

Comparison of Current Planning Theories: Counterparts and Contradictions

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with comments by Thomas D. Galloway and Jerome L. Kaufman

This article reviews shortcomings in the synoptic, or rational comprehensive planning tradition, as well as in other, countervailing theories that have attempted to fill specific deficiencies in the synoptic tradition. The chief problem of the synoptic approach appears to be its lopsided application due to the difficulties of simultaneously bringing to bear other counterpart planning traditions. Each tradition resists blending with others; each has its own internally consistent, mutually sustaining web of methods, social philosophies, professional standards, and personal styles. Yet real world problems are not so consistent or self-contained. Effective solutions require diverse perspectives and multiple levels of action, extending beyond the scope of any con-

temporary American planning theory.

A five-part classification of planning traditions is discussed under the heuristic rubric of SITAR, covering the Synoptic, Incremental, Transactive, Advocacy, and Radical schools of planning thought. Comparison is made of their relative strengths and weaknesses, revealing ways they are often complementary, but often strongly at odds. Contradictions among them are not seen to be deficiencies in the theories themselves, but reflections of homologous tensions and contradictions in society at large. Parallel application of more than one theory is usually necessary for arriving at valid, three-dimensional perspectives on social issues and appropriate action implications.

For sake of a place to start, planning can be defined as "foresight in formulating and implementing programs and policies." The overall purpose of this article is to replace this unitary definition by defining more specific categories of planning, some of them complementary, and some of them contradictory to a degree that scarcely permits an umbrella meaning of planning.

The first section of the article presents a simple classification of planning traditions. The second section provides a general set of descriptive criteria for planning theories and practices. No single tradition of planning can do everything, and the list of criteria serves as a framework to compare the relative strengths and limitations of different approaches. The criteria reflect some timeless debates in the field of planning: why to plan, and how; for whom, and by whom. Major issues of this type are briefly discussed in connection with the criteria proposed.

The concluding section suggests some implications for planning theory, practice, and further empirical research: the need for more systematic comparative study of different planning approaches; the relative validity of different traditions to different settings and problems; the internal cohesiveness of each paradigm with regard to methods, professional

groupings, and social philosophies; the nature of resistances to parallel or mixed use of diverse theories in tandem; and the extent of harmony or basic antagonism among the various traditions, both in theory and practice.

Bases for a classification scheme

If planning consists of "foresight in formulating and implementing programs and policies," then planners were clearly in evidence 4000 years ago when King Hammurabi caused the laws of Babylonia to be carved on stone. Typical problems of twentieth century planning have had their counterparts throughout history, and professionals have been there to solve them in urban design and public works programs; in regulation of coinage and trade; in foreign policy and military defense; in forecasting the future and preparing against calamity; in pushing back geo-

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graphical frontiers and laying down transportation networks; and in devising laws for prevention of disease and disorder.

To understand planning, one has to look for the few abiding principles that underlie all purposeful action. The apparent diversity is mainly a matter of labelling and packaging, with subtle differences that are often exaggerated to achieve what salespeople are always seeking—"product differentiation" that will help sell the particular product each planner has to offer. For example, what yesterday was PPBS today is MBO (management by objectives), or ZBB (zero-based budgeting), or GAA (goals-achievement analysis), or logframe (logical framework programming). PPBS (the Planning-Programming-Budgeting System) is, often cited as originating during World War II as a means for allocating scarce resources for the war effort. Others claim it goes back to the auto industry in an earlier decade. Similarly, benefit-cost analysis came to prominence in public policy making during the sixties, yet it played an important role in planning the canal system in the American Northeast as early as the 1830s. Nor was that by any means the first time anyone had added up costs and benefits of acting on a proposal. Private businessmen and entrepreneurs were doing that long before Adam Smith. Almost any form of investment is a form of planning.

Clearly, then, planning covers too much territory to be mapped with clear boundaries. It overlaps far into the terrain of other professions, and its frontiers expand continually with the historical evolution of social problems to be solved. The way to grasp a layout of the planning field is not by reconnoitering from the periphery, but by drawing demarcation lines radiating out from the most familiar crossroads at the center. In other words, one needs a classification scheme that will highlight comparative distinctions among current planning traditions without necessarily pinning down their farther limits.

A number of classification schemes might serve: *procedural* theories versus *substantive* theories (Hightower 1969; Faludi 1973b¹, or *algorithms* versus *heuristics*—that is, standardized problem-solving versus exploratory search procedures.² Another way of categorizing the field reflects different *sources of academic and professional literature*, entailing four major areas of concern: the tradition of rationalism, organizational development theory; empirical studies of planning practice, and philosophical synthesis relating to broad theories of social structural change (Friedmann and Hudson 1974).³ These four "literary traditions" receive fairly balanced attention at the level of planning theory, but in planning practice, some far outweigh the others. Planning efforts in the field rarely make overt reference to philosophical synthesis or organizational development theory, nor

is much attention given to lessons of historical experience based on case studies of past planning efforts. Instead, predominant concern has generally centered on the tradition of rational comprehensive planning, also known as the synoptic tradition.

Because of its pre-eminence, the synoptic tradition serves as the centerpiece in the classification scheme to be developed below. The synoptic approach has dominated both American planning practice and the planning of development assistance programs overseas. The approach is well suited to the kind of mandate bestowed on government agencies: a set of constrained objectives, a budget, and accountability for not allowing one to stray too far out of line from the other.

