

Notes on the Problem of Problem Definition

entities in their own right (challenged by Majone, 1980; Rein and Schon, 1977; Rein, 1980; Wildavsky, 1979; Eden and Sims, 1979, among others) and thus may be determined and understood through ordinary research. This presupposition and the contrasting belief that genuine problem definition may occur only in highly creative minds apparently have discouraged the treatment of problem definition as a problem.

How does one "seize" a problem? Given the complexity of most problems that we confront in our professional life, it might prove useful to pose this question with regard to simpler problems. Hence we proceed with a reanalysis of two well-known anecdotes and a tale of my own.

THE PARABLE OF THE SPINDLE REVISITED

When the sociologist, the psychologist, and the anthropologist can't agree on what causes an organization problem at times of overload, maybe the trouble can be found and corrected by system theory. [Porter, "The Parable of the Spindle," 1962, p. 58]

When we ask them [systems analysts] what kinds of knowledge we need to acquire to solve real problems they tell us to have a "dialogue" with "moral, political, religious and aesthetic perspectives on social reality." [Bryer, 1980, p. 280]

Bryer's position is perhaps overstated, but so is Porter's parable. Revisited twenty years after it was first published, "The Parable of the Spindle" appears to mark a rather frail starting point for a discipline that aims at real-life problem solving. While the sociologist, the anthropologist, and the psychologist are less bold in making claims to better our life, and thus remain unworthy of blunt commentary, the "relevantist" will be measured by his own rod.

Porter's parable is self-defeating to the extent that it aims at pointing out the unique contribution of systems analysis. The sociologist, the psychologist, and the anthropologist, according to the parable, all arrive at the same solution that a systems analyst would have suggested. If all modes of inquiry are equally useful from a practical point of view, it is of no interest how one arrives at a solution.

Porter is vague about the relationship between causes, problems, and solutions. The scientists' mission is to "find out the causes

The Way of the Sixfold Path:

- Seize the problem
- Illustrate the data
- Construct the alternatives
- Project the consequences
- Confront the tradeoffs
- Tell the story

Methods similar to the above path propounded by Professors F. Levy and E. Bardach at the Graduate School of Public Policy at the University of California, Berkeley, abound in textbooks and syllabi alike. Stokey and Zeckhauser (1978) suggest a fivefold path; Quade (1968) offers a dozen steps; and Nikoranov, fourteen (1973). The importance of problem definition is a feature common to such guides. Quade's step 1 advises his readers to "pay major attention to problem formulation" (1968, p. 419). Stokey and Zeckhauser likewise suggest asking, "What is the underlying problem that must be dealt with?" (1978, p. 5).

Whether we seize, set, define, discover, or formulate a problem, we are not certain of precisely what we are doing; nor is it obvious that we understand the object of such pursuits. Although many researchers in a variety of disciplines do in fact confront real-life problems professionally, the literature pertaining to problem definition is rather sparse. Problems are conceived of as objective

alongside each elevator. This anecdote suggests to Kilmann and Mitroff "how a different problem definition (human versus technical) not only addresses the problem situation quite differently, but does so with entirely different solution alternatives" (p. 29).

The know-it-all in this anecdote is not the psychologist, of course, but the narrator, who—unlike the psychologist, the engineer, or even Porter's systems analyst—sees that problems may be defined in a number of ways, which will lead to entirely different solutions. Contrary to Porter's single-lens approach, Kilmann and Mitroff suggest an advocacy approach to problem definition which promotes debate among competing definitions.

A step towards a procedure for problem definition, regardless of its own merit, is fundamentally different from Porter's step from components to systems design. According to Tribe: "if an agency asks 'Where should we build this highway?' the best answer would often be 'Don't ask me that; ask me to help you design a procedure for consultation and bargaining to help decide where'" (1973, p. 20). Tribe's "best answer" characterizes Porter's approach. "Don't ask me that either; ask me to help you design a procedure to help you ask better questions" would fit better with Kilmann and Mitroff's. But what is a problem, so that we can design a procedure for defining it?

The common definition of a problem as being a substantial discrepancy between "what is" and "what should be" (Kilmann and Mitroff, 1979, p. 27; Merton, 1961, p. 701) is helpful in that it does not equate undesirable conditions ("what is") with the problem. Rather, problems are discrepancies. There is no room for problems where there is no dissatisfaction, and there is no dissatisfaction unless there is aspiration for better conditions ("what should be"). At the same time, this definition is misleading. First, the desired state may not be attainable, either because we lack the technology or because of other constraints posed by conflicting social norms. In such a case, there may be no conceivable solution. Hence, at least from an interventionist point of view, there is no problem. Second, the definition of a problem as a discrepancy between a given and a desired state implies that the latter is to be treated as constant. In fact, only present, undesirable conditions call for manipulation and change.

