becoming") that was made plain for all to see by Zeno's famous paradoxes (Peirce, 1982:390–92; 1984:254–57).

Contextualism, in effect, reasserts the Heraclitean worldview and hence necessarily finds formal logic less than an adequate guide. More specifically, it insists on a distinction between formal or abstract universals and material universals. Only those universals can be considered material which can claim some connection with material entities (Feibleman, 1979:198; Peirce, 1984:258). Only material universals can help us to understand the processes of becoming in a field of material entities. In formal logic the major premise in a syllogism can take the form of "all *M*s are *P*," because *M* specifies a formal universal, and there are no restrictions on its references and the members of the class thus specified are infinite and can be treated as identical. This abstract emptiness explains why contextualism requires concrete (material) logics. In concrete logics the major premise cannot take the form of "all *M*s are *P*," as the universals are material universals. With material universals reference is restricted to the range of members of the designated class (which membership may be extended indefinitely but is not infinite), and the members, while simi-

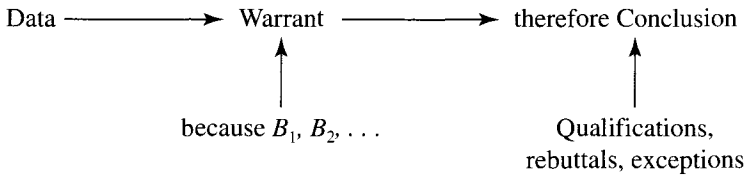

Figure 7. The structure of arguments.

lar in some respects, are not and cannot be treated as identical. By the same token, concrete logic accepts "middle terms" and rejects the "law of the excluded middle."

Stephen Toulmin (1958) showed us the kind of concrete logic that policy-makers need in real-life contexts. Toulmin's thesis is that in real life we are arguing about material universals. Hence, we should not accept any formal logic that substitutes formal universals for material universals, as formal universals do not, and cannot, constitute empirical evidence. They cannot even point us to where we should look for empirical evidence.

Instead, Toulmin argues, we must ask of any major premise: "What evidence does it provide to warrant drawing conclusion C from data D"? If the warrant is not acceptable, further backing (B) arguments are needed, and so on ($B_2, B_3, \ldots$).

Because we are arguing about material classes, whose members are in varying degrees similar but not identical (certainly not identical with respect to the determining contexts within which they find themselves), the conclusion will usually have to be qualified. The qualifications themselves are subject to rebuttals and exceptions.

Diagramatically these relations are shown in Figure 7. This is not a fully spelt-out concrete logic. For an example of such we have to turn to Feibleman's (1979:218–26) concrete logic of organizations. As Fischer (1990) has pointed out, however, the work of Paul Taylor (1961) on these informal logics clearly identifies a hierarchy of four levels of warranty that a policy-maker should require before concluding that "the facts lead to this conclusions."

Policy Expertise and Rationality Revisited

However far we succeed in progressing in these directions, we are still left with serious problems arising from the concept of "policy expert" itself. I have used this term to distinguish between those concerned with the formulation and

adoption of policies and to distinguish these two groups from the policy-makers. In a democratic society, it is assumed that the elected representatives are the policy-makers. In practice, the skilled policy experts often seem to be effectively the policy-makers. Insofar as this is the case, policy experts would seem to be white-anting the democratic processes they are employed to serve.

I suggest that this is so only so far as expertness in policy formulation is seen as identifying the most probably effective course of action. I am referring here to the concept of rationality that economists attribute to "economic man." It is not, however, the concept of rationality that best describes the behavior of human beings and their institutions. Human beings enter choice situations not only with conceptions of objectives they wish to achieve but also with a, usually unstated, determination to preserve their own identity and self-respect, and a preference for courses of action that they find enjoyable in their own right.

In the first rigorous concrete logic of "psycho-logics" Heider (1946/1981) concluded with the observation that

> Max Weber and others pointed out one kind of rationality in behaviour, namely, the rationality of the means-end relation. Choosing the appropriate means to gain an end makes for a "good," a "rational" action and we can understand it. However, understandable behaviour often is not of this sort, but is based on the simple configurations of *U* (cognitive) and *L* (attitudinal) relations. Since they determine both behaviour and perception, we can understand social behaviour of this kind. (1981:110–11)

This can be explicated further. Rationality for human beings and their institutions is a function of the perceived probable outcome, where probable outcome is a function of both probable Effectiveness and probable choice, taken jointly. probable Effectiveness is Heider's *U* relation and the economists' rationality. probable choice is Heider's *L* relation (Ackoff and Emery, 1972:58). What these authors are asserting is that people do not choose between courses of action simply on the basis of which will be most effective in achieving the objective they have in mind. Even with full knowledge of the relative effectiveness of the possible courses of action, they will be biased toward those courses that they like, are familiar with or which seem most in character with their own sense of identity. More than that, the whole set of effective courses of action may be so off-putting or repulsive, by their values and ideals, that a human being might decide the desired end is "not worth the candle."