There are, however, several other counterpoint schools of planning, most of which take their point of departure from the limits of the synoptic approach. The most important of these other traditions include *incremental planning*, *transactive planning*, *advocacy planning*, and *radical planning*. These by no means exhaust the range of contemporary planning traditions, but they cover enough ground to illustrate the major developments in planning theory and practice since roughly 1960, developments which have grown up in response to recognized deficiencies in the synoptic approach.

Each of the five traditions to be considered has an internally consistent, self-reinforcing network of methods, data requirements, professional skills, and working styles. Each has its own epistemology for validating information and its own institutional setting for putting ideas into practice. Each perceives the public interest in its own way, reflecting its particular assessment of human nature and its own sense of the legitimate range of interventions in social, economic, and political processes. The five traditions will be reviewed briefly in turn. Principal similarities and differences will then be discussed in terms of several descriptive criteria which have been chosen to highlight their relative strengths and weaknesses, their areas of complementarity, and their points of fundamental antagonism.

Synoptic planning

Synoptic planning, or the rational comprehensive approach, is the dominant tradition, and the point of departure for most other planning approaches, which represent either modifications of synoptic rationality or reactions against it.

Synoptic planning has roughly four classical elements: (1) goal-setting, (2) identification of policy alternatives, (3) evaluation of means against ends, and (4) implementation of policy. The process is not always undertaken in this sequence, and each stage permits multiple iterations, feedback loops and elaboration of sub-processes. For example

evaluation can consist of procedures such as benefit-cost analysis, operations research, systems analysis, and forecasting research. Looking closer at forecasting, one finds that it can be broken down into deterministic models (trend extrapolation, econometric modelling, curve-fitting through multiple regression analysis); or probabilistic models (Monte Carlo methods, Markov chains, simulation programs, Bayesian methods) or judgmental approaches (Delphi technique, scenario writing, cross-impact matrices).

Synoptic planning typically looks at problems from a systems viewpoint, using conceptual or mathematical models relating ends (objectives) to means (resources and constraints) with heavy reliance on numbers and quantitative analysis.

Despite its capacity for great methodological refinement and elaboration, the real power of the synoptic approach is its basic simplicity. The fundamental issues addressed—ends, means, trade-offs, action-taking—enter into virtually any planning endeavor. Alternative schools of planning can nitpick at the methodological shortcomings of the synoptic approach, or challenge its particular historical applications, or take issue with its circumscribed logic, yet the practical tasks it encompasses must be addressed in some form by even its most adamant critics. For this reason, there is a sustained dialectical tension between synoptic planning and each of the other counterpart theories; neither side of the debate feels comfortable with its opposite, yet they cannot do without each other. Each helps define the other by its own shortcomings; each sharpens the other's discriminatory edge of intentions and accomplishments.

Incremental planning

A chief spokesperson for the incremental planning approach is Charles Lindblom, who describes it as "partisan mutual adjustment" or "disjointed incrementalism." Criticizing the synoptic approach as unrealistic, he stresses that policy decisions are better understood, and better arrived at, in terms of the push and tug of established institutions that are adept at getting things done through decentralized bargaining processes best suited to a free market and a democratic political economy. A good illustration of incremental planning is the apocryphal interview of a Yugoslavian official who was asked to describe his country's most important planning instrument. After a pause for thought the official replied "the telephone." Yugoslavia in fact represents a blend of synoptic and incremental approaches. It promulgates national plans through a Federal Planning Bureau, but the country's economic and planning systems are composed of autonomous, self-governing working organizations. Plans are constructed by a mixture of "intuition, experience, rules of thumb, various techniques (rarely sophisticated) known to individual planners, and an

endless series of consultations" (Horvat 1972, p. 200). This description might apply to planning anywhere else in the world as well. Lindblom calls it "the science of muddling through."

The case for incremental planning derives from a series of criticisms leveled at synoptic rationality: its insensitivity to existing institutional performances capabilities; its reductionist epistemology; its failure to appreciate the cognitive limits of decision-makers, who cannot "optimize" but only "satisfice" choices by successive approximations. Incrementalists also take issue with the synoptic tradition of expressing social values (a priori goal-setting; artificial separation of ends from means; presumption of a general public interest rather than pluralist interests). Finally, synoptic planning is criticized for its bias toward central control—in the definition of problems and solutions, in the evaluation of alternatives, and in the implementation of decisions.

These criticisms are reflected in the countervailing tendency of incremental planning but also in the thrust of other planning approaches discussed below.

Transactive planning

The transactive planning approach focuses on the intact experience of people's lives revealing policy issues to be addressed. Planning is not carried out with respect to an anonymous target community of beneficiaries, but in face-to-face contact with the people affected by decisions. Planning consists less of field surveys and data analyses, and more of interpersonal dialogue marked by a process of mutual learning.

Transactive planning also refers to the evolution of decentralized planning institutions that help people take increasing control over the social processes that govern their welfare. Planning is not seen as an operation separated from other forms of social action, but rather as a process embedded in continual evolution of ideas validated through action (Friedmann 1973.)

In contrast to incremental planning, more emphasis is given to processes of personal and organizational development, and not just the achievement of specific functional objectives. Plans are evaluated not merely in terms of what they do for people through delivery of goods and services, but in terms of the plans' effect on people—on their dignity and sense of effectiveness, their values and behavior, their capacity for growth through cooperation, their spirit of generosity. By contrast, incremental planning adheres more closely to the economic logic of individuals pursuing their own self-interest.