Nevertheless, Quade argues: "It is more important to choose the 'right' objective than it is to make the 'right' choice between alternatives. The wrong objective means that the wrong problem is being solved" (1973, p. 129). Kilmann and Mitroff's treatment of the Type III error overlooks both practical possibilities and methodologi-

of the problems, and find out what to do about them" (1962, p. 59). Then, "each of the three scientists had seen a different problem: status conflict, sex rivalry and value conflict." "Maybe," Porter narrates, "it was none of these but simply a problem in the division of work between men and machines . . . : a problem of system design" (p. 61). If understanding the causes of the problem is a prerequisite to solving it, as the scientists' mission implies, then different solutions would have to follow from different causes. Moreover, if the way we define a problem, regardless of its causes, implies a solution or an array of alternative solutions, then different definitions would lead to different solutions. Nevertheless, the parable's message argues to the contrary: no matter which lenses one uses to select and interpret events, the conclusion would still be the same. Porter thus confines the contribution of systems analysis to explaining, in disciplinary argot ("memory," "queueing," "feedback," "information flow," and the like), why the spindle is indeed a good idea.

Porter goes on to suggest the right way of looking at things. A few years ago he might have analyzed the restaurant problem in terms of human relations, incentives, and so on. Now, however, he would examine "functions," "information," "processing," and "overload" (p. 63). Porter's most important point has to do with "systems thinking," which seeks to examine and alter the whole rather than "change the components to fit in with the system as designed no matter how poor the design might be" (p. 63, Porter's italics).

THE HOTEL ANECDOTE

"You're not solving the problem, comes the inevitable response, you're just redefining it. That's right." [Wildavsky, 1979, p. 56]

Compare "The Parable of the Spindle" with the hotel anecdote retold by Kilmann and Mitroff (1979; adopted from Ackoff, 1978) to illustrate what they call the Type III error, or the probability of solving the wrong problem. A hotel manager receives a growing number of complaints from hotel guests concerning long waits for elevators. He consults an engineer, who suggests two alternatives for a solution—speed up the existing elevators or install new ones. The hotel manager also consults a psychologist, who proposes placing nurrsors or interesting and informative items in the hallway

released, the water stops running. Yes, someone has installed spring-driven faucets. These peculiar devices, too, may be thought of as a solution to a problem. But do they solve the same problem?

It is clear, at least so far as the tale goes, that both solutions have to do with the increase in water consumption. But is "water waste" a "problem"? It is undoubtedly a problem in the sense that "unemployment," "poverty," "crime," "delinquency," and "dropping out of school" are problems. If, however, by naming a number of areas where discontent is experienced, we have merely pointed out areas of discontent but have not defined a problem, "water waste" is just another of these areas. As Kitsuse and Spector assert, nothing is added to the study of deviant behavior by calling it a social problem (1973, p. 408), nor is much added to the study of a social problem by calling it deviant behavior. If water waste, then, is an undesirable condition, what is the problem?

Problems are best understood through solutions. If the cards reading SAVE WATER provide a solution, what is the problem? Suppose we call the plumber and ask him to check the pipes, or suppose we raise the price of membership cards: would we be dealing with the same problem? All these means have to do with the same undesirable condition—namely, increased water consumption—but each solution seems to have a different problem in mind. The yellow cards want to move us from a given state to a more desirable state by working on users' awareness. If we make users more aware of the need to save water, says the SAVE WATER hypothesis, then it is more likely that less water will be used. The hypothesis behind the spring-driven faucet, on the other hand, appears to relate to the habits of shower users as a constraint. Grownups are like that—there is no use in trying to change their habits now (see Etzioni, 1972). Thus, we increase the discomfort (cost) associated with wasteful habits. The more uncomfortable people are under the shower, the less time they will spend there, and the less water they will use. Running a check on the water-pipe system, needless to say, does not have users in mind, but only pipes and possible leaks. A rise in the price of membership cards may not decrease water consumption, but it may help the swimming pool's management pay its rising water bills.

Once we define a problem in terms of lack of awareness, alternative means will be sought in the realm of awareness, such as cards of different sizes, colors, and messages; leaflets; lectures, and so on. Similarly, to the extent that a problem is defined in terms of cost to users, we will seek alternative means to raise the cost of

cal difficulties which might be involved in handling objectives as a means of reducing the probability of solving the "wrong" problem. Note that while the engineer's solution attempts to reduce the *real* waiting time for elevators, the psychologist's goal is to reduce waiting time as perceived by hotel guests, but not in terms of minutes and seconds. Different solutions assume different problems.

A procedure for problem definition is inevitably a procedure for choosing between possibly competing objectives. Since different objectives pose different discrepancies, they also pose different problems, rather than different definitions of the same problem, as Porter and also Kilmann and Mitroff seem to believe. This belief accounts for the role that Kilmann and Mitroff assign to evaluating outcomes. The wrong problem definition (Type III error) would become evident, they say, "once the organization evaluated the outcomes of the change effort . . . only to find that the problem is still apparent" (1979, p. 28).

If we really are dealing with definitions of different problems rather than different definitions of the same problem, it appears that evaluating results would not be the potential falsifier of a given problem definition, but only the adequacy of means employed within that problem definition. These points are perhaps better illustrated in the tale that follows.

THE SWIMMING POOL TALE

We pose a problem by giving the state description of the solution.
[Simon, 1969, p. 112]

A visitor to the swimming pool at Hebrew University will notice a number of 20" by 60" yellow cards reading SAVE WATER, which are posted on the wall opposite the showers. Someone believed that these cards would achieve something and therefore went to the trouble of designing, ordering, and posting them. The cards may be considered as a solution to a problem. Let us assume that water consumption per user has gone up. The cards reading SAVE WATER, it would appear, are there to help solve "the" problem of water waste.

