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ABSTRACT

Public policymaking institutions and their operations should be viewed as complex systems, to be analyzed and improved with the help of basic general systems theory ideas and concepts. Possibilities of and needs for changes in the policymaking system can be illustrated by eleven improvement proposals: explicit strategy decisions, explicit learning feedback, better consideration of the future, much analysis, encouragement of creativity and inventions, improvement of one-person-centered decisionmaking, development of policy professionals, development of politicians, establishment of policy sciences as an academic discipline, radical changes in school teaching of civic and current affairs subjects, and explicit and systematic metapolicymaking. (Author)

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SOME NORMATIVE IMPLICATIONS OF A
SYSTEMS VIEW OF POLICYMAKING

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ABSTRACT

Normative general systems theory can provide a main approach to the improvement of public policymaking and serve as a basis for policy sciences. For these purposes, the public policymaking institutions and their operations should be viewed as a complex system, which can be analyzed and improved with the help of basic general systems theory ideas and concepts. Especially significant is the distinction between system outputs and component output, which leads to two main conclusions: a. a variety of alternative changes in different components can result in similarly better policies; b. in order to have any positive impact on the overall policy output, changes in the policymaking-system components must reach some minimum threshold.

Possibilities and needs for changes in the policymaking-system can be illustrated by eleven improvement proposals: explicit strategy decisions; explicit learning feedback; better consideration of the future; much analysis; encouragement of creativity and inventions; improvement of one-person-centered high-level decisionmaking; development of policy professionals; development of politicians; establishment of policy sciences as an academic

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interdiscipline and profession; radical changes in school teaching of civic and current affairs subjects; explicit and systematic meta-policymaking.

Realization of such improvements based on a normative systems approach can result in important, though limited, advances in the quality of policymaking. They can be intellectually and politically feasible if intense efforts are made.

INTRODUCTION

The systems approach in its general theory forms can be used to better analyze and explain behavior and to provide a unifying and general theoretic framework for comprehending in common terms a larger number of more heterogenous phenomena. Another main use of general systems approaches is normative. As developed in "systems analysis" and "systems engineering," the normative approach tries to use, explicitly or implicitly, general systems theory concepts and frameworks in order to improve the operations of a given system or to design new and better systems.

In its conceptions and ideas, normative general systems theory seems to hold much promise for conscious social self-direction -- a promise of special importance for contemporary humanity, with its increasing need for better public policymaking as a main mode for dealing with increasingly acute and difficult social problems. But, at present, social systems and their broader components are in the main excluded from reexamination and improvement with the help of system approaches. Some promising work has been done in the utilization of systems ideas for analyzing and explaining social behavior, but

very little is available on normative applications of general systems theory to broad, none sub-sub-sub-optimized, social issues and systems.

The characteristics of social systems seem too diffuse, their dimensions seem too complex and many of their events too arbitrary (in the technical sense of being unpredictable and unexplainable by either deterministic or stochastic concepts) to fit into any "model" which is formalized enough to permit systems analysis, systems control and systems design* by available techniques. Application of the normative system orientations to social issues is regarded as either quite useless, in the opinion of many social scientists and most policy practitioners, or must wait till social science becomes more mature and delivers the "hard data" needed for vigorous systems approach, in the opinion of most systems analysis professionals.

*I prefer these terms to the concept "systems engineering," which I think should not be used in reference to social systems. It is too technically oriented and has too strong amoral (though not immoral) connotations to fit social phenomena and their improvement requirements.

It is with those views and the resulting scarcity of useful normative applications of general systems theory to the social arena that I disagree. It seems to me that general systems theory can make great contributions to social improvements, but in order to do so we must learn to distinguish between its core ideas and its secondary apparatus. What is useful for normative application to social macro-phenomena are the basic ideas of general systems theory: the very idea of a "system," the distinctions between system behavior and additive component behavior, the concepts of interaction and feedback dynamics, adjustive and homeostatic behavior, system-environment exchanges and interdependencies and more. What is less useful for normative treatment of social systems, at least in the foreseeable future, are some philosophic assumptions of parts of general systems theory, such as the issues of entropy vs. negative entropy, and especially some of the main tools of normatively applied systems approaches, such as quantitative models, optimization techniques and computer simulations.

This paper is devoted to an effort to use normatively some simple general systems concepts in order to explore approaches to the improvement of public policymaking.

My purposes in doing so are: (a) to illustrate the possibilities of utilizing a simple general systems approach for improving complex social systems; (b) to stimulate work on one of the most important contemporary needs, namely, the improvement of public policymaking; and (c) to try and lay some foundations for a new interdiscipline of policy science, based in part on general systems theory.*

A GENERAL SYSTEMS VIEW OF PUBLIC POLICYMAKING

Using a very simple version of systems theory, we regard public policymaking (and, with some changes, other types of policymaking) as an aggregative process in which a large number of different units interact in a variety of part-stabilized but open-ended modes. In other words, public policy is made by a system, the public policymaking system.

