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# Backward Mapping: Implementation Research and Policy Decisions

RICHARD F. ELMORE

Students of implementation repeatedly argue that implementation problems should be considered when policies are made. Better policies would result, we are told, if policymakers would think about whether their decisions could be implemented before they settle on a course of action. The argument is often made in an accusatory way, as if policymakers were somehow deficient for not routinely and systematically thinking about implementation problems. Yet when one looks to the implementation literature for guidance, there is not much to be found.

Implementation research is long on description and short on prescription. Most implementation research is case studies. This fact, by itself, is neither good nor bad. But it does present special problems when it comes to translating research into useful guidance for policymakers. Cases, if they are well written, focus on a particular sequence of events and a specific set of causes and consequences. When drawing conclusions from their data, case writers are characteristically and honestly cautious. They are typically careful not to generalize more than a step or two beyond their data, and they do that very apologetically. Thus, when we look to the most influential implementation studies for guidance about how to anticipate implementation problems, we find advice that is desultory and strategically vague.<sup>1</sup>

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<sup>1</sup> Pressman and Wildavsky conclude that the "length and unpredictability" of implementation processes should lead policymakers to consider "more direct means" (Jeffrey Pressman and Aaron

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Vague advice is better than none at all. But one wonders whether this is the best that implementation researchers have to offer. Wringing more out of the literature, however, requires a brand of risk taking that academics and policy analysts typically find uncomfortable. It requires offering a *logically ordered sequence of questions* that policymakers can ask, prior to making a policy decision, that will provide prescriptions for action. The problem with this approach, as opposed to, for example, cataloguing the fragmentary advice that falls out of case studies, is that one can err in a variety of ways: in interpreting the literature, in determining the logic that ties the questions together, or in choosing the questions. It is this fear of erring, I suspect, that has resulted in a failure of nerve among implementation researchers. The important issue is not whether the framework of analysis is “right” or “wrong,” but whether it is sufficiently clear to be controvertible. It is less important to agree on a single framework for analyzing implementation problems than it is to be clear about the consequences of adopting one framework over another.

The essential argument of this article is that there are at least two clearly distinguishable approaches to implementation analysis: *forward mapping* and *backward mapping*.<sup>2</sup> Forward mapping is the strategy that comes most readily to mind when one thinks about how a policymaker might try to affect the implementation process. It begins at the top of the process, with as clear a statement as possible of the policymaker’s intent, and proceeds through a sequence of increasingly more specific steps to define what is expected of implementors at each level. At the bottom of the process, one states, again with as much precision as possible, what a satisfactory outcome would be, measured in terms of the original statement of intent. Forward mapping of a federal policy might begin with a statement of congressional intent. It would then outline federal agency regulations and administrative actions consistent with that intent. It would elaborate a division of responsibilities between central and regional offices of the federal government (or among federal, state, and local ad-

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Wildavsky, *Implementation* [Berkeley: University of California Press, 1973], pp. 143–44). Bardach advises policymakers to base policies on explicit theories, to prefer marketlike mechanisms to bureaucratic ones, to forecast problems by using scenarios, and to “fix” implementation problems with political intervention (Eugene Bardach, *The Implementation Game* [Cambridge, Mass.: MIT Press, 1977], pp. 250–83). Berman and McLaughlin suggest policymakers should pay more attention “to all stages of the local change process,” provide “adaptive implementation assistance,” and improve “the capacity of school districts to manage change” (Paul Berman and Milbrey McLaughlin, *Federal Programs Supporting Educational Change* [Santa Monica, Calif.: Rand Corporation, 1978], vol. VIII, pp. 35–43). Weatherly and Lipsky conclude that policymakers should attend more closely to the behavior of street-level bureaucrats, rewarding behaviors that are consistent with policy and penalizing those that are not (Richard Weatherly and Michael Lipsky, “Street-Level Bureaucrats and Institutional Innovation: Implementing Special Education Reform,” *Harvard Educational Review* 47 [May 1977]: 196).

<sup>2</sup> I am indebted to Mark Moore of the Kennedy School of Government, Harvard University, for introducing me to the notion of “backward mapping,” though he should not be held accountable for my version of it.

ministrators) such that each implementing unit had a clearly defined mission. It would then state an outcome, usually in terms of an observable effect on a target population, consistent with the initial purpose of the policymakers.

Numerous variations of this approach are possible. One need not map only administrative actions and organizational arrangements. If political feasibility is a problem, one can describe the major political actors and the agreements necessary among them at each level. If the implementation of the policy depends on the adoption of some form of technology (for example, emission controls, medical equipment, or plant construction), one can describe the state of technology necessary at each stage. The analysis may also be elaborated by describing a number of alternative streams of action under varying assumptions about organizational, political, and technological factors.