Fortunately, reality has provided the "requisite variety" that induces questions. Users of showers at our swimming pool will soon find out that in order to keep the water running, they have to turn the handle to the right and keep holding it in that position. As soon as it is

wasteful behavior, from coin-operated showers to various schemes of "acceptable" discomfort to users.

Now, let us assume that one tries to evaluate the effectiveness of the SAVE WATER cards or of the mirrors placed next to the hotel elevators. If water consumption per user is not reduced or if complaints from hotel guests continue, we are more likely to seek alternative means for solving the same problem (i.e., lack of awareness in the swimming-pool showers; perception of inadequate elevator service in the hotel) than to search for another problem with its accompanying array of alternative solutions. As Cyert and March (1963, p. 121) suggest, a basic rule of research is to search in the neighborhood of existing solutions.

A similar observation about the inadequacy of program evaluation is expressed by Mitroff and Bontoma, who conclude that "as much as we have needed a methodology for designing controlled experiments, . . . we may need even more a methodology for uncovering and analyzing the effect of different underlying background assumptions" (1978, p. 240). They also argue "that much re-thinking is in order regarding the confidence we place in experiments with respect to their power of disconfirming our theories" (p. 236). Programs (solutions) are like questions posed to Nature. But our discourse with Nature through programs is limited to learning (if we are lucky) about inadequate means, and not about whether we have chosen the "right" objectives. Policy analysis consists, not of replacing ineffective behavior with efficient means to the same ends, but of learning from experience what we should prefer (Wildavsky, 1979, p. 41). This experience should not be taken as the equivalent of controlled experimentation. The task is to develop supplementary mediums for discourse with Nature, mediums that may help us learn "what to want" alongside the traditional concern with "what to do" (see Vickers, 1970; Dery, 1983). We will return to this subject in chapter 10.

What Is a Problem, So That It May Be Usefully Defined?

The rejection of objectivism as an approach to problems runs the risk of ending up with relativistic chaos: any problem setting is as "good," legitimate, or adequate as any other. My approach is that of "qualified relativism," wherein many definitions may be considered adequate as long as they meet certain criteria. The criteria—including instrumentality of problem setting, an intervention perspective, and improvement—are arbitrary, in the same sense that my choice of focusing on problem setting within policy-making arenas is arbitrary. Alternative arenas, such as social science or the mass media, would naturally pose different criteria and different meanings to what might be termed a "problem." In what follows, I will attempt to examine numerous such meanings in order to clarify the notion of "problem" and "problem definition" within a policy-making perspective.

PROBLEMS AS SITUATIONS

Implicit in facing a problem is the lack of a ready response (Duncker, 1968; Newell and Simon, 1972; Davis, 1973)—something like a stimulus, a difficulty, a question, a state of discomfort—that calls for thought prior to action. This conception is helpful, as Davis (1973, p. 13) points out, in that the "problem" of 2 + 2 and the like are thereby excluded. But problems that do not have any conceivable solution, which Wildavsky (1979, p. 42) calls puzzles, are considered

problems as long as they create a stimulus. To the extent that problem definition is instrumental in problem solving, the notion of insoluble problems is untenable. If a problem is "a stimulus for which an organism does not have a ready response" (Davis, 1973, p. 12), one would define a problem by defining that stimulus situation.

A problem is often taken to mean simply a state of difficulty, or a set of undesirable conditions, as in everyday language. In this light, problems, like disease or injury, are objective entities, or empirical phenomena (Fuller, 1941; Tallman & McGee, 1971). Many definitions of social problems accept the notion of equating an undesirable phenomenon with a problem. However, there are differences with regard to who may legitimately define certain conditions as a social problem. Manis, for example, argues against what he calls "the popular definition of social problems" (i.e., conditions that many people consider to be undesirable). He then defines a social problem as "those social conditions identified by scientific inquiry and values as detrimental to human well-being" (1976, p. 25). If we were to accept the view that problems are undesirable situations, defining a problem would simply be defining the situation.

A definition of the situation is often a description of the causes for that situation. It is widely held that unless we know the causes of the problem—that is, its roots or what the "real" problem is—we cannot seriously hope to solve it (Rose, 1971, p. 9; Stringer and Richardson, 1980, p. 36; Edwards and Sharkansky, 1978, p. 87). Nevertheless, causality alone does not provide a criterion for the locus of intervention. Note that when discussing contributions of social science to the solution of social problems, Becker (1966) and others (e.g., Lindblom, 1973; Meltsner, 1976) speak, not of causes, but of "crucial points of intervention," "the points where intervention will be most effective," or a "chain of relevant circumstances." On practical grounds, causes are often uncontrollable, either in principle or by a certain intervention agent, or they are not worth manipulating.

Furthermore, causes of evil are not necessarily evil in themselves (A. Cohen, 1966). And since causes are the effect of other causes, causality alone is not enough to determine what variables to manipulate.