Advocacy planning

The advocacy planning movement grew up in the sixties rooted in adversary procedures modeled upon

the legal profession, and usually applied to defending the interests of weak against strong-community groups, environmental causes, the poor, and the disenfranchised against the established powers of business and government. (Alinsky 1971; Heskin 1977.) Advocacy planning has proven successful as a means of blocking insensitive plans and challenging traditional views of a unitary public interest. In theory, advocacy calls for development of plural plans rather than a unit plan (Davidoff 1965). In practice, however, advocacy planning has been criticized for posing stumbling blocks without being able to mobilize equally effective support for constructive alternatives (Peattie 1968).

One effect of the advocacy movement has been to shift formulation of social policy from backroom negotiations out into the open. Particularly in working through the courts, it has injected a stronger dose of normative principles into planning, and greater sensitivity to unintended side effects of decisions. A residue of this can be seen in the increasing requirements for environmental, social, and financial impact reports to accompany large scale project proposals, whether originating in the private or public sector. Another result has been the stronger linkage between social scientists and judiciary processes in policy decisions. In the field of education, this alliance has left a mark in areas such as integration and busing, sources of school finance, equal provision for women in sports, disclosure of records, teacher training requirements, unionization, and selection of teaching materials. Advocacy planning has both reflected and contributed to a general trend in planning away from neutral objectivity in definition of social problems, in favor of applying more explicit principles of social justice.

Radical planning

Radical planning is an ambiguous tradition, with two mainstreams of thinking that occasionally flow together. One version is associated with spontaneous activism, guided by an idealistic but pragmatic vision of self-reliance and mutual aid. Like transactive planning, it stresses the importance of personal growth, cooperative spirit, and freedom from manipulation by anonymous forces. More than other planning approaches, however, its point of departure consists of specific substantive ideas about collective actions that can achieve concrete results in the immediate future. It draws on varying sources of inspiration—economics and the ecological ethic (Schumacher 1913), social architecture (Goodman 1971), humanistic philosophy (Illich 1973), and historical precedents (Katz and Bender 1976, Hampden-Turner 1975).

This is radicalism in the literal sense of “going back to the roots” content to operate in the interstices

of the Establishment rather than challenging the system head-on. The philosophy which underlies its social vision can also be found in the thinking of educational figures like John Dewey, Paul Goodman (*Communitas*), Ivan Illich (*Deschooling Society*) and others who share the view that education needs to draw on materials from everyday life of local communities, with minimum intervention from the state and maximum participation of people in defining, controlling, and experimenting with their own environment. Somewhat the same concerns find their way into conventional planning—for example, as reflected in the Bundy Report on decentralizing the New York City school system, and in the HEW-sponsored educational voucher experiments aimed at letting neighborhood committees take over planning functions usually vested in central bureaucracies.

The second stream of radical thought takes a more critical and holistic look at large-scale social processes: the effect of class structures and economic relationships; the control exercised by culture and media; the historical dynamics of social movements, confrontations, alliances, and struggles. The focus is less on ad hoc problem solving through resurrected community, and more on the theory of the state, which is seen to permeate the character of social and economic life at all levels, and in turn determines the structure and evolution of social problems (Gordon 1971. See also Ellul 1954). Radicals in this tradition view conventional planning as a form of Mandarinism, playing “handmaiden to conservative politics” (Kravitz 1970).

It is not the purpose of this paper to describe at length particular schools of planning thought. Any list of planning forms and styles could be extended almost indefinitely. Those discussed above are probably sufficient, however, to illustrate the variety of concerns that planners address and the range of conceptual tools they bring to their task.

The five approaches described above can be summed up in an acronym, SITAR, based on the first letters of Synoptic, Incremental, Transactive, Advocacy, and Radical planning. The sitar is a five-stringed musical instrument from India, a type of lute which can be played by performing on a single string at a time, or by weaving a blend of harmony and dissonance from all five. The same applies to SITAR as a taxonomy of planning theories; each can render a reasonable solo performance in good hands, but fuller possibilities can be created by use of each theory in conjunction with the others.

Criteria for comparative description and evaluation of planning theories

In judging the value of a particular planning tradition one can ask, how constrained are we to using

one theory at a time? No single approach is perfect, but a particular theory can establish itself as "best" simply because there are no salient options kept in view. The SITAR package suggests some of these options, but comparative evaluation requires another step—the establishment of criteria for comparison of different traditions' strengths and weakness, along with their varying intentions and accomplishments.

Table 1 presents a simple list of basic criteria that one might use for assessing the scope, character, and adequacy of the various planning traditions. The six criteria have been distilled from three independent selection processes; each process is somewhat subjective, but they overlap considerably in their results. First, the criteria were generated in part by *internal features* of the various SITAR traditions themselves, as expressed in the planning literature. Some criteria, such as definition of the public interest, reflect a common concern of all the SITAR traditions (although they differ considerably in their treatment of it). Other criteria, such as the use of substantive theories of political action and models social change, represent a central concern—even a *raison d'être*—of some traditions but are glaringly absent from others.

The second source of criteria was an informal review of *historical outcomes* from past planning efforts. Most of these cases are described in the literature;⁴ some have been suggested by anecdotal sources and personal experiences shared with colleagues in the profession. The third source of nominations for criteria has been an advanced seminar in urban planning at UCLA, where over the years several cohorts of students have been posed the questions, "How do you judge a good planning theory? What planning

experience can you cite that has been most successful, and what constitutes that success?" Their collated answers reflect considerable planning experience as well as academic grounding in planning theory, including general principles of policy science, social philosophy, and political economy.