The details of forward mapping are less important for our purposes than the underlying logic. It begins with an objective, it elaborates an increasingly specific set of steps for achieving that objective, and it states an outcome against which success or failure can be measured. It is consistent with the standard framework of policy analysis and with conventional techniques of management science and decision analysis (program evaluation and review technique [PERT] and critical path method [CPM]). Insofar as implementation analysis is treated at all in textbooks on policy analysis, it is treated as forward mapping.<sup>3</sup>

What the textbooks do not discuss, however, are the weaknesses of forward mapping and its severe limitations as an analytic technique. The most serious problem with forward mapping is its implicit and unquestioned assumption that *policymakers control the organizational, political, and technological processes that affect implementation*. The notion that policymakers exercise—or ought to exercise—some kind of direct and determinant control over policy implementation might be called the “noble lie” of conventional public administration and policy analysis. Administrators legitimate their discretionary decisions by saying that their authority is delegated and controlled by elected and appointed policymakers. Policy analysts justify their existence by arguing that informed, rational choices by policymakers are necessary to guide and control administrators. Neither administrators nor policy analysts are very comfortable with the possibility that most of what happens in the implementation process cannot be explained by the intentions and directions of policymakers.

By assuming that more explicit policy directives, greater attention to administrative responsibilities, and clearer statements of intended outcomes will improve implementation, forward mapping reinforces the myth that implementation is controlled from the top. This myth is increasingly difficult to maintain in the face of accumulating evidence on the nature of the implementation pro-

<sup>3</sup> See, for example, Harry Hatry et al., *Program Analysis for State and Local Government* (Washington, D.C.: Urban Institute, 1976), p. 97; Edward Quade, *Analysis for Public Decisions* (New York: Elsevier, 1975), p. 253; Grover Starling, *The Politics and Economics of Public Policy* (Homewood, Ill.: Dorsey, 1979), p. 430.

cess. Moreover, forward mapping, as an analytic strategy, treats only a narrow range of possible explanations for implementation failures.<sup>4</sup> The most persuasive explanation for the persistence of forward mapping in the face of its obvious limitations is the lack of a suitable alternative. It is one thing to appreciate intuitively that policymakers may not exercise decisive control over the implementation process; it is quite another to formulate an analytic strategy consistent with that intuition.

Backward mapping shares with forward mapping the notion that policymakers have a strong interest in affecting the implementation process and the outcomes of policy decisions. But backward mapping explicitly questions the assumption that policymakers ought to, or do, exercise the determinant influence over what happens in the implementation process. It also questions the assumption that explicit policy directives, clear statements of administrative responsibilities, and well-defined outcomes will necessarily increase the likelihood that policies will be successfully implemented.

The logic of backward mapping is, in all important respects, the opposite of forward mapping. It begins not at the top of the implementation process but at the last possible stage, the point at which administrative actions intersect private choices. It begins not with a statement of intent, but with a statement of the specific behavior at the lowest level of the implementation process that generates the need for a policy. Only after that behavior is described does the analysis presume to state an objective; the objective is first stated as a set of organizational operations and then as a set of effects, or outcomes, that will result from these operations. Having established a relatively precise target at the lowest level of the system, the analysis backs up through the structure of implementing agencies, asking at each level two questions: What is the ability of this unit to affect the behavior that is the target of the policy? And what resources does this unit require in order to have that effect? In the final stage of analysis the analyst or policymaker describes a policy that directs resources at the organizational units likely to have the greatest effect.

Although backward mapping takes the policymaker's perspective on the implementation process, it does not assume that policy is the only—or even the major—influence on the behavior of people engaged in the process. Furthermore, it does not rely on compliance with the policymaker's intent as the standard of success or failure. It offers instead a standard of success that is in all respects *conditional*; that is, one's definition of success is predicated on an estimate of the limited ability of actors at one level of the implementation process to influence the behavior of actors at other levels and on the limited ability of public organizations as a whole to influence private behavior.

Forward mapping assumes that organizational units in the implementation process are linked in essentially hierarchical relationships. This assumption has

<sup>4</sup> For a detailed discussion of alternative explanations of implementation failures and their consequences for modeling the implementation process, see, Richard F. Elmore, "Organizational Models of Social Program Implementation," *Public Policy* 26 (Spring 1978): 185–228.

two corollaries: the closer one is to the source of the policy, the greater is one's authority and influence; and the ability of complex systems to respond to problems depends on the establishment of clear lines of authority and control. Backward mapping assumes essentially the opposite: the closer one is to the source of the problem, the greater is one's ability to influence it; and the problem-solving ability of complex systems depends not on hierarchical control but on maximizing discretion at the point where the problem is most immediate.