PROBLEMS AS DISCREPANCIES

A more common definition of a problem is that it is a discrepancy between "what is" and "what ought to be" (Merton, 1961; Kilmann

and Mitroff, 1979). Problems, in this view, are gaps rather than being the equivalent of distressing conditions. To define a problem is therefore to sketch the difference between where we are and where we would like to be (Rittel and Webber, 1973, p. 159). The rational decision maker, or problem solver, is expected to do just that. The common, normative (rational) model of decision making advises one to formulate goals (i.e., sketch the gap), identify alternative means to achieve those goals, and select the best alternative (Dror, 1968; Allison, 1971).

The view that problems are discrepancies rests on the belief that goals exist prior to and independently of analysis. This view overlooks the crucial role of problem definition—that of singling out an array of alternative solutions from which the "best" alternative is chosen. If alternative means could somehow be identified through goal formulation or merely by sketching the difference between a given state and a desired state, there would be no need for problem definition.

By way of illustration, the first stage in the Janis and Mann five-step scheme of decision making is "challenge appraisal"—that is, being exposed to information about a threat or opportunity that effectively challenges a current course of action. The question, then, is: "Are the risks serious if I do not change?" (1977, p. 172). If the answer is positive, the decision maker is advised to survey alternative means for dealing with the challenge (step 2). What these alternative means will be depends on the particular definition of the problem.

Janis and Mann are correct in pointing out the illusion of no real choice, which leads to rapid termination of decisional conflict (1977, p. 225). However, by overlooking the crucial role of problem definition in determining the array of alternative means, we may be contributing to "an illusion of real choice." This is a choice of alternative means within a given set, without facing a prior choice from among different sets of means. For example, there may be a choice of different scheduling systems for hotel elevators, rather than a choice between alternative scheduling or alternative means of distracting the attention of hotel guests (see Ackoff, 1978, pp. 53-54; Kilmann and Mitroff, 1979). A problem is not the equivalent of a decision problem; only a defined problem is. (This argument is further developed in chapter 6.)

The view of problems as being discrepancies does not explicitly treat the questions of bridging the gap between the two states, how

this might be accomplished, or whether it would be worthwhile to do so.

PROBLEMS AS BRIDGEABLE DISCREPANCIES

Undesirable conditions, or discrepancies between "what is" and "what ought to be," are not in themselves problems. They become problems only if they are accompanied by a correlating process that erases the difference (Simon, 1969, p. 112) or when a possible solution is conceivable (Lemert, 1968; Rose, 1971; Becker, 1966; Merton, 1961; Weinberg and Rubington, 1973; Palen, 1979; Wildavsky, 1979). But what is a solution?

If problem definition were merely the search for bridgeable gaps, then any erasing of the difference between "what is" and "what ought to be" (or any eradication of undesirable conditions), by whatever means and at whatever cost, would have to be considered a solution. A solution, according to Gary Davis, is a new combination of existing ideas (1973, p. 14). However creative such new combinations might be, this notion of solution does not require an improvement over a previous state, even if they meet the demand of achieving the desired situation (Duncker, 1968).

W. W. Jacobs's story "The Monkey's Paw" is illuminating in this respect: Consider Mr. White, who cannot resist the temptation to use a talisman with the ability to grant three wishes. All he wanted, at least for a start, was two hundred pounds. No sooner does he make the wish than an official of the company where his son is employed appears with two hundred pounds, as compensation for his son's death in an accident at the factory. In Mr. White's place, Ackoff would perhaps have followed E. A. Singer's suggestion (Ackoff, 1978, pp. 15-16) and wish for the ability to satisfy all desires—at the risk, I fear, of ceasing to remain human. Suppose we wished only for two hundred pounds. If we assume that everything else will remain constant, as did naïve Mr. White, we may "solve" the two-hundred-pound problem, and still be worse off. However, if we know the trick, if we know that the solution may cost us something, we would seek to reduce that cost by qualifying our wish with side conditions (e.g., "given that such and such does not happen"). Clearly, it would take an infinite number of such qualifying conditions to ensure that we would be happier with the extra two hundred pounds. Only slight carelessness would make us worse off. Fortunately, we are dealing, not with magic, but with indifferent

Nature, reasonably predictable tools, and less-predictable human beings. Hence, we may more rationally consider possible trade-offs.

Now, if we add the requirement that solutions entail overall improvement (a positive net benefit) over a previous (problematic) situation, it must be admitted that some problems are not worth solving. Naturally, we would want to be better off with a solution than without one. However, if the costs involved in "solving" a given problem exceed the benefits, then that problem is not worth solving.

PROBLEMS AS OPPORTUNITIES

In contrast to the view that problems are observable situations, it has been suggested that problems are not objective entities in their own right, but rather are analytic constructs within one's mind (Wildavsky, 1979; Eden and Sims, 1979; Rein and Schon, 1977). A problem, as in the labeling theory (Blumer, 1971; Kitsuse and Spector, 1973), does not exist "out there," to be identified as such. However, unlike issues in the sociology of social problems, including the labeling school, the question is not whether a given situation is a problem (as in functionalist theories) or whether it is considered to be a problem by many (as in the value-conflict school) or by powerful members (as in labeling theory), but rather how "the" problem is defined. (The main sociological approaches to social problems are reviewed in Spector and Kitsuse, 1977. We shall return to this topic in chapters 4 and 5.)