This system is a dynamic, open, non-steady-state, includes a large variety of different and changing multi-role components interconnected in different degrees and through a multiplicity of channels, it is closely interwoven

*Some theoretic foundations of such a policy science, based on a systems approach to policymaking, are presented in my book Public Policymaking Reexamined (San Francisco: Chandler Publishing Corporation, 1968).

and overlapping with other social macro-systems (e.g., the productive system, the demographic-ecological system, the technological and knowledge system and the cultural system), and it behaves in ways which defy detailed modelling.*

Nevertheless, even a very simple systems perspective of public policymaking, which is feasible with available knowledge and the present state-of-the-art, leads to two important improvement-relevant conclusions:

a. As public policy is a product of complex interactions between a large number of various types of components, similar changes in the output (or similar "equifinal states") can be achieved through many alternative variations in the components. This means, for our purposes, that different combinations of a variety of improvements may

* A much longer time perspective may permit modelling of the evolution of human institutions in historiosophic or biological terms, but is irrelevant for improving the policymaking system. But such models may become important for some future long-range policy issues, such as genetic improvements through molecular engineering, space expansion policies for the human race, and problems of total environmental control techniques.

be equally useful in achieving equivalent changes in the quality of policymaking. This is a very helpful conclusion, because it permits us to pick out of a large repertoire of potentially effective improvements those which are more feasible under changing political and social conditions. This view also emphasizes the open-ended (or, to be more exact, "open-sided") nature of any search for improvement-suggestions: there is, in principle, unlimited scope for adventurous thinking and invention. Therefore, any list of such proposals should be regarded as illustrative and not definitive.

b. A less optimistic implication of a systems view of public policymaking is, that improvements must reach a critical mass in order to influence the aggregative outputs of the system. Improvements which do not reach the relevant impact thresholds will, at best, be neutralized by countervailing adjustments of other components (e.g., a new planning method may be reacted to in a way making it an empty ritual); or, at worst, may in fact reduce the quality of aggregative policies (e.g., through possible boomerang effect, reducing belief in capacity of human intelligence, with possible retreat to some types of mysticism, leader-ideology, etc.; or by making and

implementing wrong decisions more "efficiently," and thus abolishing a basic social protective mechanism -- inefficiency as reducing the dangers of foolish decisions and as permitting slow and tacit learning).

At present, many efforts are under way in the United States (and other countries) to improve public policymaking, though in a disjointed way. These efforts take a number of forms, including for instance: a. establishment of new types of organizations devoted to improving policymaking (such as RAND, the Urban Institute, and, in another way, the Center for the Study of Democratic Institutions); b. development of new methods which try to help better policymaking (such as systems analysis, planning-programming-budgeting-systems (PPBS), and sensitivity training); c. establishment of new schools and departments at universities devoted to "policy studies" (such as the program in policy sciences at Buffalo, the program in social policy planning at Berkeley, the programs in analysis at MIT, the new program in public policy at the Kennedy School at Harvard, and the large number of new schools for public affairs. These new programs are also in part a response to student demand, with an apparent move by top students from physics to social-problem-relevant

studies); and d. various efforts to increasing the utilization of behavioral sciences in government.

These and similar efforts are symptomatic of increasing awareness of the need for, and constitute an important beginning on the way to, better public policymaking. But, if stabilized in their present form, they are of limited usefulness and perhaps even counterproductive, because they neglect to view policymaking as a complex system, ignore many critical improvement needs, and fail -- in many respects -- to reach the minimum critical mass. In particular: they apply in the main to low-level and technical decisions; they depend on quantification; they require unavailable highly-qualified persons; they fail to deal with many critical decision situations (e.g., the one-person-focused decision situation); they, in effect, ignore the needs for creativity, tacit knowledge and adventurous thinking, and may indeed repress them through subjection to inappropriate criteria; they tend to ignore if not to distain the "political"; they fail to face the complexities of value judgment, and they have no comprehensive theoretic basis nor the necessary underpinning of academic research and professional training (other than in the rather narrow areas of operations research, systems engineering, and parts of economic theory).

What is needed, therefore, is a broad systems approach to the improvement of policymaking, with the help of which a sufficiently large variety of improvement suggestions can be identified so as to provide a sub-set of feasible alternative improvements sufficiently large to reach the critical mass and to achieve a substantial impact on aggregative policymaking. The probable effects of any proposal must be "gestimated" (guessed-estimated) in terms of system-effects and, in most instances, a synergistic set of improvements is required. This applies to the illustrative improvement-suggestions to be presented soon, which are mutually reinforcing and should be implemented in sets including at least some measure of a number of them.

