

EPISTEMOLOGICAL PROBLEMS IN PLANNING*

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Nobody would doubt that there is a need to plan for the future of urban areas. This need is merely one part of a much wider problem, that of understanding and explaining the nature of complex social systems. Hopefully such pursuits will help in predicting future states and the possible outcomes of actions taken in the present. The major purpose of this paper is to ask the following question: "If we are to have responsible planning or 'social engineering', are the current epistemologies and methodologies adequate?" If, as is suspected, the answer to this question is 'No', then we should ask another, namely: "What alternatives can be suggested?"

The paper discusses some of the alternatives. As a preamble the first section pertains to the fundamental dichotomy between the natural and the physical sciences. Obviously there are differences between the two sets of sciences. These differences must be reflected in the ease with which explanations and predictions can be made. In an extremely brief second section there is a discussion of causal inference in the social sciences. Up to this point the paper has a strikingly pessimistic tone. Our current thoughts about the future are narrowly defined and often incorrectly specified. It is the way we think that must be changed long before we try to improve or build new mathematical models of prediction. The final section of the paper describes some of the possibilities for changing the way we think.

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A. Explanation and the Social Sciences

Popper (1957) maintains that there is an essential "unity of method" between the natural and the social sciences. He sees this unity as a consequence of his own dictum for science. In short, the only way for any science to test the merits of proposed laws is to use the hypothetico-deductive method. By deriving empirical consequences from suggested universal hypotheses, the scientist can compare those consequences with the results of direct observation. This is essentially the context of Hempel and Oppenheim's (1948) covering law thesis. What is important here is the way the covering law model has been applied to human behavior. Hempel and Oppenheim saw no problem in this respect. They thought that human behavior which could not be explained by the covering law model would be: either mere description or clarifications of the explanandum; or intuitive hunches whose adequacy depended on the tacit assumptions of universal law. Hempel and Oppenheim also anticipated very few problems in translating such amorphous entities as attitudes into physical terms.

Naturally this schema has been criticized. Hanson (1959) claims there is no form of reasoning involved in discovering hypotheses that is distinct from merely establishing or 'cooking' them. Scriven (1962) offers a number of criticisms and sharpens them with alternative concepts of explanation in cases where the covering law model breaks down. For example there is his "selection explanation" in which a number of explanations are offered and one is selected according to the character and quality of the case in consideration. Olsson (1969b) has discussed some of the reasons why the Hempel-Oppenheim schema may be dangerous for social engineering, but at least two other kinds of criticism can be made.

One criticism is the contention that the Hempel Oppenheim criteria inaccurately portray enquiry in all the sciences (Hanson 1959; Scriven 1962). The other claims this only for the social sciences. This is the 'separatist' view (Rudner 1966), according to which a sharp dichotomy exists between the methods of the social sciences and the physical sciences. Gerwith (1969) states the problem very clearly -- "social science deals largely with things which impinge directly on man's values. . . The aim of social science may be said to be, to attain knowledge of the laws of these matters - that is, of the cause-effect relations. Since, however, man, a conscious voluntary agent is in large part both the knower and the subject

matter of these laws, his knowledge of their impact on his values may lead him to react on the laws reflexively in order to change them. Consequently the laws of the social sciences cannot have the same fixity or permanence as the laws of the natural sciences."

