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ABSTRACT
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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)

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 dis-
tinction 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 policy-
making-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; develop-
ment of policy professionals; development of politicians;
establishment of policy sciences as an academic

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 compon-
ents are in the main excluded from reexamination and im-
provement 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 unpredict-
able 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 profes-
sionals.

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*I prefer these terms to the concept "systems engineer-
ing," 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 enthropy vs. negative enthropy, 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 pos-
sibilities 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

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[*]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 interac-
tions 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

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[*]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 environ-
mental control techniques.

be equally useful in achieving equivalent changes in the
quality of policymaking. This is a very helpful con-
clusion, 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 -- ineffic-
iency 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 policy-
making, though in a disjointed way. These efforts take
a number of forms, including for instance: a. establish-
ment 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 In-
stitutions); b. development of new methods which try to
help better policymaking (such as systems analysis,
planning-programming-budgeting-systems (PPBS), and sensi-
tivity 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 "guestimated" (guessed-estimated) in terms of system-effects and, in most instances, a synergetic 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,

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[*]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

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[*]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 decision-
making on the personal characteristics and tastes of the
individual occupying the central position, and the con-
sequent 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 organiza-
tion of policy analysts and other policy science profes-
sionals -- to push research and training, support recogni-
tion, 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 improv-
ing 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 travel-
ing 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 improve-
ment 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 develop-
ing 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-charactized
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

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[*]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 recommen-
dation 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 for:seeable
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

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[*]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 apocalyptical 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 interdiscipline, and policy analysts as new action-oriented professionals.

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[*] 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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