### BACKWARD MAPPING AND IMPLEMENTATION RESEARCH

Applying forward and backward mapping to the same problem gives much different results. The analytic solution offered by forward mapping stresses factors that tend to centralize control and that are easily manipulated by policymakers: funding formulas; formal organizational structures; authority relationships among administrative units; regulations; and administrative controls (budget, planning, and evaluation requirements). The analytic solution offered by backward mapping stresses the dispersal of control and concentrates on factors that can only be indirectly influenced by policymakers: knowledge and problem-solving ability of lower-level administrators; incentive structures that operate on the subjects of policy; bargaining relationships among political actors at various levels of the implementation process; and the strategic use of funds to affect discretionary choices. The crucial difference of perspective stems from whether one chooses to rely primarily on formal devices of command and control that centralize authority or on informal devices of delegation and discretion that disperse authority.

The stakes involved in choosing an analytic approach are clearer when they are put in the context of current thinking about implementation. As the literature on implementation has accumulated, certain issues have emerged that demonstrate the consequences, both intellectual and practical, of seeing implementation either as a hierarchically ordered process or as a dispersed and decentralized process.

#### *Organizational Processes and Outputs*

The emergence of implementation as a subject for policy analysis coincides closely with the discovery by policy analysts that decisions are not self-executing. Analysis of policy choices matters very little if the mechanism for implementing those choices is poorly understood. In answering the question, "What percentage of the work of achieving a desired governmental action is done when the preferred analytic alternative has been identified?" Allison estimated that, in the normal case, it was about 10 percent, leaving the remaining 90 percent in the realm of implementation.<sup>5</sup> Hence, in Nelson's terms, "the

<sup>5</sup> Graham Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston, Mass.: Little, Brown, 1971), p. 267.

core of analysis of alternatives becomes the prediction of how alternative organizational structures will behave over . . . time."<sup>6</sup> But the task of prediction is vastly complicated by the absence of a coherent body of organizational theory, making it necessary to posit several alternative models of organization.<sup>7</sup>

Those policy analysts who are economists, impatient with the complexities of bureaucracy and the lack of precision in organizational theory, have tried to reduce implementation analysis to a simple choice between market and non-market mechanisms. Schultze states the basic argument when he says that the "collective-coercion component of intervention should be treated as a scarce resource" in the formulation of policies, and that policymakers should learn to "maximize the use of techniques that modify the structure of private incentives."<sup>8</sup> Wolf furthers the argument, stating that the whole enterprise of implementation analysis can be reduced to a diagnosis of the pathologies of nonmarket structures, or as he calls it, "a theory of nonmarket failures."<sup>9</sup> The simplicity of the argument is comforting, but its utility is suspect. It seeks to solve one type of organizational problem, the responsiveness of large-scale bureaucracies, by substituting another type of organizational problem, the invention and execution of quasi markets. There is little evidence to suggest that the latter problem is any more tractable than the former. One would hardly expect, though, that a detailed framework for analysis of organizational alternatives would emerge from an intellectual tradition that regards organizational structure of any kind as a second-best solution to the problem of collective action.<sup>10</sup>

Defining implementation analysis as a choice between market and nonmarket structures diverts attention from, and trivializes, an important problem: *how to use the structure and process of organizations to elaborate, specify, and define policies*. Most policy analysts, economists or not, are trained to regard complex organizations as *barriers* to the implementation of public policy, not as instruments to be capitalized upon and modified in the pursuit of policy objectives. In fact, organizations can be remarkably effective devices for working out difficult public problems, but their use requires an understanding of the reciprocal nature of authority relations. Formal authority travels from top to bottom in organizations, but the informal authority that derives from expertise, skill, and proximity to the essential tasks that an organization performs travels in the opposite direction. Delegated discretion is a way of capitalizing on this reciprocal relationship; responsibilities that require special expertise and prox-

<sup>6</sup> Richard Nelson, *The Moon and the Ghetto* (New York: W. W. Norton, 1977), p. 40.

<sup>7</sup> See for example, *ibid.*, p. 41; Elmore, "Organizational Models," pp. 187-89.

<sup>8</sup> Charles Schultze, *The Public Use of Private Interest* (Washington, D.C.: Brookings Institution, 1977), pp. 6-7.

<sup>9</sup> Charles Wolf, "A Theory of Non-Market Failures," *Public Interest* (Spring 1979): 114-33.