Some writers have objected to the Hempel-Oppenheim criteria for transforming the expressions of mind into physical components. They argue that social scientists cannot divorce themselves from the concepts of intention, beliefs, attitudes and so on. These are the "rules" of sociological investigation (Winch 1958). In the physical sciences there is only one set of rules, those governing the scientific investigation itself. In the social sciences, what the investigator is studying, as well as his study of it, is a human activity which is carried out according to rules. Homans (1967) takes a middle line in this argument. He strongly favours the Hempel-Oppenheim type of explanation. For example: "... explanation is the deduction of empirical propositions from more general ones. Accordingly, in the matter of explanation, the problems of social science are two in number. What are its general propositions? And, can empirical propositions be reliably deduced from them? For it is conceivable that, even if a science possesses general propositions, it may not be able to do much in the way of deducing the empirical propositions it most wishes to explain." Nevertheless, Homans strongly believes that it is the study of behavioral psychology that holds the key to explanation in the social sciences. He and other writers have attempted to adapt behavioral psychology to the traditional scientific method. For example, Spence (1944) has defined Stimulus-Response theory as a search for quantitative laws (of the form $R = f(S)$, where $R =$ "measurement of the behavior of organisms", which depends on stimulus variables consisting of "physical and social environmental factors and conditions, present and past, which the experimenter can manipulate".

Peters and Tajfel (1969) take strong exception to this doctrine. They consider man to be a rule-following and goal-oriented animal, whose actions can only be identified as a result of his intentions and beliefs, interacting with social norms and attitudes. But this is certainly what Homans (1967) has in mind. He gave the example of William the conqueror - why he did not invade Scotland. Scriven (1959) attacked the usual explanation, that he (William) had no desire for the lands of the Scottish nobles; because it contains no law. Homans (1967) provides a law, by supplying a major premise to the deductive system; namely the value-proposition of behavioral psychology: "The

greater the value of a reward to a person, the more likely he is to take action to get that reward." Peters and Tajfel (1969) probably would not accept this, but other psychologists claim that behaviorism can meet their challenge. Newell and Simon (1961) for example, argue for "computer behaviorism". They maintain that high level human activity is comparable to, and thus explainable by, programs composed of elementary information processes. These processes in principle can be "explained by showing how they can be reduced to known physiological processes in the central nervous system." This seems to ignore man's remarkable powers of visual imagery and intuition. Skellam (1969) has quoted a chess master who solved a problem in one minute, compared to a good amateur who took five minutes and a computer which took twelve minutes. Skellam went on to suggest that some of the reflexes, habits and learning processes man has developed are better equipped to deal with complexity (than computers), and that inference is only a strategic concept. This will be discussed further in the next section.

Some writers have presented other problems for the Homans type of explanation. For example, Winch (1958) claims that empirical laws are often irrelevant to human action. Again the idea of social rules is brought out. Winch asserts that social rules are open-ended, they neither determine nor dictate what is to be done in all contexts. Maybe the disagreement is not so great. Homans merely claims that behavioral psychology is a way to channel the mass of rules pertaining to human action. Homans appears to have the only valid solution, but even he admits that "we shall never be able to explain many things because we have, and can get, no adequate information about the given conditions within which the general propositions are to be applied. I argue only that when we think we can explain, our general principles turn out to be psychological."

A discussion of the pros and cons of behavioral psychology will not be pursued here. It is probably enough to say that a solution of the Homans type seems to be an overgeneralization. Nothing could be this simple. Actually, naivety may not altogether be a bad thing for social engineering. What is certain is that our 'sophistication', our love for mathematical modeling, has provided no better solutions than Homans' behavioral laws. It is to this aspect that this paper now briefly turns.

B. Causal Inference and Statistical Models

Most social sciences have tended to concentrate on the description of empirical regularities. This may have been fruitful if followed by a search for new ideas and explanations. Hopefully such findings could be used to re-specify the conceptual model. The main concern in this paper is with the inductive phase of research and model development, rather than deductive model testing. For example, Sonquist (1970) recently described his search as follows "Those factors which appear to be responsible for the behavior in question are to be incorporated into the set of propositions forming a middle range theory describing the function of a specific aspect of a social system. "

