

THE INTEGRATION OF SCIENTIFIC AND ORDINARY KNOWLEDGE IN PLANNING AND POLICY-MAKING

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Epistemological rationalism and theories and practice of planning

Planning theory and practice have undergone many transformations since the institutionalization of planning in the United States and other countries with market economies. Since its original conception, planning practice has been oriented by a rationalistic view of man and by the scientific outlook of the world. The conjunction of these two currents of thinking which still believe planning practice in the present has constituted the basis of the view that man collectively could work out solutions to society's problems. It is based on a rationalistic process of collective decision-making and utilizing scientific methods of inquiry in the diagnosis of the causes and identification of alternative solutions to these problems. This inspired a paradigm of planning which has predominated in planning practice, even among planners that hold a different view of planning.

In general, planning is viewed as a process of setting goals, formulating alternatives, prediction of outcomes and the evaluation of the alternatives in relation to the goals and outcomes. (Friedman and Hudson 1974:8) More explicitly, policy and programming comprises the development and statement of goals, determination of policy and program alternatives, assessment of costs and resources, and evaluation of outcomes and effects, and the monitoring of allocations decisions and implementation activity. (Davis, Hudson and Lewis 1977:3) The pillar that sustains this paradigm of planning is a scientific epistemology, which assumes that planning builds on codified knowledge, obtained through scientific methods of inquiry.

As planners we are familiar with the vast array of systematic methods of inquiry that have been designed and refined to sophisticated levels of complexity that are employed in planning practice; data-gathering, information systems, social and economic indicators, survey research, operational research, systems models, client-analysis, cost-benefit analysis, input-output matrices and mathematical models. From the qualitative vein, some use is made for social planning of direct observation methods in community and institutional settings. The point is that a central tenet in planning practice is the epistemological certainty and the validity of the information and general and specific knowledge obtained through systematic and scientific methods about the reality to which planning intervention is directed to. This knowledge refers to the actual state of that segment of reality (or problem) being examined and the critical relations between its different components. By identifying the connections between the different components it is presumed that valid and sound knowledge can be obtained on the impact of different forms of intervention in the physical or social realm.

In the context of planning, the different variety of investigatory activities have a particular focus: that of serving as an instrument of social problem solving. In so far as it follows the prescriptions of systematic and scientific research it forms part of the large variety of investigatory activities that Lindbloom and Cohen conceptualize as

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professional social inquiry which includes academic, policy-oriented and applied research. They are all characterized by the following features:

- All are indebted for some of their methodology to social science.
- They are carried out by professionals.
- And more important, they aspire to authoritativeness by virtue of an association with science. (Lindbloom and Cohen 1979:7-8)

This belief in the autorritativeness of professional social inquiry, based on the assumptions of epistemological certainty of scientifically acquired knowledge, constitutes one of the main intellectual foundations of planning. And in fact, if a human collectivity did not count with an instrument of assessing a problem and the complex setting surrounding it would be theoretically impossible to think of the possibility of intervening in a systematic mode to solve a problem or achieving established goals. Without knowledge, planning would not be viable.

Alternative views of planning: interactive approaches

The rationalistic paradigm of planning has been the object of revision ever since it had been more or less institutionalized in the United States. Work in the tradition of the politics of planning, organizational theory and development, advocacy planning, choice-theory of planning and more recently, transactional planning have put into serious question the viability of this approach to planning. (An ample review of the different versions and traditions of planning theory and practice in the United States has been made by Friedmann and Hudson (1974). The assault to the rationalistic paradigm of planning has been argued not only at the theoretical level but also at the empirical level. Their arguments are supported by concrete case studies which point to the limitations of the rationalistic or synoptic approach to planning. Some of the issues raised in relation to the viability of rationalistic planning have been the following:

- the problem of obtaining consensus on goals and values,
- decisions are heavily influenced by competing interest groups and the final outcomes do not necessarily constitute the optimum decision, or may favor disproportionately the more influential interest groups, and
- the political and institutional obstacles for the implementation of a plan.