<sup>10</sup> For examples of this argument, see Kenneth Arrow, *The Limits of Organization* (New York: W. W. Norton, 1974); and Oliver Williamson, *Markets and Hierarchies* (New York: Free Press, 1975).

imity to a problem are pushed down in the organization, leaving more generalized responsibilities at the top. For purposes of implementation, this means that formal authority, in the form of policy statements, is heavily dependent upon specialized problem-solving capabilities further down the chain of authority. Except in cases where a policy requires strict performance of a highly structured routine (for example, airline safety inspections), strong hierarchical controls work against this principle of reciprocity. To use organizations effectively as instruments of policy, analysts and policymakers have to understand where in the complex network of organizational relationships certain tasks should be performed, what resources are necessary for their performance, and whether the performance of the task has some tangible effect on the problem that the policy is designed to solve. Analysts and policymakers do *not* need to know how to perform the task, or even whether the task is performed uniformly; in fact, diversity in the performance of the task is an important source of knowledge about how to do it better.

The notion of reciprocity lends some concreteness to the strategic calculations involved in implementation analysis. Instead of stating the central analytic problem as a choice between competing abstractions—market and nonmarket alternatives—it focuses on the *process* by which organized problem solving occurs and the *output* that results from problem solving. Understanding reciprocal dependencies in organizations also simplifies the conduct of analysis considerably. One is not concerned with mapping all the formal authority relationships that could possibly bear on a policy problem but with isolating the one or two critical points in a complex organization that have the closest proximity to the problem and describing what needs to happen at those points to solve the problem.

Shrewd organizational analysis does not preclude the selection of marketlike structures to implement policy. In fact, it clarifies the choice considerably. There is nothing to prevent the analyst or policymaker from concluding that, for purposes of a specific problem, the best strategy is to move problem-solving responsibilities outside formal organizations and rely on individual choices. But the decision to pursue that strategy is based on a prior understanding of the setting and the actors, rather than a presumption that marketlike structures are more effective.

### *The Complexity of Joint Action*

Pressman and Wildavsky were the first to observe the inverse relationship between the number of transactions required to implement a decision and the likelihood that an effect, any effect, would result. Even when the probability of a favorable result is high at each step, the cumulative product of a large number of transactions is an extraordinarily low probability of success.<sup>11</sup> This analysis is

<sup>11</sup> Pressman and Wildavsky, *Implementation*, pp. 87–124.

complemented by Bardach's extended discussion of the devices that administrators use to delay, divert, and dissipate the effect of policies and by attempts of other scholars to specify the effect of bureaucratic structure on implementation.<sup>12</sup> These notions have now become part of the standard repertoire of explanations for why policies fail. But they have had surprisingly little payoff in increasing our understanding of how to prevent failure. If we accept that the complexity of joint action is a serious problem, for both policy analysts and policymakers, what can we do about it?

Very little can be done about the problem if analysts and policymakers persist in viewing implementation as a hierarchically ordered set of authority relationships. That is, to the extent that the implementation process is dominated by regulation, formal organizational structure, and management control, one would expect problems of complexity to increase. The tighter the structure of hierarchical relationships, the greater the number of checks and decision points required to assure compliance, the more opportunities for diversion and delay, the greater the reliance of subordinates on superiors for guidance, and the lower the reliance on individual judgment and problem-solving ability. One of the great ironies of increased attention to implementation is that the harder we try, using conventional tools of hierarchical control, the less likely we are to achieve.<sup>13</sup>

Forward mapping, as an analytic strategy, reinforces the pathologies of hierarchy. With a sharp pencil, a good eye for detail, and a pocket calculator, one can demonstrate without much trouble that any policy will fail, simply by counting the number of discrete clearances and decisions, assigning a probability to each, and multiplying them seriatim. The flaw in this kind of analysis lies not in its internal logic, but in its failure to perceive an alternative to hierarchy. Demonstrating so simply that hierarchies increase the probability of failure should suggest the need for an alternative model of the process. A promising lead comes from Bardach's discussion of "fixing," by which he means the skillful and selective intervention of policymakers at various points in the implementation process.<sup>14</sup> The key element of fixing is its deliberate disregard for hierarchy; a good fixer is one who is willing to intervene wherever a breakdown occurs, with scant regard for the line of authority relationships that precedes it. The difficulty with Bardach's account of fixing is that it does not provide very clear guidance about formulating a strategy of intervention: How does one decide among a number of possible points of intervention? What does one do when a point of intervention is identified? And how does one determine whether fixing

<sup>12</sup> Bardach, *The Implementation Game*, p. 65; see also, Allison, *Essence of Decision*, pp. 67-100; and Elmore, "Organizational Models," pp. 199-208.

<sup>13</sup> Richard F. Elmore, "Complexity and Control: What Legislators and Administrators Can Do About Implementation," Policy Paper no. 11, Institute of Governmental Research, University of Washington, Seattle, Washington, April 1979.