"A problem is not the same to all interested parties" (Becker, 1966, p. 7), nor is it necessarily the same to disinterested parties, or even to the same researcher. Any given set of conditions that is somehow judged or labeled as being undesirable is not, in itself, a problem or "the" problem. Any such set of conditions may, in other words, "contain" more than one problem, or no problem whatsoever, depending on one's ability to see a way or ways out—that is, to see opportunities for improvement.

The view that problem solving and decision making are closely related—that, in both cases, individuals engage in a selective trial-and-error search (Newell and Simon, 1972)—introduces the notion of a maze. A problem posed is like a maze, a set of paths, of which some subsets—the "correct" paths—are distinguished from the others by having rewards at their termini (Simon, 1979, p. 147). However, whereas decision-making behavior is concerned with running through a maze, the focus of problem definition is on maze building—that is,

5. Problems are better treated as opportunities for improvement; defined problems, as problems of choice between alternative means to realize a given opportunity. The process of problem definition would then be one of search, creation, and initial examination of ideas for solution until a problem of choice is reached.

As long as we identify opportunities for improvement and employ the means to realize them, it is of no consequence if we treat symptoms or causes—that is, “the roots of the problem” or its consequences. In principle, the sole criterion for choosing between competing opportunities is the net benefit offered by each. Obviously, the issue is complicated with regard to social settings that require interpersonal comparisons of costs and benefits. The choice between competing opportunities, unlike that between competing alternative means to realize an opportunity, cannot be expected to be simply the product of benefit-cost analysis. The view of social problems as being opportunities for improvement is further explored in chapters 4 and 5.

on putting forward those behavior-constraining mechanisms in which only certain specific actions or movements are possible or acceptable (see Dery, 1983). “When a social situation is viewed as a game, the rules are given by the physical and legal environment within which an individual’s actions may take place” (Morgenstern, 1968, p. 63). Social scientists may most usefully contribute to a rational discussion of public policies, says Majone, “by pointing out the constraints (economic, political, sociological, organizational) which a proposed policy would have to satisfy in order to be feasible” (1975, pp. 56-58). As we add constraints (i.e., inviolable side conditions; see Nozick, 1974, chap. 3), we limit space for search and inquiry or add direction to goal-seeking behavior. We learn about what may be achieved and accomplished, about what opportunities for improvement exist, by filtering out, through our values, theories, and a trial-and-error search, what we cannot and do not wish to do.

If problems are thought of as opportunities for improvement, then the process of problem definition will be one of search, creation, and initial examination of ideas for solution. We will examine whether proposed solutions seem to offer real opportunities (i.e., whether they satisfy certain constraints) and whether such opportunities offer positive net benefit. We will repeat this until a set of initially acceptable solution alternatives has been identified, until the maze has been built and a problem has been converted into a decision problem. This conversion process clearly embodies a prior choice between alternative sets of solutions. The choice is between alternative definitions of a problem or, in our terminology, between competing problems or competing opportunities for improvement.

CONCLUSIONS

1. Within a “busy curiosity” (see Miller and Starr, 1960, p. 360) perspective, problem definition must be instrumental to problem solving.
2. Solutions embody improvement over a previous problematic situation. It therefore follows that some “problems” are not worth solving.
3. Since some “problems” are insolvable, it follows that problem definition deals with problems that are both solvable and worth solving.
4. Problems are therefore not usefully considered as undesirable situations, discrepancies between a given state and a desired state, or bridgeable discrepancies.

Social Problems as Opportunities for Improvement

offers logical processes for selecting the best alternative solution (Stokey and Zeckhauser, 1978), runs the risk of suggesting "pseudo-solutions"—namely, the best alternative solution for a problem as defined, not necessarily the more adequate problem to be solved (see Nelson, 1974).

Initially, to avoid distributional issues, solutions are interpreted as the equivalent of Pareto improvement (the Kaldor-Hicks criterion included); social problems, as opportunities for Pareto improvements; and Pareto optimum, as a situation where no such opportunities or social problems exist. With this interpretation, sociological analysis of social problems may be directed away from pseudo problems. The economic model of choice is equipped with greater sensitivity to problem definition, and the study of problem definition in the political context becomes the more familiar treatment of the allocation of resources.

PSEUDO PROBLEMS

The sociology of social problems is essentially a sociology of social conditions or issues. Undesirable social conditions are often taken to indicate a problem. The question then is who shall judge which conditions are socially undesirable and if they are indeed "social problems." While the subjectivist value-conflict school holds that social problems are defined as such by the people involved (Fuller, 1941), the functionalists stress the presence of "real" social conditions, objectively judged as being detrimental to the well-being of society (Merton, 1961; Manis, 1976). A problem, as in labeling theory (Blumer, 1971; Kitsuse and Spector, 1973), does not exist "out there" to be identified as such. However, the question is not whether a given situation is a problem (as in functionalist theories) or whether it is considered to be a problem by many (as in the value-conflict school) or by powerful members (as in labeling theory), but rather how the problem is defined. Given that certain social conditions are recognized as problematic, the question of what the problem is (e.g., the problem of crime, poverty, drug abuse, etc.) is not addressed. Applied sociology is not normally concerned with the production of administratively workable and politically realistic ideas for solving social problems (see Scott and Shore, 1979). Moreover, no matter how social conditions are defined as social problems, it is taken for granted that society will be better off if undesirable social

A student of public policy who consults the vast sociological literature on social problems will at best find weak traits of the interventionist perspective. Social (undesirable) conditions are dealt with at length, but little consideration is given to whether something can be done about them, let alone to solutions that are economically justified or politically acceptable. If one consults welfare economics, "solutions" (where the presence of the interventionist spirit is unquestionable) and the process of reaching them are stressed, but "problems" are regarded almost exclusively as "economic problems."