These considerations should disturb any conceptions of what is, or who could be educated to be, a policy expert. In the inputs for the facts, warrants and qualifications of Toulmin's (1958) argument, we are inevitably concerned with data, values and ideals. In formulating policy we are concerned with influencing the choices that people make. Hence, we must consider the attitudes,

values and ideals that will enter into those choices. If we ignore these matters, we can expect policies to fail because people persist in their "irrational" ways or ignore, subvert or actively organize to defy the "irrational" policies of the experts. We can go some way in empirically determining attitudes. I think the expertness of policy experts now should be in "searching for common ground" with those whose values and ideals are likely to be influenced by the policies that are under consideration (Emery, 1969/1981 : 27). The policy expert would be the one who formulates policies that people perceive, perhaps for the first time, as sensible and desirable.

Challenges and Recommendations

Policy making is not, and cannot be, a determinate science. The "light on the hill" that Lerner and Lasswell lit in 1951 must be dismissed as wishful thinking. Guidelines to policy making can certainly be devised, but not "policy sciences." This is no cause for dismay, if we can continue to evolve guidelines that enable us to avoid the disasters in policy formulation and adoption that mark the past. It would, of course, be much more reassuring if we could, more often, produce policies that succeed because the people, whom the policies are supposed to help, actively ensure their success. These are sentiments that, I think, most policy experts would share.

I have been embarrassed, however, constantly, for some decades, with being a social science expert in policy matters. Three sources of embarrassment keep recurring. My knowledge as a social scientist is conditional, but is treated as definitive; the "powers that be" whom I am advising make what they wish, within limits, of my advice. I am embarrassed because my knowledge is largely about what will not work in human affairs; it is impossible for me to be definitive about courses of action that have not been tried before. I am embarrassed when my work as a social scientist is used in some power ploy for ends that I do not approve. I am embarrassed when my research is used to justify reduction in the range of choices open to people.

In 1964, West Churchman and I sat down to pool our experiences with respect to the second question, the question that Wildavsky (1979) aptly phrased "speaking truth to power." Churchman brought his experiences as an early, practical operations researcher and I had my experiences as a social scientist. We had no difficulty in identifying the three roles that were open to us as scientific advisers. We could wear our university hats and make our observations and give advice from a securely independent position; we could take out "dual citizenship" by becoming professional employees of the organizations seeking our advice; or we could seek the sanctioning of some body whose interests are

seen as encompassing sectional interests within the organization we wish to study and advise. A simple example is the Joint Committee of the employers and unions that guided the research into new managerial policies in Norway from 1962 to 1968. With regard to the independent role, we concluded that it "is incomplete because the independent research community has no adequate way of judging whether its focus of interest or its output are of any real concern or value to any other organization" (Churchman and Emery, 1966:79; Vol.III). With regard to the dual role, we observed that it "is incomplete because the researcher has no adequate basis for resolving conflicts of interest and values within the organization under study or between it and the research community (p. 80). The third role seemed obviously desirable if we were to get close to the issues and conflicts and yet not become a captive tool of some factional group. Finding an encompassing third organization was recognized as a serious practical difficulty that might not always be resolved.

In gathering experience with this problem, I continued to grapple with the other two problems of being taken as an expert with determinate knowledge and involving people in formulating and taking responsibility for policies that concern them. As the problems came into focus it seemed to me that a solution would involve

- conducting some search process whereby the main parties to the proposed change can clearly identify and agree about the ideals the change is supposed to serve and the kinds of paths most in character with their traditions;
- designing a change process which will enable relevant learning to take place at rates appropriate to the demands of time. This process involves the time within which change must occur to avoid intolerable costs of not changing, and the time by which decisions need to be made if adequate resources are to be mobilized;
- devising social mechanisms for participation, whereby the choice of paths will reflect the intrinsic value of these paths for those who will have to traverse them.

The social mechanism that emerged was the *search conference*. This is a temporary planning community, meeting under "social island" conditions for as many days and nights as seem necessary for their work. The conference and its membership have to be sanctioned by the key operational bodies involved in the issue. Experts may be participants, as resource people, but it is the conference that is sanctioned to give the advise normally sought from experts. Responsibility for adoption and implementation of conference recommendations remains, of course, with the key operational bodies (Emery, 1981). Occasionally situations have been encountered that are so polarized that the concerned parties will not meet together in joint search. These are rare occasions. Most times search conferences have been approved and met the three

aims outlined above, regardless of the issues and kinds of parties involved (M. Emery, 1982; Vol. III).

It seems to me that the search conference, or some such participative mechanism, must replace the traditional role of the policy expert. The policy expert will be one who is equipped to identify when such mechanisms need to be used and advise on who should be involved and on how the process should be conducted. The role of Plato's guardians simply corrodes our democratic institutions. Emeritus Professor Robert A. Dahl (1989:338), after a lifetime of studying modern democracies, observed that "if the democratic process is not firmly anchored in the judgments of the demos, then the system will continue to drift toward quasi-guardianship."

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