<sup>14</sup> Bardach, *The Implementation Game*, pp. 274-83.

has succeeded or failed? In other words, fixing, by itself, is a kind of behavior, not an analytic strategy. Having decided to fix something, one is still left with deciding how to do it, and that requires a logic of some sort.

### *Street-Level Discretion*

Distrust of discretion is deeply ingrained in conventional theories of administration and government. Kaufman confidently asserts, without argument:

If leaders exert but little influence on the actions of subordinates, then one of the axioms of democratic government ceases to apply. . . . democracy in the modern state presupposes that changing a handful of officials in high places will ultimately change the actions of thousands of employees throughout the system.<sup>15</sup>

Substituting “changing policy” for “changing a handful of officials in high places,” yields the essential statement of implementation as a process of hierarchical control. Kaufman argues that the “major contribution” of his own work “lies in the enhancement of leaders’ capacities to neutralize tendencies toward non-compliance.”<sup>16</sup> Discretion, though inevitable in any complex administrative system, is to be carefully bounded, contained, and controlled by an assortment of devices (selection, monitoring, routinization) that strengthen the top of the system against the bottom. Even theorists of public administration who argue that policymaking and administration cannot be separated harbor a strong distrust of discretion:

Much of the actual discretion used in administration is used at the very bottom of the hierarchy, where public servants touch the public. The assessor who walks into the home and sees the furniture and the condition of the house, the policeman who listens to the motorist’s story, the health inspector who visits the dairy, the income tax auditor who sees the return and interviews the taxpayer—all these people are compelled to exercise more discretion, and more important discretion, from the point of view of the citizen than many other functionaries further up in the organization. While this is the actual situation in badly organized and poorly directed administrative units, it cannot be completely eliminated even in the best.<sup>17</sup>

This theme has been picked up and extended in the implementation literature by Weatherly and Lipsky in their analysis of the role of street-level bureaucrats. The heavy overload of demands and expectations resulting from new policies, they argue, means that street-level bureaucrats are essentially free to develop their own “coping devices” for simplifying, and often distorting, the aims of

<sup>15</sup> Herbert Kaufman, *Administrative Feedback* (Washington, D.C.: Brookings Institution, 1973), p. 4.

<sup>16</sup> *Ibid.*, p. 5.

<sup>17</sup> Luther Gulick, quoted by Herbert Kaufman, “Reflections on Administrative Reorganization,” in *The 1978 Budget: Setting National Priorities*, ed. Joseph Pechman (Washington, D.C.: Brookings Institution, 1977), p. 400.

policymakers. The solution to this problem, they suggest, lies mainly in devising more sophisticated ways of bounding and controlling discretion.<sup>18</sup>

The dominant view that discretion is, at best, a necessary evil and, at worst, a threat to democratic government pushes implementation analysis toward hierarchically structured models of the process and toward increased reliance on hierarchical controls to solve implementation problems. Uniformity of implementation, or low variability in the response of street-level bureaucrats to policy directives, has a positive value, whether or not it is positively related to outcomes. Compliance with orders and procedures displaces competence, or becomes the equivalent of competence, in interactions between lower-level public servants and clients. Nowhere in this view is serious thought given to *how to capitalize on discretion as a device for improving the reliability and effectiveness of policies at the street level*. Standardized solutions, developed at great distance from the problem, are notoriously unreliable; policies that fix street-level behavior in the interest of uniformity and consistency are difficult to adapt to situations that policymakers failed to anticipate. Adaptation under these circumstances consists either of subversive, extralegal behavior or a complex procedure of hierarchical clearance. There is little or no room for the exercise of special skills or judgment, not to mention deliberate invention and experimentation.

When implementation consists essentially of controlling discretion, the effect is to reduce reliance on knowledge and skill at the delivery level and increase reliance on abstract, standardized solutions. Hence, a certain proportion of the learning that is required to adapt a broad policy to a specific set of circumstances is lost; adaptive behaviors by street-level bureaucrats are never well understood by policymakers because they are viewed as illicit. Variability and discretion at the delivery level can just as easily be viewed as an asset—a broad-based body of data on unanticipated, adaptive responses to highly specialized problems. To capitalize on this knowledge, however, one's view of implementation has to put a higher value on discretion than compliance.

### *Coalitions and the Bargaining Arena*

One of the earliest and most robust findings of implementation research was that the local effect of federal policy depends, in some critical sense, on the formation of local coalitions of individuals affected by the policy. Derthick documented the helplessness of federal administrators, trying to use surplus federal land as an incentive for the development of "new towns," when local support for the projects failed to gel into a strong coalition.<sup>19</sup> Pressman concluded an analysis of federal programs in Oakland with the observation that their impact depended upon the existence of "effective bargaining arenas," in which

<sup>18</sup> Weatherly and Lipsky, "Street-Level Bureaucrats," pp. 172 and 196.