Political scientists maintain that the definition of social problems occurs in a political context (Stringer and Richardson, 1980) and that the controversy over defining "the problem" cannot be settled by analysis (Lindblom, 1968, p. 14). We are thus introduced into the world of power, bargaining, and compromise with only vague notions, alas, of what the controversy is all about. The concept of a problem is seen as somewhat self-suggestive. For many sociologists, a problem relates to social conditions that are objectively or subjectively defined as such. To the economist, problems are somehow given, and the task is to solve them. For political scientists, whatever a problem might be, if it is important, it must be a political issue.

Lacking an appreciation for the interventionist perspective (Scott and Shore, 1979; Wiseman, 1979), the sociological study of social problems is often a study of "pseudo problems"—that is, social conditions that no known intervention will ameliorate or will do so only at a justified cost. The economic model of choice, which

conditions are contained or eliminated; that is, if social problems are solved.

The question of how to evaluate a move from a given (undesirable) state A to an alternative state B—in other words whether such a move adds to the well-being of society—is the essence of welfare economics. Economists remind us that the question is not whether situation B is preferable to situation A but whether, in fact, moving from A to B is worthwhile, considering the costs involved. If a social problem is "a substantial discrepancy between widely shared social standards and actual conditions of social life" (Merton, 1961, p. 701), it need not necessarily follow that narrowing such a discrepancy is at all possible, or even desirable. From an interventionist perspective, to the extent that the cost of solving a problem exceeds the benefits, it is not a problem.

PSEUDO SOLUTIONS

The economist, equipped with his model of choice, his "magic way of looking at problems," as Hitch has put it (1961, p. 92), lays out goals, sets out alternatives, estimates the costs and benefits of each alternative, and then chooses the one that will yield the greatest excess of benefits over costs. He aims at solving problems in the very sense that Ackoff uses the term "solution." A problem is "solved," according to Ackoff, when the decision maker maximizes the value of the outcome. It is "resolved" when the decision maker satisfies rather than optimizes, and it is "dissolved" "by changing [his] values so that the choices available are no longer meaningful" (1978, p. 13). The economist's insistence on solving rather than dissolving, however, renders the model of choice a limited tool for looking at problems. "Lacking a logically defensible criterion of choice," Majone wonders, "how can the analyst advise the policy maker?" "In a normative framework where both objectives and constraints are considered given," he suggests, the analyst would "calculate efficient solutions and eliminate those alternatives that are merely feasible" (1975, p. 51).

Problems are not objective entities in their own right. Hence, solution presupposes a specific definition of the problem to be solved. Unless an initial problem definition is considered superior to any alternative definition (changing one's goals is considered to be inferior to the initial selection of goals), then dissolution is not a third-best approach, as Ackoff's distinction may imply. It is merely another

definition. The path to solution, as Ackoff's fables (1978) clearly demonstrate, often passes through dissolution, or redefinition, reflecting a learning process, a "route," using Wildavsky's words, rather than a "retreat" (1979, pp. 53-69). In a sense, problems need to be dissolved (defined and redefined) before they can be solved, or before we can select the optimizing alternative. This view, however, is not embodied in the economic model of choice.

Since every problem involves a choice, the model of choice is readily adopted as a method of looking at problems (Hitch, 1961; Stokey and Zeckhauser, 1978; Okun, 1970). This model, however, overlooks an important fact. As one selects a solution among alternative means, the alternative solutions fall within the limits of the definition of the problem. The best elevator-scheduling system, to use Ackoff's fable (1978, pp. 53-55), is only the best among alternative scheduling systems, but it may not be the best solution for "the" problem at hand. For example, installing mirrors next to elevator entrances may also be a viable alternative.

Following the standard benefit-cost procedure, we may overlook the possibility that the traffic-safety problem may be usefully defined in terms of vehicle behavior and in terms of driver behavior (see Moynihan, 1973, pp. 11-12; Gusfield, 1981). Why can't Johnny read? Lindblom and Cohen sketch numerous definitions of the problem, such as "reading difficulties among certain urban ethnic groups," "a deficiency in the family's ability to implant an incentive to learn to read in children," "inadequacy of the urban ethnic family as a social institution," or "historically produced culture that is inadequate" (1979, pp. 49-50). Each definition calls for a different selection of alternative means. But by examining one array of solutions, the benefit-cost analyst may choose the best alternative, without necessarily considering alternatives that fall outside of a given definition of "the" problem. The model of choice, it seems, would be useful, but only after a problem has been defined, after one has somehow chosen among competing definitions.