From these various sources roughly fifty different criteria were suggested, often overlapping, sometimes contradictory occasionally esoteric. Winnowing and synthesis to a manageable set of criteria necessarily involves personal choices, and probably reflects the author's own implicit philosophy of planning. It should be noted, though, that final choice of the six criteria shown in Tables I and 2 reflects, in part, a deliberate effort to balance strengths and weaknesses within and among the five SITAR traditions.

Table 2 is an attempt to evaluate the five SITAR traditions against the list of criteria described in Table 1. The purpose of this comparison is to suggest areas of similarity and difference among the various planning approaches, the relative strengths and weaknesses within each theory, and the overall pattern of emphasis and neglect found in the planning field taken as a whole.

The SITAR theories differ both in terms of their intentions and how well they have succeeded historically in fulfilling their chosen purposes. The table indicates for each theory at least one area in which it claims special strength, other areas in which it offers a partial or one-sided approach, and still other areas where clear shortcomings can be observed.

In any given area (for example, action potential) the theories provide different prescriptions for the

Table 1. Criteria for describing and evaluating planning traditions

Criteria	Characteristics and applications
Public interest	Explicit <i>theory of the public interest</i> , along with methods to articulate significant social problems, and pluralist interests in outcomes. May include principles of distributive justice, and procedures for dealing with conflict.
Human dimension	Attention to the <i>personal and spiritual domains</i> of policy impacts, including intangible outcomes beyond functional-instrumental objectives—for example, psycho-social development, enhancement of dignity, and capacity for self-help
Feasibility	<i>Ease of learning and applying</i> the theory. Implies the theory is practical to translate into policy implications, and adaptable to varying types of problems, scales of action and social settings
Action potential	Provision for carrying ideas into practice, building on experience underway and identifying new lines of effective solutions to problems.
Substantive theory	<i>Descriptive and normative theory</i> of social problems and processes of social change. Predictive capacity based on informal judgments, not just trend extrapolation; ability to trace long range and indirect policy consequences; historical perspectives on opportunities and constraints on action.
Self-reflective	Capacity for laying analytical assumptions open to criticism and counter-proposals; provision for learning from those being planned for; capacity for depicting concrete experience in everyday language, as well as conceptual models using aggregate data.

Table 2. Relative emphasis of SITAR theories based on selected criteria

Major criteria, or descriptive characteristics of planning theory	The SITAR traditions				
	Synoptic planning	Incremental planning	Transactive planning	Advocacy planning	Radical planning
Public interest	O	O	O		
Human dimension					O
Feasibility					
Action potential	O	O	O	O	O
Substantive theory		O	O		O
Self-reflective			O	O	O

Explanation of Table:

Characteristics are taken from Table 1

indicates major strength or area of concern

O indicates partial or one-sided treatment

blank cells indicate characteristic weaknesses

planner-different analytical methods, varying substantive definitions of problems, different forms of action to consider. Consequently each of the six criteria included in the list presents an arena for debate on certain classic issues of planning theory and practice. The true meaning of the criteria is that they represent areas of philosophical choice in which planners must turn to one or another planning tradition for answers. Each tradition constitutes a body of foregone conclusions about problem definition and problem solutions. Planners can exercise better critical judgment about the assumptions they buy into if they consider the possibilities offered by a range of alternative candidate theories. A matrix like Table 2 may be simplistic for this purpose but it is a place to start.

To give fuller meaning to the six criteria listed in Tables 1 and 2, it is worth discussing them briefly, with special attention to the kinds of issues that each one raises.

Theory of the public interest. Definition of the public interest raises a fundamental planning issue: can goals be considered separately from specific options? Synoptic planning responds "yes," most other approaches, "no." Another key issue is: should conflicts that arise among groups in connection with planning be underplayed in favor of seeking a consensus? Or should they be focal points for defining communities of interest and promoting organized efforts to achieve a more just distribution of benefits? Radical and advocacy planning are based on conflict models of the public interest. Transactive and incremental planning are based on dialogue and bargaining among plural interests, although without an explicit treatment of power. Synoptic planning largely ignores or avoids issues of conflict by referring to a unitary concept of the public interest. For example, the synoptic tradition tends to rely on the Pareto optimum to deal with the problem of skewed incidence of benefits—a fairly lenient standard

of social justice. Synoptic rationality also focusses primarily on technical relationships and objective realities, to the exclusion of subjective and emotional discussion sparked by divergent perceptions of problems being addressed. In addition synoptic planning typically creates a division of labor between planners (experts) and politicians—a split which casts planners as technicians who can simply ignore political considerations of the public interest.

The human dimension. Major issue: should planning seek to provide a framework of objective decision rules (e.g., as benefit-cost analysis provides in synoptic planning)? Or should it aim at a more holistic context for judgment, referring not just to scientific and technical data but to subjective realities, including political concerns, cultural, aesthetic, psychological and ideological considerations, and controvertible theories of social, ecological, and historical processes? Transactive planning gives special attention to psychosocial and institutional processes which facilitate growth and mutual learning between the planner and his constituency. Radical planning emphasizes the role of human will and ideological cohesiveness which gives effective power to technical knowledge. Both radical and transactive planning raise explicit questions about the limitations of social science as an exclusive way of understanding social problems. Both give specific attention to alternative epistemologies or bases for validating the uses and limits of knowledge. Both emphasize the role of personal knowledge, using concrete experience and direct participation as the point of departure for problem-solving and social struggle.