<sup>19</sup> Martha Derthick, *New Towns in Town* (Washington, D.C.: Urban Institute, 1972).

the competing demands of local groups could be worked out.<sup>20</sup> Banfield concluded his analysis of the Model Cities program with the observation:

As perceived from Washington, a city government was an entity capable, if sufficiently prodded and when provided with a grant, of making decisions in a rational manner. . . . City officials knew, however, that only in a rather limited sense did such a thing as a city government exist; for them the reality was bits and pieces of power and authority, the focuses of which were constantly changing. Bringing the bits and pieces together long enough to carry out an undertaking was a delicate and precarious operation requiring skills and statuses that few persons possessed.<sup>21</sup>

Unless the initiators of a policy can galvanize the energy, attention, and skills of those affected by it, thereby bringing these resources into a loosely structured bargaining arena, the effects of a policy are unlikely to be anything but weak and diffuse. Once bargaining is recognized as a key element of implementation, certain other conditions follow. Bargaining, for example, requires real stakes. Local actors have no incentive for participation in a bargaining arrangement unless the possible pay-off is tangible and valuable. The terms of the deal cannot be fixed in advance by law and regulation; sufficient flexibility must exist in the outlines of a policy to allow the local bargaining process to work. Carefully specified, hierarchically controlled policies limit incentives to form strong local bargaining coalitions.

Another consequence of local bargaining is that policy implementation has no clear, decisive end point. The outcome of one bargaining episode is the starting point of the next. Success in bargaining is completely relative in one important respect: Each participant judges success in terms of his own objectives, not in terms of an overall set of objectives that applies to all participants. The only measure of success that all participants can agree on is maintenance of the bargaining arena, since it provides them access to the goods that are dispensed there. To acknowledge that bargaining is essential to the process of implementation is to accept the consequence that policy outcomes will never be discrete, determinate end points that can be measured and objectified. An analytic framework that requires the comparison of a clearly specified outcome with a clearly specified intent—a comparison implicit in forward mapping—is inconsistent with a conception of implementation that includes bargaining.<sup>22</sup>

To summarize, the implementation literature provides strong support for an analytic framework that takes account of reciprocity in the relationship between superiors and subordinates in organizations; the connection between hierar-

<sup>20</sup> Jeffrey Pressman, *Federal Programs and City Politics* (Berkeley: University of California Press, 1975), pp. 143–44.

<sup>21</sup> Edward Banfield, "Making a New Federal Program: Model Cities, 1964–68," in *Social Program Implementation*, eds. Walter Williams and Richard Elmore (New York: Academic Press, 1976), p. 210.

<sup>22</sup> Elmore, "Organizational Models," pp. 217–26; Helen Ingram, "Policy Implementation through Bargaining: The Case of Federal Grants-in-Aid," *Public Policy* 25 (Fall 1977): 499–526.

chical control and increased complexity; discretion as an adaptive device; and bargaining as a precondition for local effects.

Recall the logic of backward mapping outlined earlier: Begin with a concrete statement of the behavior that creates the occasion for a policy intervention, describe a set of organizational operations that can be expected to affect that behavior, describe the expected effect of those operations, and then describe for each level of the implementation process what effect one would expect that level to have on the target behavior and what resources are required for that effect to occur. The advantage of beginning with a concrete behavior and focusing on the delivery-level mechanism for affecting that behavior is that it focuses attention on reciprocity and discretion. It puts the policymakers' problem in the following form: "If we propose to affect that behavior, where is the closest point of contact we have with it." It emphasizes, in other words, that it is not the policy or the policymaker that solves the problem, but someone with immediate proximity. Problem solving requires skill and discretion; policy can direct individuals' attention toward a problem and provide them an occasion for the application of skill and judgment, but policy cannot itself solve problems. Hence, the connection between the problem and the closest point of contact is the most critical stage of analysis. After that, analysis consists of describing the most direct means of reaching the point of contact, focusing resources on those organizational units and coalitions that have the greatest likelihood of affecting delivery-level performance. Strategically, the more direct the path for reaching the point of contact—that is, the greater the reliance on delegated discretion, and the less the reliance on hierarchical controls—the greater the likelihood of affecting the target behavior. Rather than reasoning from top to bottom, through successive layers, trying to discover how each layer can control the next, one begins at the point of the problem and tries to find the most parsimonious way of reaching it.