The discussion can be separated into two parts. These are: (1), the determination of the causal factors related to a specific dependent variable; (2), the attempt to correctly specify the models being used. Both of these issues have been raised elsewhere (Olsson, 1969; Smith, 1971), so it is not necessary to describe them in detail. In the context of this paper, most of the statistical models used in the social sciences suffer from a common failing. This was described by Wold and Jureen (1953) as the "Failure to realize that in each and every application the hypothesis of a causal dependence has to be indicated and supported by non-statistical considerations." Sonquist's (1970) inductive approach seems very realistic and useful for the social sciences. We could actually go further than Sonquist, and suggest that if there is enough intuitive knowledge to postulate the logical structure of a model, then information will also be available on the parameter values. The advance of open-ended thinking (such as that found in modern physics) can only help this type of inductive reasoning. Even mathematics has been affected. For example there is Godel's proclamation, that even in ordinary mathematics there are infinitely many well formed statements which cannot be proved or disproved from the axioms. Explanation as deduction no longer holds. Even if we were able to set up a perfect mathematical model, we should still be unable to unfold it completely by deductive methods. With this in mind, it will be interesting to investigate the epistemological status of some current social engineering methodologies.

C. Planning and the Scientific Method - What can be Done?

The usefulness of causal and statistical models for social engineering

has not been adequately demonstrated. Even the more traditional applications of the scientific method are of dubious value. As an example, we could consider Popper's (1957) schema for social engineering in the 'Poverty of Historicism'. Ideally, the social engineer tries to achieve his ends by small adjustments and re-adjustments. Popper considers this ideal for carrying out actions with a maximum consideration for future side effects "he (the social engineer) will make his way, step by step, carefully comparing the results expected with the results achieved, and always on the lookout for the unavoidable consequences of any reform". In fact Popper deliberately defines such engineers as "piecemeal social engineers" to separate them from "Holistic" or "Utopian" engineers whom he puts in an "unholy alliance" with Historicists. Popper proceeds to criticize the holist engineer, mainly because of the threat of totalitarianism in his plans to reconstruct society "as a whole". More practically, he discusses the lack of an experimental technology in holist engineer. A "once and for all" experiment would, according to Popper, ignore all present knowledge and gradually acquired deductions (piecemeal experiments). Furthermore, holistic "experiments" are unlikely to contribute much to our experimental knowledge. Not only is this dangerous, it also makes the establishment of cause and effect relations difficult. In all this Popper is only concerned with the difficulty of combining "holistic" planning with scientific methods. His most telling point is concerned with Arrow's Barrier -- "Unable to ascertain what is in the minds of so many individuals he (the holist engineer) must try to simplify his problem by eliminating differences: he must try to control and stereotype interests and beliefs by education, and propaganda Ultimately it must destroy knowledge. . . ." Olsson (1969b, 1971) has pointed out the dangers in applying the dicta of scientific method to social engineering. The fact that planning exists, indicates that we are satisfied with the present situation. To base planning on empirical observations then, is inherently self-defeating. Olsson (1969b) thought this was because the social sciences had no laws, only antecedent conditions. On top of this, such an approach seems basically conservative in nature.

Firstly, Popper claims that the future is unpredictable because what happens next depends on our future state of knowledge. But surely there is no harm in incorporating Utopianism into our thoughts and designs for the future. In fact it is vital if we are to tax our imaginations to anticipate future problems. The planner as a "creative anthropologist" could be guaranteed not to "tamper with our own society

lightly, and certainly not undemocratically". (Jarvie, 1968) Jarvie continues "I plead for all architects and planners to be bolder and freer in thinking through their ideas, yet more constrained in carrying them out -- for them not to be able to influence our lives by fiat, without letting us have any say in the decision. "

Secondly, there is no reason why "piecemeal planning" should not follow from Utopian dreaming. Only the overall vision allows one to see whether, for example, the present pattern of dispersed homes, making people cluster for work, is sustainable if cities develop in different ways.