Thus, other alternative paradigms and approaches to planning have emerged which try to resolve theoretically such dilemmas, which are confronted in the planning process. These approaches take into account, in a more explicit and concerned manner, the actors and institutions involved in the decision-making and implementation of the plan, the structures of political and economic power, and, more important, the clients and other social groups that to be affected to some extent by the plans. As a result there is an array of planning approaches, which emphasize one or the other of these factors; i.e., mutual adjustment, organizational development strategies, political mobilization, advocacy planning and transactional planning.

These alternative approaches to planning have in common some degree of interaction between decision-makers, planners, clients and concerned groups. These interaction processes focus on setting goals, which implies taking into account the concerns of groups with competing interests. For example, the choice-theory of planning sees the planner as a value technician who puts his expertise to help groups clarify their goals. The advocate planner will outrightly represent the interests of a

group before the decision-making bodies and will enter into a kind of litigation of the plan at hand.

In another level, the organizational development approach focuses its interaction in the "how" of getting a plan implemented. It will then resort to a series of strategies and tactics with the purpose of mobilizing institutions, decision-makers and even clients into accepting and adopting policy proposals and plan or program designs. The transactional planner goes all the way to interact with his clients in a two way dialogue to establish values and goals, and organize and mobilize the community to obtain resources and participate in the implementation of the plan. However, in all of these approaches there remains an important component of the rationalistic paradigm of planning; the belief in the certainty of scientifically acquired knowledge. Thus, planners count to a great extent on scientific knowledge than on any other source of knowledge as a basis for getting acquainted with the problem and its setting. This means that in this aspect, planners that claim to follow some kind of interactionist approach to planning will in most cases draw from scientifically acquired knowledge than from other non-scientific sources. The latter is conceptualized by Lindbloom and Cohen ordinary knowledge. It is knowledge that is not obtained through any of the variety of investigatory activities of professional social inquiry, but rather through common sense, casual empiricism or thoughtful speculation and analysis. (Lindbloom and Cohen 1979:12.)

In planning schools, even though they may train students in interactive approaches to planning, interaction is circumscribed to any or all of the components of the planning process other than the mode of knowing and explaining the social reality about which the planning efforts are concerned about. This reality is parcelled out by all sort of techniques of data gathering, systematic analysis, empirically bound interpretation and mathematical simulation. This reflects the resumption underlying the curriculum, inspired on the paradigm of rationalistic planning, which considers scientifically acquired knowledge as the only valid and certain source of knowledge. Furthermore, in tune with the philosophical conception of epistemological certainty of scientific knowledge, it also presumes that such knowledge has independent conclusiveness, and therefore, it also has independent authoritativeness. Its mapping of the social reality is considered to be scientifically conclusive and should therefore be evident to all.

Such a premise in planning practice will vitiate any efforts of engaging in an authentic interactive kind of planning, for it carries the presumption that ordinary knowledge, even that of the clients for which a planner may be serving as an advocate, does not carry any value, particularly if it contradicts scientifically obtained knowledge. Hence, if a planner (person or agency) takes as point of departure only scientifically based knowledge, then there can hardly be any dialogue of significance with clients and interest groups, particularly if their knowledge of the matter is not in harmony with the scientific based one. The interaction in the other levels, particularly in setting goals, identifying means and courses of action, and allocating resources will be curtailed, for these components of the decision-making process and of planning are heavily dependent on the images of the social reality. Planners in general, even though they may adopt dialogical or transactional styles of interaction with their clients and other concerned groups, like other professionals they will stick to the scientifically-based forms of diagnosis and prescriptions. As a political scientist is cited to say, social science is "the only technology that government has at hand". (Richard Rose 1977:35).