#### BACKWARD MAPPING ON YOUTH EMPLOYMENT POLICY

Federal policymakers are currently engaged in an extensive review of youth employment policy.<sup>23</sup> The occasion for the review is the pending expiration of the Youth Employment Demonstration and Projects Act of 1977 (YEDPA), which provides support for a variety of locally administered employment and training activities for young people. Among the topics under discussion is whether the existing system for implementing youth employment programs is effectively addressing youth employment problems.

As in most discussions of federal policy, debate has focused on how to

<sup>23</sup> This section summarizes a more extended analysis of the implementation of federal youth employment policy contained in Richard Elmore, "Policy Paper: The Youth Employment Delivery System" (Prepared for the Vice-President's Task Force on Youth Employment, Washington, D.C., August 1979). I have drawn heavily upon extensive studies of the implementation of federal youth employment programs done by Gregory Wurzburg at the National Council on Employment Policy, Washington, D.C.

allocate federal money among competing administrative agencies and competing purposes within agencies. Thus, for example, one of the most pressing issues, as defined by federal policymakers, is the problem of cooperation between the Comprehensive Employment and Training Act (CETA) prime sponsors and local educational agencies (LEAs). YEDPA provides financial incentives for collaboration between local educational agencies and prime sponsors, the units of local government designated to administer the federal Comprehensive Employment and Training Act. For example, 22 percent of the funds in one category of YEDPA are set aside for jointly administered programs, but the funds go from the U.S. Department of Labor directly to local prime sponsors, where LEA agreements are made. Federal youth employment funds do not pass through educational agencies at the federal or state level, and LEAs have no independent share of the funds at the local level. Education advocates at the federal level have argued that federal, state, and local educational agencies would be more likely to take an active interest in youth employment problems if they were given an independent source of funding. Others have argued that the important issue is local collaboration between CETA prime sponsors and LEAs and that allocating funds through federal and state education agencies would not necessarily serve that purpose.

Another issue that has surfaced is the problem of knowledge development. While the federal government has been involved in youth employment at least since the mid-1960s, employment and training specialists argue that they know very little about how to solve the unique employment problems of young people. YEDPA was intended to stimulate the development of new program ideas that could be used to improve the overall performance of youth employment programs. The interpretation of this knowledge development objective by local administrators has been diverse, and knowledge development activity has been uneven from one locale to another. Many observers question whether the federal government has a role to play in such a diffuse and ill-defined area, and if so, what that role should be.

The final major issue that has surfaced is the problem of private-sector linkages. Federal policymakers are sensitive to widespread criticism that neither adult nor youth programs administered through the CETA system are effectively connected with private-sector employers, which means that the people who exit training are not adequately prepared for unsubsidized employment. Policymakers are concerned about how federal funds can be used to increase linkages between youth employment programs and private employers.

These issues are in many ways typical of how problems are framed by federal policymakers. They are broad, abstract, and disconnected. They tend to focus on immediate problems of policy formulation rather than more distant problems of implementation. Allocation of funds among competing agencies tends to dominate, even though the consequences of allocation decisions for the delivery of services are vague and unspecified. The issues, therefore, are all framed in a manner consistent with forward mapping: They all state or imply a

federal objective and then ask what the federal government can do to make people act consistently with that objective. They all suggest that it is the federal government's responsibility to make something happen at the local level, but the mechanism for making it happen is unspecified beyond the allocation of funds to agencies.

What is missing from this formulation is a clear picture of what transactions are critical to the success of youth employment programs and how the federal government can influence those transactions. Why is CETA-LEA cooperation important? What constitutes effective cooperation? For whom, precisely, is knowledge development a problem and why? Where would we expect to see the effects of knowledge development if it were successful? What exactly constitutes a "linkage" between an employment training program and a private employer? Most importantly, though, against what concrete delivery-level behavior are we to judge federal allocation decisions? In order to address these questions, one must start from an explicit statement of the behavior that federal policy is designed to affect.

From this perspective it is clear that the major factors affecting employment of young people are outside the sphere of direct government control. *The target of public policy is the transaction between the young person and the employer.* The major determinants of this transaction are the employer's preferences for entry-level personnel, the young person's preference for a certain kind of work, and local labor market conditions, none of which are directly controlled by federal policy.