Feasibility. The world is complicated, but planning methods need to be simple enough to make understanding manageable. How does one translate complexity into simplicity without falling into the trap of mistaking the model for reality itself? Indeed planners tend to forget too often that the map is not

the territory. Synoptic planning has the virtue of being easily grasped: its analytical techniques are fairly standard applications of social science, and its intentions are straightforward. Incremental and advocacy planning refer to the more subtle and complex processes of bargaining, but they come closer to what skilled entrepreneurs and politicians and social mobilizers do anyway, so they score fairly well on the criterion of feasibility. The operating principles of transactive and radical planning are less well known among planning professionals. Furthermore, both of these approaches call for the fostering and strengthening of community-based institutions which are presently overshadowed by centralized and bureaucratically organized agencies of government and corporate enterprise.

Another issue of feasibility revolves around a basic paradox of planning pointed out by numerous observers (Lindblom 1965; Caiden and Wildavsky 1974; Friedmann 1973). Where planning for the future is *feasible* (based on good data and analytical skills, continuity in the trends being extrapolated, and effective means to control outcomes), then planning is unnecessary—it is simply redundant to what already goes on. Conversely, where planning is most *needed* (where there is absence of data and skills and controls in the presence of primitive or turbulent social conditions), planning is least feasible.

Action potential. Here the issue revolves around the meaning of "action." Synoptic planning addresses possibilities of large scale action and major departures from current strategies of problem-solving, based on fresh insight and thorough examination of goals and policy alternatives. By the same token, however, rational comprehensive planning is vulnerable to the criticism that its plans never reach the stage of implementation. Master Plans are written and filed away, except in rare cases when vast new sources of funding become available in lumps and allow the planner to design programs from scratch, thus putting real clout into Government-by-Master-Plan. Examples of this are the Tennessee Valley Authority (financed by the first surge of economic pump-priming under the New Deal); and large-scale projects undertaken in developing countries by OPEC governments or institutions like the World Bank.

Other planning traditions seek to reduce the gap between decision making and implementation by embedding planning processes in the common everyday practice of social management and experimentation. Only synoptic planning is there major emphasis on producing "plans." Elsewhere, planning is more characteristically a process that consummates itself in direct action rather than production of documents.

The "structuralist" version of radical planning is similar to synoptic planning in presenting a major gap between analysis of problems and means for

implementing solutions. Radicals would respond by saying that they are looking for long run, not short run results. If their effectiveness is not very visible, it is because most people are not educated in recognizing the contradictions within the system and the manifestations of growing tensions that will eventually lead to decisive transformations. Radicals also argue that significant change involves real but unrecognized forms of social, economic, and historical relationships which are being ignored by conventional social science and by the liberal philosophy that currently dominates social planning. Finally, the radicals would argue that radical change, when it comes is rarely foreseeable; rather, it is a matter of being prepared for unique historical turning points. Other planning theories, in contrast, tend to focus exclusively on futures that are predictable on the basis of continuity in existing social structures and processes.

Outside of military science there is little writing in planning theory directly addressed to a theory of action. An important exception is the literature on "non-violent alternatives," which explicitly takes on the problem of power and ways of realigning it toward practical, short-term objectives. Although the historical foundations of non-violent action have evolved mainly in situations of overt conflict and transient confrontation, this is not always the case. In many respects, this literature provides a missing link between theory and practice which other theories have not fully provided. In Table 2, all five SITAR theories are shown to address this problem, but without full success. This is not surprising because one definition of planning is that it is an activity "centrally concerned with the linkage between knowledge and organized action" (Friedmann and Hudson 1974, p. 2). All traditions of planning struggle with this relationship. If any had fully succeeded, there would scarcely be need for more than that one approach.

Substantive theory. Mainstream theories of planning are principally concerned with procedural techniques. Substantive content is usually left to secondary levels of specialization in sectorial areas such as education, housing, poverty, industrial development, or land use regulation. Exceptions are radical planning and, to a lesser extent, transactive planning. Both insist that planning styles and methods must adapt to correspond to the specific nature of social problems being addressed. If they do not, our understanding of problems will be dictated by the arbitrary strengths and limits of our methodology, and not by an a priori appreciation of the substantive phenomenon. For example, to understand what "poverty" means, it is not enough to simply look at census data, nor is it enough to simply experience it first hand. One needs a substantive theory of poverty, built up from comparative and historical study of its nature, as well as from principles of social justice and

theories of transformation in economic structures. Otherwise, methodological bias or random availability of data or purely arbitrary perceptions from personal experience will dictate the way poverty is perceived. In this case one can easily become locked into a partial-hence erroneous-explanation of poverty, variously interpreted as the consequence of personal or genetic or cultural traits, or as a problem rooted in family structures, or in the physical infrastructure of communities, or in national policies of neglect, or in global dynamics of resource flows favoring industrialized economies at the expense of weaker peripheral areas. A planner who is primarily a methodologist will likely be stuck on one or another of these levels of explanation. A planner who is grounded in substantive theory, however, can press beyond the limits of particular methods to see problems in their entirety.