Thirdly, there seems to be little chance of Utopianists imposing their dreams on their fellows. Hopefully, the dreams of planners are for people to choose from, not to live up to. If we are critical of their dreams they could be very fruitful. Again to quote Jarvie: "What thinking critically about the future can do for us is partially to ameliorate that strangeness or to prepare us for it and thus help us to adapt to it". Jarvie is certainly optimistic. He is right in some respects though. It seems unlikely that a Utopianist will impose his dreams upon us. For the time being planning is far too concerned with feasibility and the political process for us to fear Utopian dreaming. The way man plans for the future depends on his definition of planning and the way he interprets the future. In both respects current planning practices (in the Western World) have serious defects.

Planning has not come easily to us. Our civilization has a long-standing commitment to detailed disorder and the doctrine of free will. Planning, as informed decisions and calculated actions, refutes and rejects both these tendencies. Another problem is that social systems are complex systems with an immense number of variables. As Olsson (1970b) said "This is another way of saying that it has not been feasible to determine the direction and strength of causal relationships nor to show which of the many alternative independent variables should be used as the prime target variable. "

Recent urban planning literature illustrates some of the problems. Wilson's (1968) discussion of the "relevance tree" is one example. Its potential usefulness must be questioned, simply because it raises a number of questions without being able to provide any answers. Wilson described how it might be used in the planning of a new shopping center, but he drifted lightly over the problems. For example,

"it is interesting to note that many of these goals often cannot easily be ascertained without research at the 'understanding' levels; - for example, it is difficult at present to measure consumer satisfaction with different types of shopping center." What is even more surprising however is the following: "Evaluation and plan formulation . . . would be at least conceptually straightforward, given things like demand models which could easily be manipulated. The principal system models to be specified would be those which estimated retail demand." Levin (1967) discussed an 'ideal' design process, consisting of eleven stages. Planning, according to Levin, is the decision making process at all these stages. Levin's system provides for a search for behavioral features by investigating for 'residuals' in the established relationships. These would presumably be such things as 'inconsistencies', 'illogicalities', 'irrationalities' and so on. This procedure is similar to the one criticized by Olsson (1969a), and Harvey (1969) - of a search for behavioral propositions through spatial distributions. The only strength in Levin's (1967) analysis is that it makes feasibility calculations easier. For example, in estimating the amount of land (dependent variable) needed for a 1981 population (independent variable), Levin showed how the possible solutions could be reached through simple demand and supply constraints.

Harris (1966) has been one of the few writers to discuss the epistemological status of planning. He mentioned the problems involved in crossing from induction to deduction and identified the major problem as that of establishing the correspondence rules. What is important in Harris' article is his conclusion. He called for a new basis for planning, one where theory had a large role to play, and scientific methods were adopted. Harris' suggestion about the scientific method may turn out to be counter-productive, but few people would argue with his premise that a new basis for planning is urgently needed.

Most present-day planning has a pragmatic commitment to determinism in various forms. The deterministic model of planning is simple and elegant, it merely tells us that there is sequentiality and linearity in events. The future develops in a direct line from the past, and can be explained in the same way. The basic tool is extrapolation and there is a single future. Occasionally there will be a variety of futures but a decision between them will be made in accordance with a pre-established system of values. There are obvious problems. Firstly, exogenous variables cannot be accepted into the single closed decision system. Secondly, it postulates and requires a value system

that is given and constant, as well as being outside it's conceptual boundaries and its operational jurisdiction. Thirdly, the method gives no possible solutions to the side effects of a given course of action.

This type of planning has never really been concerned with ends and ethical alternatives (oughts); only feasibilities (cans). It seems that our traditional values have been left by the wayside. As technology has advanced, the feasibility of an action, which is a strategic concept, has been elevated into a normative concept. The strategy in fact determines its goals. Planners simply select a number of socio-economic desirables as goals, which are translated into a set of socio-economic problems. Invariably the criteria for the translation was the feasible, and the calculation of the feasible was usually an economic one. There has been little attempt to ascribe operational meaning to the goals, to their intrinsic worth, or to assess the long range consequences of their implementation. There has been an overall failure to plan. The major reason has been a lack of a conceptual and philosophical framework. There is an urgent need for some new ideas in planning. What follows is not intended to be a blueprint for planners; it is simply a plea for them to re-evaluate the way they think about the future.