Public institutions try either to affect the attributes of the young person that might increase his or her employability or to influence the preferences of employers for entry-level personnel. Two sets of public institutions have the closest proximity to the transaction: schools and employment training programs. The two sets of institutions operate from very different legal and political bases. Schools are the creations of state government, but are largely administered and governed at the local level. Employment training organizations are the creations of the federal government, administered and governed at the local level by CETA prime sponsors. At the delivery level there is considerable variability from one locale to another in the kind of services offered, the level of resources invested by the public schools in preparing young people for job entry, and the level of cooperation between operators of employment training programs and school personnel. In the variability of local settings, however, one thing remains constant: *The point at which public policy intersects private choices is in the transactions between young people, service providers (schools and employment training organizations), and employers.*

At least three sets of delivery-level decisions are important in determining the effects of youth employment policy: service providers' decisions about who gets access to which services; young peoples' decisions to enter particular kinds of training and to seek particular jobs; and employers' decisions to fill entry-level positions. These decisions cannot be standardized, managed, or controlled us-

ing conventional administrative tools. Matching young people to services is a highly discretionary task, requiring judgment, skill, and imagination. Some combination of cognitive skills, vocational skills, job-search skills, and work experience is required for labor force participation; and it is the task of the service deliverer to respond to individual differences in the need for these skills. The decisions of young people and employers are likewise highly discretionary. The central problem for policymakers is not how to make these decisions consistent with some predetermined, uniform plan of action but to maximize the likelihood that the net effect of the decisions will be to increase the employability of young people. The strategic targeting of resources on discretionary decisions is more important than attempts to control behavior according to plan.

The three-cornered relationship between service providers, young people, and employers, and the interdependent decisions among members of the triad, become the reference points against which to judge the potential effect of policy choices and implementation strategies. The closer and more direct the influence on these relationships, the more likely the choice will affect the employability of young people; the more distant, the less likely.

Viewed from this perspective, the issues raised initially by federal policymakers now make a good deal more sense. Instead of phrasing them in terms of a federal objective disconnected from a delivery-level target (more CETA-LEA cooperation, more knowledge development, more private-sector linkages), they can be phrased in terms of their anticipated effect on delivery-level decisions. Without first stating explicitly where the delivery level is, what the critical decisions are at that level, and what the federal interest is in those relationships, one cannot formulate an intelligible policy question. In other words, the process of framing questions from the top begins with an understanding of what is important at the bottom.

What effect would we expect greater CETA-LEA cooperation to have on delivery-level decisions? From the federal level, cooperation among local administrators looks good. The federal administrator's job is simplified considerably by having a tidy, consolidated box at the local level into which federal money can be put. From the delivery level, though, its advantages are far less obvious. Does cooperation among administrators mean that school personnel and operators of employment training programs will work side by side on common problems? Not necessarily. It might, and probably does, mean only that school administrators and CETA prime sponsors have devised a peaceful way of dividing up federal funds and using them for separate activities. Even if we could have a completely consolidated delivery system at the local level, would we want it? What effect would it have on the discretionary choices of service providers, young people, and employers? A major advantage of the CETA system over the school system is that it allows small, marginal, unconventional organizations to form in competition with established providers and schools. Would tighter CETA-LEA collaboration squeeze out marginal providers and reduce choices available to young people? On grounds of simplicity, stan-

standardization, and management control, CETA-LEA cooperation seems good. On grounds of delivery-level performance, its benefits are mixed, at best.

Viewing the knowledge development problem from the delivery level, it becomes clearer that the notion has very little meaning apart from its effect on how delivery-level personnel understand their work and share knowledge with each other. Federal and local administrators can direct that certain kinds of studies be done, evaluate the performance of program deliverers, and construct elaborate management information systems—all of which have been done in the name of knowledge development—but the net effect of these devices is to increase the knowledge and control of administrators, not delivery-level personnel. Would it not make sense to put a certain proportion of the funds dedicated to knowledge development directly in the hands of the delivery-level personnel?

The problem of private-sector linkages, viewed from the delivery level, looks something like a problem of coalition building. Employers cannot really be expected to take a serious interest in youth employment programs without a tangible stake in the outcome of those programs. One strategy for giving them a stake is to view them as part of the delivery system at the local level, rather than as consumers of a product that someone else produces. This might make them competitive providers of services. It could also bring them into a formal bargaining relationship with CETA prime sponsors and school system administrators for purposes of determining allocation of funds at the local level. Or it could require constructing something like a school-work council at the lowest level of the system, with discretionary control of a certain amount of money for program and knowledge development. In order for employers to alter their preferences toward young labor force entrants, they have to be drawn into a relationship in which they can perceive a benefit.

The critical issues in the formulation of a federal policy toward youth employment, thus, are not how the federal government should allocate its resources among competing, national objectives and how it can manipulate other levels of government to accomplish those objectives, but where, in the complex welter of relationships at the delivery level, are the individuals who have the closest proximity to the problems and what resources do they need to address it. The logic of backward mapping connects policy decisions directly with the point at which their effect occurs.\*

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