Most planning theories do not embody explicit world views on any particular subject. The issue thus raised is whether they are remiss in this respect or simply being open-minded and adaptable. A synoptic planner or incrementalist or advocate planner might argue that their methods serve equally well for most purposes-civilian as well as military applications, the needs of the poor as well as the rich, the problems of neighborhoods and the problems of the world. Radical and transactive planners would tend to argue, to the contrary, that no method is neutral, but that each has a characteristic bias toward one or another group's way of depicting reality. Objectivity itself is a biased frame of reference, excluding those qualities of experienced reality that can only be known subjectively, and must be validated on grounds where social science is reluctant to tread.

The issue manifests itself, for example, in the use of predictions. Forecasting can consist of purely descriptive analysis: extrapolation of trends, curve fitting, probability envelopes, contingency models to accommodate foreseeable variations in patterns. Alternatively, forecasting can incorporate a strongly normative element, designed to provoke corrective action on problems whose warning signs are feeble but urgent. This goes far beyond method, drawing on qualities of imagination, willingness to exercise moral interpretation of facts, and sensitivity to historical dynamics. Most planners would admit that their craft is one of art as well as science. Most are uncomfortable, however, with depicting the future in the full richness of subjective color and detail which they know gives meaning to the present. Works like the *Limits to Growth*, *California Tomorrow*, the *Crash of '79*, *The Year 2000, 1984*, *Looking Backwards*, Or *The Shape of Things to Come* all address the same issues that planners deal with in the normal course of their profession. Yet planners are uncomfortable with the literary method, which may be a valid and accurate

means of discussing social problems and solutions, but lacks the reliability and objectivity found in the more familiar tools of social science. Different schools of planning come down on different sides of this issue, but in the dominant synoptic and incremental traditions, theories of substance tend to be subordinated to theories of procedure.

Self-reflective theory. The central issue here is whether a planning theory needs to be explicit about its own limitations, and if so, how can the theory make clear what has been left out? Incremental planning is least explicit in this respect. The "science of muddling through" is full of hidden agendas and bargaining processes which encourage participants to keep their motives and means to themselves. In synoptic planning, there is far more emphasis on laying everything out on the table, but the rules of the game require that one deal with technical decisions on the basis of objective data. Corrections to the bias of neutral objectivity can be found, not within the synoptic tradition itself, but in the parallel applications of other SITAR traditions.

Etzioni (1968) has suggested a composite approach called "mixed scanning" which alternates between the synoptic approach to "fundamental" decisions and the incrementalist manner of dealing with "bit" decisions (see also Faludi 1973a; Allison 1968).

Transactive, advocacy, and radical planning each have specific procedures for pressing inquiry beyond the initial statement of a planning problem. Transactive planning emphasizes dialogue and development of trusting interpersonal relationships. Advocacy planning relies on the test of mobilizing people to challenge established procedures and institutions in protecting their collective interests. Radical planning calls for ideas to be tested in actions aimed at permanent change in social institutions and values. In contrast, synoptic planning refers to a more limited test of its adequacy in addressing problems: it creates a series of feed-back channels to correct errors in calculations, but the scope and substance of feed-back are highly constrained. Like survey questionnaires, feedback channels are narrowly focussed on the dimensions of outcomes defined a priori as important. Signals from unexpected quarters, carrying messages beyond the previous scope of understanding a problem, do not easily get through.

There exist certain procedures of critical analysis which might be included as optional components of the synoptic approach, that can be used to challenge the hidden assumptions of rational comprehensive planning. One example is Richard Mason's "dialectical approach to strategy planning" (1969). Another is the synectics procedure, a structured method of brainstorming that encourages divergent thinking in problem-solving.

Beyond this, there is a growing literature in the

area of "critical theory" dealing with ways of bringing to light the logic and psychology of thinking about social problems, with a view to correcting its natural limitations and biases. This literature spans the sociology of knowledge, the philosophy of science, the effects of linguistic and cultural structures, the influence of conceptual paradigms, and other matters relating to planning epistemology (Mannheim 1949; Miller, Galanter, and Pribam 1960; Friedmann 1978; Polanyi 1964; Churchman 1971; Bruyn 1970; Hudson 1977). The majority of this writing, however, falls well beyond the scope of the synoptic tradition.

Directions for future work

Beyond the SITAR package planning traditions one can identify additional schools of thought-indicative planning, bottom up planning, ethnographic planning methods, social learning theory, comparative epistemologies of planning, urban and regional planning, basic needs strategies, urban design, environmental planning, macroeconomic policy planning-the list goes on. A question this raises is whether SITAR depicts a fair sample of current thinking in planning theory. Readers can draw their own conclusions. For purposes of this article, the main function of SITAR is to pose key issues that emerge as points of contention among the various planning traditions. A different sample of comparative theories might bring other issues to surface.

Another question concerns the choice of evaluative criteria used to describe and compare different planning traditions. The choice depends on one's professional personality. The selection process is a kind of Rorschach test of one's own cognitive style, social philosophy, and methodological predilections. In this sense, one could probably devise an instrument to measure personal planning styles based on individuals' preference ranking for an extended list of possible criteria.

Particularly within the synoptic tradition, it is easy to overlook the importance of personal work style and theoretical orientation in determining the compatibility between individual professionals and their clients. Planning is not simply the exercise of a technical capacity involving objective requirements of data, skills, procedures, and institutional mechanisms. Just as important is the social philosophy shared by the planner, the sponsor, and the constituency they are addressing. For some purposes, it may be enough to assess objective needs and deliver solutions to a "target" community. In many cases, however, it is necessary to understand problems through face-to-face interaction with those affected. In such situations, the planner's effectiveness depends on sharing implicit grounds of communication with both colleagues and clients on

the levels of information processing styles, value premises, political sensitivities, and other foundations of mutual understanding. Much planning effort is spent on building up this framework of communication and problem definition, but perhaps there is a short-cut. An instrument to test basic attitudes toward alternative planning styles might provide a way of matching clients with congruent professional *modus operandi* from the outset.