SOME SUGGESTIONS FOR IMPROVING PUBLIC POLICYMAKING^{*}

Improvement of public policymaking must, as explained, proceed in respect to all main dimensions of the public policymaking system. In particular, improvements are required in respect to: a. process-patterns; b. structure; c. personnel; d. knowledge; and, on a broader level,

^{*}Some of these illustrations were presented by me before the Center for the Study of Democratic Institutions and benefited much from discussions with its Fellows.

e. "policy culture." In all these dimensions, improvements should strengthen rational-analytic capacities as well as extra-rational capacities (such as creativity, tolerance of ambiguity, propensity to innovate, and levels of aspiration). To concretize and illustrate, let me present concisely eleven proposals dispersed over these systems dimensions:*

(1) Explicit strategy decisions. Special structure and process-patterns should be established to engage in basic strategy decisions, as distinguished from more-or-less ad hoc policymaking. Such strategy decisions include formulation of longer-range policy goals, establishment of main postures, determination of attitudes toward risk and similar "master-policy" decisions.

(2) Explicit learning feedback. Special structures and process-patterns should be established to engage in the systematic study of past policies, the drawing of future-oriented conclusions from those experiences, and the injection of these conclusions into contemporary policymaking.

(3) Better consideration of the future. Special structures and process-patterns should be established to

*For reference to more detailed discussions of some of these ideas, see the bibliographic note at the end.

encourage better consideration of the future in contemporary policymaking. This includes, for instance, dispersal of various kinds of "future study" organizations, units, and staff throughout the social guidance cluster, and utilization of alternative images of the future and scenarios as standard parts in all policy considerations.

(4) Policy analysis should become an integral part of policymaking. This involves (a) development of policy analysis as a method for better dealing with complex, largely non-quantifiable issues; and (b) establishment of policy analysis units (of different scope, size, and complexity) throughout the social guidance cluster, so as to change somewhat the patterns of policy discussions and policy formulation.

(5) Creativity and invention in respect to policy issues should be encouraged. This involves, for instance, no-strings-attached support to individuals and organizations engaging in adventurous thinking, avoidance of their becoming committed to present policies and establishments, and opening up channels of access for unconventional ideas to high-level policymakers. Creativity and invention should also be encouraged within policymaking organizations by institutionally protecting non-conventional thinkers from organizational conformity pressures.

(6) Improvement of one-person-centered high-level decisionmaking. Even though of very high and sometimes critical importance, one-person-centered high-level decisionmaking is very neglected both by research and by improvement attempts. This in part is due to difficulties of access, on one hand, and dependence of such decisionmaking on the personal characteristics and tastes of the individual occupying the central position, and the consequent difficulties in improving such situations, on the other hand. Nevertheless, one-person-centered high-level decisionmaking can be improved, because some needs of better decisionmaking -- as already explained -- can be satisfied by a variety of means, some of which may often fit the desires of any particular decisionmaker. Thus, information inputs, access of unconventional opinions, feedback from past decisions, etc., can be provided by different channels, staff structures, mechanical devices, communication media, etc. -- which provide sufficient elasticity to fit arrangements to the needs, tastes, preferences, and idiosyncrasies of most, if not all, top decisionmakers.

(7) Training and development of policy analysts and other policy professionals. Nearly all the improvement

suggestions require persons with high moral, intellectual, and academic qualifications to serve as the professional staff for policy analysis, policy research, future studies, etc. Training of such professionals at universities and their continuous development (e.g., through rotation between more detached and more applied research) is essential. Also urgently needed is professional organization of policy analysts and other policy science professionals -- to push research and training, support recognition, encourage mutual learning and share processing of experiences, and try and deal with very difficult and sensitive issues of professional ethics and qualification requirements.

Better policymaking requires also better utilization of social sciences, of law, of life sciences, and other disciplines. Preparation of graduate students in these areas for playing a role in policymaking -- both in staff positions and as independent free-thinking citizens -- requires significant changes in many of the contemporary graduate studies curricula.

(8) Development of politicians. The idea of improving politicians is regarded as quite taboo in Western Democratic societies, but this is not justified.

Politicians can be improved within the basic democratic tenets of free elections and must be improved to increase the probabilities of good policymaking. Leaving aside more diffuse proposals on how to encourage entrance into politics of more persons whom we regard as "desirable" and how to vary the rules of the game to permit better judgment by the voter, let me concretize my idea with one discrete proposal: elected politicians (e.g., members of a state legislature) should be granted a sabbatical to be spent in self-developing activities, such as traveling abroad and studying. Suitable programs should be established at universities and special centers, for active politicians to spend their sabbaticals at them in a useful and attractive way.