SOCIAL PROBLEMS AS OPPORTUNITIES

Within a given definition and its accompanying array of alternatives, the procedure for selecting the best means is (conceptually) straightforward. A move from situation A to situation B is judged as improvement if it satisfies the Pareto criterion (i.e., if at least one person is made better off and no one is made worse off) or the

rid of what we do not want, we do not necessarily obtain what we do want" (1978, p. 54).

According to Moore, the common view (of the "heroin problem")—"that policies attacking symptoms are cynical, impermanent, inefficient, or otherwise undesirable, and that policies attacking causes are self-evidently superior"—might overstate the importance of broad policies and neglect narrower ones, such as those restricted to helping heroin users (1976, pp. 646-48). Confusion regarding the appropriate place of causes in problem solving is perhaps indicated by Ackoff himself. Clearly disagreeing with his own position (see citation above), his common example of the wrong conception of problems "is a formulation of a problem that leads to the suppression of symptoms rather than the removal of the cause of a deficiency that creates the problem" (1978, p. 13).

My position is quite different. For causes to be helpful, we demand that (1) we possess knowledge of causes, (2) causes are manipulatable, and (3) causes are worth manipulating. But when causes meet these requirements, they are no longer presented as causes or "the" causes. (Dewey's notion of "efficient causes" is perhaps more appropriate—1979, p. 107.) It is not the intrinsic value of causes per se that commands consideration, but their instrumental status in pointing to opportunities for improvement. Furthermore, no locus of intervention can be justified in terms of causes alone, because every cause is the effect of another cause (see Popper, 1967, p. 262). If we do not wish to take the route of the infinite regress to "the cause of all causes," we must employ some sort of stopping rules. Such rules (e.g., instrumentality in pointing out opportunities for improvement) are necessarily external to the logic of causes.

POLITICAL OPPORTUNITIES

If any one set of social conditions may "contain" many problems, how does one select "the" problem or problems to be dealt with? Since the solution of any social problem may be considered a contribution to social welfare, one would want to choose those problems which offer the greatest net contribution or the best opportunities. But a contribution for one might be at the expense of another. We cannot escape interpersonal comparisons of costs and benefits, which are legitimately accomplished only through the political process (Wildavsky, 1966).

Kaldor-Hicks criterion (i.e., in case some are made worse off, the gainers would compensate the losers in such a way that everyone would be better off). For simplicity's sake, a move that satisfies either criterion will be referred to here as Pareto improvement. Benefit-cost analysis, which is an application of the Kaldor-Hicks criterion (maximum net benefit), would tell us whether society is better off with a certain intervention program (solution). It would tell us, in other words, whether a given problem is worth solving and, if so, which alternative solution would serve society best.

An intervention program will thus qualify as a solution only to the extent that it offers a Pareto improvement. It follows that a given set of undesirable social conditions will be considered as a social problem only if an opportunity for Pareto improvement is assumed to exist. The Pareto optimum (i.e., when for a given situation A it is impossible to find an alternative situation that satisfies the Pareto or Kaldor-Hicks criterion) would then depict a situation where no such opportunities or social problems existed.

Neither undesirable conditions nor discrepancies between "what is" and "what should be" necessarily constitute problems. Likewise, the elimination or suppression of undesirable social conditions does not necessarily improve the well-being of society or constitute solutions. Furthermore, the definition of social problems as opportunities for Pareto improvement directs attention to possible opportunities outside the limits of a given problem definition. Hence, the magic in the model of choice may be restored if it is not restricted to an examination of alternative means for solving a problem but is also sensitive to alternative conceptions of problems.

OPPORTUNITIES VERSUS CAUSES

The common insistence upon uncovering the causes of problems as a prerequisite for solving them (e.g., Rose, 1971, p. 9; Palen, 1979; Stringer and Richardson, 1980, p. 36) or as the equivalent of problem definition (Rich, 1979, p. 11) may be a handicap. If we cannot tame "wicked problems," taming their growth (though the beast remains as wicked as ever—compare Churchman, 1967) may present the only opportunity for improvement. "Our natural inclination," says Ackoff, "is to try to find the cause of the deficiency that gives rise to a problem and to remove or suppress it. We did this unsuccessfully in the case of Prohibition and we are doing it again with respect to the misuse of narcotics. Unfortunately, even if we get

The Pareto criterion has been employed thus far in order to avoid distributional issues while exploring the notion of social problems as opportunities. Now, we may turn to the crucial role of distributional questions in problem definition—to the notion of improvement. Interpretation of problems as the equivalent of opportunities for improvement reveals the value judgments involved in defining a problem. "Improvement," for one thing, is suspected to be even more value laden than "problem." "Improvement for whom and at whose cost?" is a far more likely reaction to a suggested opportunity for improvement than is the "good-for-all" implication of "solution" (Rule, 1978).