There are basically three interrelated and interacting approaches to urban planning. These are: normative planning, strategic planning, and operational planning. The latter two fit reasonably well into current planning practice, but normative planning hardly ever comes into the picture. Goals, instead of being considered as distinct from facts, now become facts. Normative planning would imply a number of discrete future states, each of which needs to be delineated and explored. Decisions made in the light of future 'images' would anticipate backward chains of calculable events. These, when they reach the present, can be translated into it in the form of calculable changes. In this way greater freedom would be given to the decision maker by allowing him to act on reality starting from a future (imaginary) situation. Thus planning would become 'future creative', and the very fact of anticipating becomes causative of action. Introducing the element of conscious and informed will into the planning system solves the problem of consumer anarchy, while allowing some real policy considerations to enter the planning process.

This schema avoids the problem of explanation. More to the point, it does not actually deal with the future at all. It deals with the present,

in as much as it is concerned with the present consequences of actions taken in the face of future uncertainty. There is nothing in the future, planning is merely action taken to construct the future. There is hardly any need to pursue this discussion of the planning process. What is important is that a new planning methodology is called for. Planning should be the self-feeding application of intellectual analysis and synthesis to events, to constantly guide the present structure of society with reference to the future.

More often than not, the future is merely an object of thought or imagination. Wartofsky (1968) believes this will only lead to passivity. For Wartofsky, thinking is an activity which results in action in the world. It is a uniquely human activity, characterized by conscious purpose. Models of the future should contain some envisioned goals instead of blindly recreating the present. In this respect Wartofsky extends the entire concept of a model, from simply the entity we know as a model, to a mode of action that entity represents. Models then, are normative in that they represent only certain features, and telic in that they are instruments for achieving some ends. In this way the future can be "invented" by "acting in such a way as to make the future conform to some present vision of it." Wartofsky views models in essentially the same way as Pierce; they express a belief and a readiness to act in a certain way. Consequently Wartofsky comes to the conclusion that "we may say that the belief is already part of the action, and not something that stands 'behind' the action and 'waits' for it... to take place." Some models can do more than create the future in terms of present ideals - they can transform the total vision of those who involve themselves with the models. In this respect a revolutionary party is a model, as is some futuristic literature. A model then, is a vision and a creation of the future that is not just more of the same. Wartofsky further noted that "The future has to be one that destroys the present, preserving only those elements of it which are 'future-now', those which represent radical innovations in the present."

Can these words be translated into a more concrete and rigorous basis on which to found rational and responsible planning? In other words, if we are to re-shape our futures by re-shaping our thoughts about the future, is there a logic to match and indeed facilitate such thoughts? The final section of this paper describes one such system that might be feasible.

D. A Logic for Planning

Referring to evolution, Whitehead (1928) said "again we are told that we should look at the matter historically. Mankind has gradually developed from the lowliest forms of life and must therefore be explained in terms applicable to all such forms. But why construe the latter forms by analogy to the earlier forms? Why not reverse the process? It would seem to be more sensible, more truly empirical, to allow each living species to make its own contribution to the demonstration of factors inherent in living things."

Whitehead recognized the unique qualities of time. There is a genuine ontological difference between the kind and definiteness of being, possessed by past facts, present options and future possibilities. There is an inherent problem for social engineering, which was recognized by Mead (1964) for example, in the following quotation: "if the past determines the present and the present the future, and if the past is stated and that gives the meaning of the present, and so of the future, nature is uniform. If nature is contingent, it is presumed to be unintelligible." Mead's is an inherently gloomy forecast, but is it any worse than what has been happening? Most principles and norms for action apply to the future, but are based on past facts. Notions of causation, truth and law fall into this category. Looking backwards, we will never observe past open alternatives. Every antecedent will have had one, and only one causally related consequent. How can the future hold out any glimmer of caprice, freedom or chance when it is determined by the past?