This raises a related issue: how well do clients perceive differences in planning traditions? Are they aware they have a choice? Do they understand the implications of their choice-for example, the relative strengths and weaknesses associated with different traditions? Could clients grasp the significance of evaluative criteria offered to compare traditions-for example, different treatments of the public interest?

One strategy for eliciting client preferences and testing their ability to perceive meaningful choices would be to initiate planning efforts with a "prelude" stage, consisting of a few days of intensive work exposing clients to alternative modes of approaching issues at hand. In a series of dry run exercises, representatives of different approaches could bring in hypothetical data, solutions, feasibility considerations, and unresolved issues bearing on decisions to be made. The clients would get more than a review of planning theory; the process would go a long way toward clarifying their own objectives and substantive policy options. At the same time, planners who participated would get a fast education in the client's own view of issues, based on reactions to the presentations.

It is not clear whether there exists a significant market for this kind of prelude analysis. Funding agencies tend to operate with their own particular style of planning, mainly the synoptic mode. Opening up choices would tend to confound standard operating procedures, reduce the predictability of outcomes, and weaken agency influence over determination of results.

On the other hand, the feasibility and usefulness of intensive short-term policy analysis-either as prelude or substitute for long-term planning efforts-is relatively well established. "Compact policy assessment" exists in the form of a wide variety of quick and dirty procedures for problem formulation, project evaluation, decision making, assumptions analysis, and feasibility testing of proposals. Both in community and organizational settings, there are various specialized methods for pooling judgment, fixing points of consensus, and isolating areas of uncertainty or disagreement for subsequent in-depth study (Hudson 1979). The problem is not so much availability of tools for compact policy assessment, but perception of the need for it. The SITAR package helps make explicit the possibilities of choice between alternative

styles and methods of planning. Practical choices, however, will depend on effective procedures for concisely presenting different approaches within the specific problem-solving situations posed by individual clients.

Another question concerns the internal cohesiveness of each planning tradition, and the balance between each tradition and its counterparts. Some combinations appear fairly complementary; others may generate fruitful tension; a few might prove fundamentally incompatible. Defining conditions that facilitate the use of different modes in tandem will require further study.

One must also determine whether each tradition functions as a self-contained paradigm—not just a theory, but a tight and impenetrable mesh of conceptual models, language tools, methodologies, and problem applications, together with its own professional community of believers. It can be argued that a planning paradigm tends to create a determined set of procedures locked into a particular historical environment of problems and solutions (Galloway and Mahayni 1977). Yet there are reasons to think that people have a certain latitude for choice among analytical paradigms (Hudson 1975). Allison (1968) has shown that very different models of decision-making can be used to interpret a single scenario of crisis management. Etzioni (1973) has argued for a “mixed scanning” approach that incorporates both synoptic and incremental planning modes. Historically, advocacy, transactive, and radical planning practices have appeared on the scene as countervailing methods to ongoing processes of synoptic planning, not with the result of replacing the dominant paradigm, but of introducing a broader perspective on issues and another set of voices for articulating the public interest. Systematic evaluation of historical precedents like these would help create more realistic strategies for getting diverse traditions to work together. Such analysis would also help identify ways of encouraging clients to demand and exercise that option.

Summary

Planning has come a long way in the last half century. The Great Depression and World War II provided decisive boosts to synoptic planning—the mandate for large-scale intervention in public affairs, a new repertoire of methods, general acceptance of deficit budgeting, and a firm belief that we can solve enormous problems with a little application of foresight and coordination in the public sector. In the last three decades, that promise has not been entirely fulfilled—either in subsequent wars or in resolving major social problems on the domestic front. This paper has tended to focus on shortcomings of the synoptic tradition, yet the central problem is a

more general one. The real issue is whether *any* planning style can be effective without parallel inputs from other complementary and countervailing traditions. The synoptic planning tradition is more robust than others in the scope of problems it addresses and the diversity of operating conditions it can tolerate. But the approach has serious blind spots, which can only be covered by recourse to other planning traditions. The world is not all that clear or consistent in presenting problems to be solved. Having planners with the ability to mix approaches is the only way to assure that they can respond with sensitivity to the diversity of problems and settings confronted, and to the complexity of any given situation.

The short list of planning theories just reviewed is more than anyone can feasibly apply in the course of daily professional practice. Nevertheless, it can provide a tool kit for many contingencies, and it can serve as a locator map to understand better where other people are coming from.

Author's note

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Notes

1. *Procedural* theories of planning refer to techniques and conceptual models that define the work of planners themselves. In contrast, *substantive* theories concern the nature of problems and social processes which lie outside the profession, to which planners address themselves. Procedural theories would include principles of management and organizational development, communications skills for interacting with clients and communities, methods of data acquisition and analysis, historical knowledge of planning, laws and local regulations defining professional practice, and conceptual tools of sociology, economics, and other social sciences. Substantive theories, on the other hand, refer to specific problems or public policy sectors—for example, the nature of educational systems and issues, rural development policies, theories of poverty, future studies on energy policy, the politics of industrialized housing.