Conflicts between scientific and ordinary knowledge

Now, it often happens that scientific knowledge is not in agreement with the ordinary knowledge decision-makers and clients have about the issue at hand. In such cases, scientific knowledge will lack the independent authoritativeness it aspires to have. In as much as planners base their policy prescriptions, social remedies or courses of intervention on such knowledge, they will confront difficulties in obtaining their acceptance. Furthermore, the intended dialogue or transactional engagement in all the other phases of the planning process will be seriously hampered.

Planners' faith in the superiority and conclusiveness of scientifically obtained knowledge leads them logically to a determined set of alternative solutions to a problem that may be at variance with the ones derived from the ordinary knowledge other concerned groups have on the matter. As planners do not give importance and negate the validity of ordinary knowledge when it is contradicted by scientifically obtained knowledge, they are trained to circumvent this conflict through an array of tactics like persuasion, bargaining, and interpersonal dynamics. This, I would argue, constitutes in the present the main modification to the rationalistic modes of planning. In view of the political resistance and intellectual objections to scientifically studied and rationally designed proposals planners are now called to employ persuasion techniques and bargaining tactics to get their proposals accepted and implemented. This amendment of rationalistic type of planning is the main contribution of organizational development theories. Even though one finds a dialogical or transactional rhetoric in the arguments and proposals of this school of thinking of planning, the thrust of the ideas adopted for planning are mostly concerned with tactical procedures rather than with the substantive issues of the planning process. There is an overriding concern with bargaining, intergroup dynamics, interpersonal conflict and competences that are needed to confront power structures and figures. (An example of this approach is Argyris and Schon's work *Theory in Practice: Increasing Professional Effectiveness*)

The use of these tactics by planners is justified in terms of overcoming power groups with vested interests. The knowledge these groups profess to have and bring to bear in the discussion of the proposals is often viewed as one vitiated by their particular interests. This view, of course, presumes that planners' knowledge, being scientifically obtained is not distorted by personal or group interests, and as pointed out before, has validity and therefore is conclusive. This also entails the negation of the validity of the ordinary knowledge upon which decision-makers, concerned groups, and clients base their objections to planners' understanding of the problem at hand and its social, economic, and institutional setting. Instead of taking seriously into account this knowledge, planners tend to discount it as a guise and rationalization of these groups' prejudices and self-serving interests, or as manifestations of ignorance or misinformation.

The limitations of scientific knowledge

These conflicts brings forth several problems for the use of scientific knowledge for social problem solving as the ones raised by Lindbloom and Cohen in their provocative work *Usable Knowledge: Social Science and Social Problem Solving*. They argue that scientifically obtained knowledge particularly in the social realm, confronts serious difficulties in attaining conclusiveness and independent authoritativeness.

In the first place, for cognitive and economic reasons it is difficult for the findings produced by professional social inquiry to be scientifically definite or conclusive in its assessment and diagnosis of certain problems. Also, certain kinds of questions cannot be

handled by scientific research. On the other hand, research on certain questions, because of their complexity require very costly resources and efforts to produce definite conclusions and sound recommendations. Therefore, this research cannot be carried out. "At core, both of these explanations trace to the complexity of the social world, and in the face of that complexity, man's limited cognitive capacity". (Lindbloom and Cohen 1979: 40)

The authoritativeness of scientifically obtained knowledge is seriously curtailed by the divergence and contradictions that often characterize the findings and conclusions of different studies on the same questions. We are all aware, for example, of the different explanations given by economists to the phenomena of inflation, by sociologists to the causes of poverty, or the effects of desegregation on learning outcomes, by psychologists on the nature-nurture basis of intelligence, and so on. The propositions made by planners, based on scientifically obtained knowledge are lacking even in scientific conclusiveness in as much as they are disputed by other findings and conclusions which have also allegedly been scientifically obtained.

Another handicap of professional social inquiry for attaining conclusiveness is the ever changing character of the social reality it attempts to grasp and explain. Human beings and social collectivities are in are in continuous process of learning and attitudinal and behavioral change. The findings of studies are related to a particular moment in time, and are like still pictures of a dynamically changing reality. In this sense scientifically obtained knowledge that is used for social problem solving in many instances can only be taken as tentative or provisory descriptions and explanations of the social phenomena that are the object of concern of a planning or policy-making process.