Brumbaugh (1966) has drawn attention to the inadequacies of traditional (Aristotelian) logic in situations involving time. Such logic discusses truth values regardless of date, but at the same time, propositions about the future may have a definite meaning, but only a fractional truth, for the above reasons. As Brumbaugh pointed out: "If our patterns of thought are to mathematize the patterns of life, our logics should be modified to include indefinite, that is, future, values." To clarify his point, Brumbaugh develops a four valued logic. 1 and 0 refer to definite truth or falsity; $\neq 1$ to a state of 'non-truth' or "the non-definite relation between a proposition with a future referent and the status of that referent as a possibility"; and $\neq 0$ to a state of non-falsity or... "the special case in which the future referent is an option", that is, where it is... "actually possible, and realizable by an increment of choice." The following truth table can thus be proposed:

Table 1

LOGIC WITH TWO INDEFINITE VALUES

	(1)	(2)	(3)	(4)	(5)	
P	q	$\sim P$	$p \supset q$	$p \cdot (p \supset q)$	$[p \cdot (p \supset q)] \supset q$	$\sim p \vee q$
1	1	$\neq 1$	1	1	1	1
1	0	$\neq 1$	0	0	1	$\neq 1$
0	1	$\neq 0$	1	0	1	1
0	0	$\neq 0$	1	0	1	$\neq 0$
1	$\neq 1$	$\neq 1$	$\neq 1$	$\neq 1$	*	$\neq 1$
0	$\neq 1$	$\neq 0$	1	0	1	$\neq 0$
$\neq 1$	1	1	1	$\neq 1$	1	1
$\neq 1$	0	1	*	*	*	1
$\neq 1$	$\neq 1$	1	*	*	*	1
1	$\neq 0$	$\neq 0$	$\neq 0$	$\neq 0$	$\neq 0$	$\neq 0$
0	$\neq 0$	$\neq 0$	1	0	1	$\neq 0$
$\neq 1$	$\neq 0$	1	$\neq 0$	$\neq 1$	$\neq 0$	1
$\neq 0$	1	0	1	$\neq 0$	1	1
$\neq 0$	0	0	0	0	1	0
$\neq 0$	$\neq 1$	0	$\neq 1$	$\neq 1$	*	$\neq 1$
$\neq 0$	$\neq 0$	0	$\neq 0$	$\neq 1$	$\neq 0$	$\neq 0$

Some of the familiar equivalences break down, e. g. , $p \supset q$ and $p \vee q$. But as Brumbaugh notes "no assumptions are introduced beyond that of a fact, option, possibility, or modality, so that the plan has the maximum possible generality consistent with its interpretation as a logic applicable to passage".

Brumbaugh shows how the * values can be removed by having some special cases. The most important adaptations assume that all possibilities are actual and can be arranged in "branched distinct sets of successive options." (Such as moves in chess). In this way most cases can be reduced to probability calculus. If P is the "probability" of p (the number of occurrences of p's in an option set over the total number of elements $p + p^0$) then P is to be corrected if it depends on selections from previous options. In effect, probabilities of compounds depend on those of their components, as shown in Table 2.