The main problem with this dichotomous classification is that the line between substantive and procedural theories is blurry; procedures are often specialized in their application to particular substantive problem areas. Typically, in fact, a new procedure is invented to deal with a particular problem. Nevertheless, planning evolves through the continual application of old methods to new problems, and the discovery of new methods to deal with old problems. One of the distinctive features of planning is this reciprocal feedback between theory and practice, knowledge and action, conceptual models and the real world.

2. Algorithms versus heuristics. An *algorithm* is a set procedure for solving a known class of problems. It generally involves quantitative methods, and by definition it is capable of arriving at an optimal solution, based on specification of an objective function, resources, and constraints. Examples are linear

programming and input-output analysis, operations research, and trend projections. Most algorithms are backed up by theories. For example, the S-shaped curve used in making growth forecasts reflects underlying premises about the nature of growth dynamics and the ceilings on expansion—a generalized pattern derived from statistics, general systems theory, and common sense. Algorithms also require characteristic skills, and professionals undertaking this kind of work can be clearly credentialled for degree of competence. *Heuristic* methods consist of more open-ended search procedures which apply to fuzzy problems, and which offer no optimal solutions but only approximations or judgmental trade-offs. Quantitative methods usually play a less central role although they can have important supporting functions, for example in gaming and simulation procedures to explore scenarios of the future policy situations. The result is not a specific solution, but better judgment about the sensitivity of outcomes to different action possibilities, or different environmental conditions.

Some organizational settings demand strict accountability to standard procedures, and thus rely on algorithms. (In some cases, the planner's role is to justify a particular project or policy dictated by prior reasons of ethics or politics, using selected algorithms that do not bring controversial issues into view.) Other organizations thrive on heuristics, for example those engaged in future studies or trouble shooting, where neither the problem nor the solution is well defined, and the client is more likely to be open-minded about surprise findings and unorthodox recommendations for action. Some planners feel that the really interesting problems are those being encountered for the first time and those which are too "wicked" to be reduced to a standard algorithm. (Rittel and Webber 1973; Friedmann 1978.)

Heuristics and algorithms each have their distinctive uses, but most planning methods can serve either purpose. It is important for planners to clarify with their clients whether the goal is to solve a problem that is clear in everybody's minds, using prescribed techniques and predictable types of answers or whether the task is to gain greater understanding of the problem itself, critically challenging the assumptions underlying past methods of problem-solving, keeping in play judgment and imagination, intuitive leaps and creative insights, to challenge the "givens" of a situation rather than accommodate them. The problem with algorithms and heuristics as a classification scheme is that they are very closely intertwined in specific planning procedures. Systems analysis, for example, has many elements of an algorithm, as in the use of statistical models to estimate input-output or cause-effect or cost-effectiveness relationships among the parts of a system. On the other hand, there are also heuristic versions of systems analysis—the kind of procedure involving boxes and arrows, or a matrix format to array policy objectives against a list of strategy options, to gain a general impression of how well action choices stack up against the goals being sought.

3. Traditional divisions in planning literature refer to sources found in university-based planning programs, and reflected in the *AIP Journal*. Friedmann and Hudson (1974) have distinguished four broad categories of writing in this field:

Philosophical Synthesis (Mannheim, Lindblom, Etzioni, Schon, Friedmann, and others) attempts to locate planning within a larger framework of social and historical processes including: epistemological issues (relating to theories of knowledge and its limits); theories of social action and evolution; ideological contexts of planning; the tensions/reinforcements between planning and democracy; psycho-social development of communities; and social learning theory, which refers to society as a whole taken as a learning system.

Rationalism (Synoptic Rationality) is mainly concerned with procedural (as opposed to substantive) theories. Policy

making is seen as a science, emphasizing econometric models and other algorithms for decision-making (Herbert Simon, Jan Tinbergen, C. West Churchman, Jay Forrester).

Organizational Development theory (Chester Barnard, Kurt Lewin, Warren Bennis. Chris Argyris, Lawrence and Lorsch) centers on management of institutions involved in planning and implementation of plans. Emphasis is on awareness, attitudes, behavior, and values that contribute to understanding, personal development, learning, and growth of effectiveness over time. Whereas the rationalist approach is addressed to allocative planning (efficient distribution of resources among possible uses), organizational theory has more to say about innovative planning-situations which call for mobilization of new resources, toward goals not strictly limited to considerations of economic efficiency, and requiring transformation of perceptions, values, and social structures to bring about needed change (Friedmann 1973).

Empirical studies of planning practice include literature on urban planning (Caro's study of Robert Moses, *The Powerbroker*, is a good example) and also on national planning, especially for lesser developed countries (works by Bertram Gross, Albert Waterston, Albert Hirschman, Guy Benveniste). Also included are some good analyses of regional planning efforts in the U.S., for example Selznick's study of the Tennessee Valley Authority, in which he coined the term "cooptation," or Mel Webber's evaluation of BART in the San Francisco Bay Area. Some of the best work has used the comparative case study approach, which captures enough richness of local detail to avoid the pitfalls of reductionist models and grand abstractions, but which also permits generalizations to be made, and lessons captured from past experience. Good examples of this are the studies of comparative strategies of non-formal education for rural development (Ahmed and Coombs 1975; see also Coombs and Ahmed 1974).

4. See references to empirical studies of planning practice cited in the preceding footnote, and the elaborated discussion in Friedmann and Hudson (1974).

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