(9) Establishment of policy science as a distinct area of research and study. Implied in most other improvement suggestions, and indeed fundamental for every effort to understand and improve the public policymaking system, is the need for more knowledge on and for policymaking. Taking also into account the needs of preparing and developing policy professionals, and in view of the organizational characteristics of most universities -- recognition of policy sciences as a distinct area of research and study seems essential.

(10) Radical changes in the school teaching of "good citizenship" and current affairs subjects. In the longer run, better preparation of the citizen for his roles in influencing policies and policymaking are of critical importance for the adjustment of democracy to an age of more knowledge and better multi-directional communications. A first step to meet urgent needs is radical change in the teaching of all "good citizenship" subjects in the elementary and high schools in the direction of developing individual judgment capacities, learning information search and evaluation habits, and increasing tolerance for ambiguities, as well as readiness to innovate. Intensive use of new teaching methods, such as gaming and projects, and full exposition to contradicting points of view may be helpful in the desired directions. But what is really needed is a far-going reform of the teaching of all subjects (and of all teacher preparation), including early introduction of pupils to a system view of reality and problems.

(11) Explicit and systematic meta-policymaking. Basic to all improvement-suggestions, and indeed to the whole approach presented in this paper, is the requirement for explicit and systematic policymaking on how to

make policy and on how to change and redesign the policy-making system, that is meta-policymaking. It is the very limited, sporadic and somewhat accidental nature of present attention to the main features of the public policymaking system which poses the most urgent need for fargoing change. Spontaneous adjustments, incremental change and learning by shock-effects of radical mistakes -- these may have been adjustment mechanisms adequate for survival in the past, though at a level well-characterized by Milton Rubin by his reference to Walter Pithim's book An Introduction to the History of Human Stupidity.* In the future, which in part is already with us, the natural adjustment capacities of the public policymaking system are not enough: they must be complemented, and in part substituted, by the application of human intelligence and knowledge -- through explicit and systematic meta-policy-making. This requires think-organizations which specialize in the monitoring and evaluation of the public policymaking system and the creation of improvement proposals. But much more is required: the quality of public policymaking

*Milton D. Rubin, "The General Systems Program: Where Are We Going," p. 15.

must become a main concern for academic research and study, public interest and political action.

Implications for the Future

The eleven improvement suggestions, as already mentioned, are only some illustrations of needed, mutually reinforcing, improvements in the public policymaking system. But they and, especially, the critical eleventh recommendation on explicit and systematic meta-policymaking, clearly seem to raise two additional, and more basic questions, namely (1) what can be hoped for in the way of better policymaking even if we fully apply a systems view to the improvement of the policymaking system and implement these and similar reform suggestions; and (2) is it realistic to expect any impact of a systems view on policymaking reality, and do any such intellectual ideas have any political feasibility in the foreseeable future?*

Our view of policymaking as the function of a complex and non-deterministic system should help us to avoid any form of hubris and to warn us of misplaced

* I am grateful to Milton Rubin for pointing out the neglect of this very important question in an earlier version of this paper.

overconfidence in the human capacity consciously to shape (or misshape) his own future. My own feeling is that for the next ten to twenty years, some avoidance of "minimin"* in policymaking would be a great achievement, and overall improvement of public policymaking by -- in a qualitative sense -- "ten percent" would be tremendous progress which would constitute a radical change in the evolution of social auto-guidance.

Limiting our aspirations to such limited levels of change in the quality of policymaking -- which are radical in comparison with the past but do not approach some of the apocalyptic views on the possibilities of complete transformation of policymaking with the help of "science" -- we remain within what I think is potentially feasible from the point-of-view of our knowledge, on one essential condition: very intense efforts must be made to develop policy sciences as a general-systems theory-based interdisciplinary, and policy analysts as new action-oriented professionals.

* I propose "minimin" as a new term, by which I refer to the worst of all bad alternatives -- in part-contrast to the theory of games concepts of maximax, maximin, minimax.

The question of political feasibility is harder. As already mentioned, the great range and elasticity of useful alternative improvement possibilities increases the probability that some of them may be or may become politically feasible. There also seems to be a growing awareness of the need for some quantum jumps in the qualities of public action -- which may open the way for significant improvement. Especially, crises often provide fargoing opportunities for change, on condition that well worked-out ideas are available, though this is a very costly way to get urgently needed improvements accepted and a highly erratic and unpredictable one.

No less important in the longer range is the impact on feasibility of good ideas, especially when consistently and convincingly presented by persons who regard it as a moral duty to struggle for their acceptance. If we really believe that a normative general systems approach can contribute to so critical a process as public policy-making, it is up to us and all who share our opinion not only to measure political feasibility as a given fact, but to try and shape it, so as to make what is absolutely necessary also feasible. Hence, the general-systems-based policy scientist is faced not only by a fascinating intellectual issue, but by an action challenge as well.

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