Table 2

SPECIALIZATION OF TABLE 1

		(1)	(2)	(3)
p	q	$\sim p$	$p \supset q$	$\sim p \vee q$
1	1	0	1	1
1	0	0	0	0
0	1	1	1	1
0	0	1	1	1
1	Q	0	Q	Q
0	Q	1	1	1
P	1	1-P	1	1
P	0	1-P	1-P	1-P
P	Q	1-P	$(1-P)+Q$	$(1-P)+Q$
1	Q	0	Q	Q
0	Q	1	1	1
P	Q	1-P	$(1-P)+Q$	$(1-P)+Q$
P	1	1-P	1	1
P	0	1-P	1-P	1-P
P	Q	1-P	$(1-P)+Q$	$(1-P)+Q$
P	Q	1-P	$(1-P)+Q$	$(1-P)+Q$

Brumbaugh extends these probability notions to discriminate between more and less probable truths. Some values in this schema are invariant, but others are subject to change. So far there is nothing to indicate that time does pass, but Brumbaugh goes on to describe flows or 'transformations' that will occur with time, depending on whether values divide into facts, or options and possibilities. Finally Brumbaugh shows how modality stays fixed, or changes, relative to three time domains; t_0 =now; t_+ = the future; t_- = the past. This is shown in Table 3. From Table 3 we can see that: rows 1 and 8 are not 'passage' situations; row 4 is the standard pattern of fixed past values, changing in the present and the future; row 6 has a definite value in the present, changing to indefinite in the past or the future; row 5 could represent promises, contracts etc..

Brumbaugh's schema represents an interesting attempt to consider the future as a separate entity. Social engineers would be well advised to veer toward this model, rather than that of Laplace's demon who... "given the state of all matter at an instant... can calculate every future fact and date it."

Table 3

POSSIBLE RELATIONS OF CHANGING MODALITIES TO A
STANDARD CLOCK-TIME SYSTEM

		t-	to	t+
1 = definite or fixed modality	1)	1	1	1
	2)	1	1	0
	3)	1	0	1
0 = modality that transforms with increments added or subtracted	4)	1	0	0
	5)	0	1	1
	6)	0	1	0
	7)	0	0	1
	8)	0	0	0

E. Conclusion

Unfortunately, planning will remain a remedial activity, at least for a while. The role of a psychoanalyst, as described by Erikson (1959) is not unlike that of a present-day planner. The analyst has to evaluate the evidence to arrive at a diagnosis (prediction). To do this, he has to think clinically, by scanning several models in which different modes of knowledge are condensed so "a prediction then takes its cue from the complaint, the symptoms and the amnesia, and makes inferences based on a rapid cross-checking of the (above) models. On this basis a preferred method of treatment is selected. . . ." Duhl (1968) actually interpreted planning from his position as a psychiatrist. He believes that "the planner's role is that of bringing the related (or possibly related) forces into 'comfortable' situations. He can do no more than set the processes of image evolvment and (of) interaction in motion and see where the processes take us. . . ." In this Duhl sees the planner as virtually anonymous. He helps to re-define the problems put to him by the patient, which in this case, is the community. He helps the patient to see what new data is needed, and he helps him collect and correlate that data. By reformulating the problem, he helps the patient make his own decisions. Fein (1968) goes along with this interpretation of planning. However, in a more pessimistic vein he notes that "the psychiatrist cannot enunciate truth forever and for everywhere. . . there is instead, the partial truth of a client seeking autonomy in a specific social context. So too the architectural truth is ephemeral, a truth not of nature but of human

interaction. . . " In his plea for pluralist commitment in planning, Fein asks for models which "expose not only physical qualities but human relationships as well. . . . Where the client is amorphous and cannot himself be involved, we must behave as if he were. He must walk side by side with us, even though he is unseen. Otherwise we shall end up doing what we think is best, which will always mean what we think is best according to our own private perception of the public good. "

Sadly, this architect's warning is too often ignored. The major problem in planning today is that of aggregating values. Individual values are in no way being mirrored by the elected representatives. Duhl (1968) observed that planning really takes place in some of society's basic political processes. We should remember his gloomy comment "most architects, planners and technicians, whether they are doctors or anything else, are babes in the wood. They don't really understand this game at all. . . ." Unfortunately this is probably true. The question of responsible social engineering cannot really be tackled until we have responsible government.

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