In a great measure due to these considerations the usefulness of scientifically obtained knowledge for planning and policy-making purposes is seriously curtailed because it cannot establish its authoritativeness on the issues involved. Also, its authoritativeness is dependent on the degree of harmony with the ordinary knowledge that concerned people have on this matter. Thus, rather dismissing or minimizing this ordinary knowledge, Lindbloom and Cohen argue strongly about its importance and validity. They reduce the enormous distance by which methodologists and philosophers of science have traditionally placed ordinary and scientific knowledge apart from each other. In closing this gap, they argue that the scientific method, in its first instance originates the process of knowing with ordinary knowledge, which is then submitted to the criteria of verification. In many instances, it does add significantly more knowledge than what is commonly known in a dispersed way by different concerned groups. Therefore, it does not add new significant knowledge that is useful for social problem solving.

Given then its dependence on ordinary knowledge - both for its own production of knowledge and for attaining authoritativeness which requires some degree of concordance between ordinary and scientific knowledge, planners then must at least lend a greater degree of attention to the ordinary knowledge held by clients and concerned groups for the design and elaboration of plans or policies. It means that in interacting with the different groups it must not be limited to processing values, goals, preferences and strategies, but also knowledge. The relevant knowledge required for the understanding of the problem and its social setting is not produced only by scientific methods of inquiry. The overall and valid knowledge required for intervention should also be obtained through a process of interaction between planners and policy analysts with their scientific knowledge on one hand, and clients and concerned groups with their ordinary knowledge on the other. Even though scientific criteria should constitute the standard of validation, the process by which it will be built up is gradual and

dynamic, through a continuous confrontation of the different "knowledges" held by the concerned groups. For a planner this means that bargaining, persuasion techniques, and interpersonal dynamics to get a proposal adopted will not suffice, and may even be questionable on ethical grounds. The planning issue here is not procedural or strategic, but one of substance: that is, the elaboration of valid knowledge about the reality to be transformed or the social problem to be solved. It is then not a question of circumventing opposition that is based on ordinary knowledge, but of taking into account and dealing with the contradictory formulations of the problem through an authentic dialogue with the parts involved so as to be able to make the best search possible for adequate and valid explanations.

For this it is relevant and helpful to examine the notion of dialogical research for education and cultural action of Paulo Freire, the noted Brazilian philosopher and educator, who has designed novel and now world-wide used methods of alphabetization. In his work *The Pedagogy of the Oppressed* he argues that research must be done together with the people who are to be educated and organized to deal with the social structures and social institutions that inhibit his development as a human being. An educator or community organizer initiates his work in a community by attempting to code and decode the view of the surrounding reality, social and physical, held by the people to be organized. Together with the people he goes through a process of analyzing this reality and identifying the more abstract and remote structural and institutional factors or causes that condition a problem. Both researcher and clients learn mutually one from the other about the problems and their causes. In a way his proposals coincide with Lindbloom and Cohen's when they talk about social learning.

Integration of scientific and ordinary knowledge

In this interactive social process of building knowledge, scientific social inquiry does have a pivotal role. It contributes criteria for empirical verification of descriptive statements of the factors involved in a problem. Similarly, it provides information with census, survey or statistical type of data. In a more general level it can provide enlightenment; that is, it gives insights and interpretations that help to clarify man's understanding of the social world. One way of doing this is through new conceptualizations of events and data bringing out thereby new connections between them not seen before. These new conceptualizations can be elaborate set of formal propositions that take the form of paradigms. As shown by Kuhn (*The Structure of Scientific Revolutions*), these paradigms rather than being definite conclusions provide new frameworks for research. Similarly, in social problem solving they sensitize decision-makers to new issues and turn what were non-problems into policy problems. (Weiss 1977:15-16)

Scientific social inquiry then helps to enlighten the on-going discussion about a social problem, broadening the conceptual framework, raising new interrelated issues and reporting empirical data surveyed on specific aspects of a problem. But by itself it will not be able to make specific propositions on a problem that will be conclusive and authoritative. It depends on the inputs of ordinary knowledge held by other concerned groups and persons to attain more precise and effective knowledge about specific problems.