The definition of social problems as discrepancies between "what is" and "what ought to be" implies that nothing short of fulfilling our ideals might be considered a solution. This leaves room for only one possible definition of a social problem, and only one possible solution. It is further implied that ideals, or "widely shared social standards," provide consistent guidance for action. Society at large would benefit from bridging the discrepancy. No one person or value would be adversely affected. Such a definition, as MacRae and Wilde point out, avoids "the question of whether the people involved are right about either the desirability of the change they want (it may hurt someone else), the possibility of change, or the effectiveness of the means they may propose" (1979, p. 23). We might as well return to the resignation policy that is implied in the Pareto criterion (Kaldor-Hicks compensation *not* included), for society is by and large at a Pareto optimum—that is, any improvement in one person's condition will leave another person worse off.

To get away from what Kaplan calls the "empty tautology that our actuality falls short of our ideals" (1963, p. 80), we must recognize that solutions to social problems are not of the "good-for-all, bad-for-none" type. In serving certain values, we usually do disservice to others. The essence of problem definition involves not merely identifying threatened values, but deciding which of those values count (Brown, 1976, p. 337).

"There is no such thing as a programmatic morality," says Kaplan, in the sense that "morality is rarely a matter simply of applying an unquestioned principle to a case that indubitably falls under its scope" (1963, pp. 91-92). There is also no such thing as programmatic morality, I may add, in the sense that morality does not prescribe the scope of its own application. To define a problem in the political context, one is required to resolve a moral problem, "to weigh conflicting principles and to act on a balance of probabilities on

behalf of the preponderant values" (Kaplan, 1963, p. 91; see Moynihan, 1973, p. 24).

Problem definition is hence neither correct nor incorrect (Lindblom and Cohen, 1979, p. 50); solutions to social problems are not true or false but good or bad. A definition of a social problem is not simply a descriptive definition, for it does not merely describe but also chooses certain aspects of reality as being relevant for action in order to achieve certain goals. A definition of a problem is in a more important sense a "persuasive definition"—that is, "one which gives a new conceptual meaning to a familiar word . . . which is used with the conscious or unconscious purpose of changing, by this means, the direction of people's interest" (Stevenson, 1963, p. 32). Note that Stevenson takes "interest" to mean "attitude," thus stressing psychological responses. Persuasive definitions would seek to evoke psychological responses by calling a certain phenomenon a "problem," for example, by calling Israeli citizens who emigrate "deserters" or "scum of the earth." In a different sense, a definition of a problem is a "programmatic definition" where the intent is not so much to cause new effects in the listener as it is to bear upon social practice (Scheffler, 1960, p. 20). "The interest of programmatic definitions is moral, that is, they are intended to embody programs of action" (Scheffler, 1960, p. 22). Definitions of social problems may legitimately disagree with one another.

Once we recognize problem definition for what it is, the political debate concentrates on what would count as an improvement and what opportunities to pursue, not the causes of problems (Ross and Staines, 1972), or what the "real" problem is (Lindblom, 1968, p. 12). Furthermore, the debate concerns not only "where we go from here" but also "who will take us there." The controversy over "the nature of the problem" is often a controversy between solution owners and the professional reformers (see Moynihan, 1969; Gusfield, 1981). Institutionalization of solutions entails institutionalization of problem definitions. Any change in the definition of social problems that is not incremental is likely to be opposed by those who benefit from current definitions. There is no zero basis for problem definition unless one is willing and able to bring programs and institutions down to zero. (The institutionalization of solutions as an obstacle to problem redefinition is the subject of chapter 8.)

To the extent that "bargaining remains the only known way of generating policies out of a welter of conflicting interests, ill-tested theories, and differentially distributed resources" (Majone, 1976, p. 611), policy makers need to know the price of each gain. Dollar costs

of any given solution are useful in that they denote forgone alternative solutions, but the scope of alternative solutions to be considered is limited by how problems are defined. Multiple problem definition has the advantage of expressing those costs in terms of forgone opportunities for improvement. Such costs are more meaningful in the political arena, as they reveal distributional considerations that benefit-cost analysis conceals under the net-benefit criterion.

In the following chapter we contrast the view of problems as opportunities with some common notions of "the" juvenile delinquency problem. The idea is not simply to repeat the main argument but to present it in a more concrete context and further to explore its implications for policy inquiry.

5

On Defining Juvenile Delinquency as a Policy Problem

Coming from two quite different disciplines or ways of looking at the world—the sociology of deviance and crime, on the one hand, and public policy analysis on the other—we both found ourselves interested in the problem of juvenile delinquency and *what can be done about it*.*

These two backgrounds do indeed represent different interests, and we do not pretend to "integrate" or "resolve" these differences by some sort of word magic. To the sociologist, a social problem (such as delinquency) constitutes a phenomenon to be analyzed: in terms of distribution, causation, definition, or whatever. The perspective is seemingly detached: preferred solutions, policies, or methods of coping are merely part of the phenomenon to be analyzed. For the public-policy analyst, these various solutions, policies, and ways of coping constitute both the starting point and the justification for the exercise. The analyst becomes part of the process whereby social problems are placed on the political agenda.

Attempts to reconcile these competing interests are, as we have discovered, doomed to objections from both sides. "Neither side," as one reader of an earlier draft commented, "depends on the other for legitimacy," and it would be best to keep them apart. Another reader thought that we were simply "abandoning the analysis of social problems in favor of participating in them." Our

* Stanley Cohen is the coauthor of this chapter.