Lindbloom and Cohen argue that an interactive process of building knowledge occurs in the political decision-making process, in voting, and in the market where the concerned groups enter into some kind of bargaining in arriving at determinations about an issue. But in this process the researchers, policy-analysts and planners do not

participate directly in this kind of political or market interactive problem solving. Usually they are circumscribed to the "drawing boards" and research studios. They do interact with their clients or advisers, and they can draw from the latter's ordinary knowledge, intuitions and insights. But I think that planners must incorporate in a systematic and methodic way the ordinary knowledge held by other concerned persons and social groups into their technical tasks of analyzing problems and formulating proposals. They must put scientific and ordinary knowledge to interact right in their "drawing boards" and research studio. This then calls for techniques of analysis other than the conventional ones offered in schools which are mostly oriented to scientific methods that presume to equip planners with the means to obtain conclusive and authoritative knowledge.

In the light of the argument made of the role and importance of ordinary knowledge, planners need to be equipped with other complementary techniques and practices through which they can get acquainted with the existent ordinary knowledge which may not be based on scientific methods, but on experience, intuition and thoughtful speculation. This means that in researching and preparing an analysis of a problem, planners should examine not only the scientific data of a problem but also the "non-scientific" points of view, opinions, perspectives and analysis of concerned persons and groups so as to widen and better focus the knowledge on the problem. These forms of ordinary knowledge should then be scrutinized through scientific methods and subject them to scientific criteria of validation, and have them incorporated into the analysis and proposal design.

Methods of incorporating and assessing ordinary knowledge

The problem in identifying and collecting existent ordinary knowledge is that it is not usually articulated in a clear and systematic form, nor it is found in one or even few sources. Rather it is intuitive; expressed in everyday language forms, tainted by political or ideological coloring, or articulated in literary expressions and forms, often loaded with emotional overtones. Also it is highly dispersed among different sources. When taken as a whole, these pieces of knowledge do not form a consistent and logical pattern, for each (Piece) is conditioned by the particular angle at which the person is situated in the social or institutional ambience.

To gather these pieces of knowledge and interpretation of reality, a planner then needs a different and complementary repertoire of methods. The existing scientific methods pretend to put the social researcher in direct contact with the social reality. These other methods rather direct the analyst to identify and gather others' intellectual and intuitive perceptions of this reality.

Some of the methods that can help to gather these views are content analysis of newspapers, bulletins, journals and periodicals where the views of the different interest groups and of other concerned individuals are expressed. Other sources can be literary works, novels, poetry, biographies and autobiographies and essays. Written and lyrical forms of what is known as popular culture are often eloquent expressions of disenfranchised and underrepresented social groups. Participant observation and ethnomethodology can be helpful if they are focused, not on the people as research objects but as subject-collaborators whose views, intuitions and thoughtful reflections of a problem are considered to be valuable sources of knowledge. In this context, people are not objects of the researcher's particular and "scientific quest for Knowledge".

Finally, rather than organizational development strategies of persuasion and circumvention of resistances to change, analysts and planners should subject their own conclusions and proposals to the scrutiny by these same groups. Brain-storming sessions with clients, concerned groups and decision-makers can be held where his data,

analysis, interpretations and proposals be discussed and criticized in an honest and open way. The planner will be able then to grasp the complexities of the social reality. To know it and understand it, we need to piece together the different angles from which it is viewed. Given the cognitive limitations of the observer and analyst, this reality can then only be known and understood in a collective and cooperative way, both through scientific and ordinary approaches.

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