Top-Down and Bottom-Up Approaches to Implementation Research: a Critical Analysis and Suggested Synthesis

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ABSTRACT

This paper first reviews the implementation literature of the past fifteen years, with particular emphasis on the relative strengths and weaknesses of the 'top-down' and 'bottom-up' approaches. It also argues that the 4–6 year time-frame used in most implementation research misses many critical features of public policy-making. The paper then outlines a conceptual framework for examining policy change over a 10–20 year period which combines the best features of the 'top-down' and 'bottom-up' approaches with insights from other literatures.

The last fifteen years has witnessed an enormous amount of research on policy implementation. While the early work was primarily American – motivated in part by perceived failures in Great Society programs – much of the most interesting recent work has been done in Western Europe. For general reviews, see Yin (1980), Barrett and Fudge (1981), Alexander (1982), and Sabatier and Mazmanian (1983a).

Most of the early American studies were analyses of a single case and came to very pessimistic conclusions about the ability of governments to effectively implement their programs (Derthick, 1972; Pressman and Wildavsky, 1973; Murphy, 1973; Bardach, 1974). The second generation of studies were more analytical and comparative in perspective (Goggin, 1986). They sought to explain variation in implementation success across programs and governmental units by reference to specific variables and conceptual frameworks (Van Meter and Van Horn, 1976; Sabatier and Mazmanian, 1979, 1980). But they maintained the same 'top-down'

perspective as earlier writers, i.e. they started with a policy decision (usually a statute) and examined the extent to which its legally-mandated objectives were achieved over time and why.

In the late 1970s and early 1980s, however, a quite different approach emerged in response to the perceived weaknesses of the 'top-down' perspective. Rather than start with a policy decision, these 'bottom-uppers' started with an analysis of the multitude of actors who interact at the operational (local) level on a particular problem or issue. In the process, the familiar policy stages of formulation, implementation, and reformulation tended to disappear. Instead, the focus has been on the strategies pursued by various actors in pursuit of their objectives. Such studies have shown that local actors often deflect centrally-mandated programs toward their own ends (Lipsky, 1971; Berman and McLaughlin, 1976; Hanf and Scharpf, 1978; Ingram, 1978; Elmore, 1979; Browning et al., 1981; Barrett and Fudge, 1981; Hjern and Hull, 1982; Hanf, 1982).

This paper will first examine the 'top down' and 'bottom up' approaches in greater detail, including an analysis of the strengths and weaknesses of each. It will then suggest a synthetic framework which integrates most of the strengths of the respective approaches and applies it to a longer time frame than in most implementation studies.

1. *Top down approaches: a not entirely disinterested evaluation*

In analyzing the two approaches, we shall focus on a representative scholar for each: Daniel Mazmanian and Paul Sabatier for the top-downers, Benny Hjern et al. for the bottom-uppers.[1] While this neglects the views of other scholars, it assures that the work of a leading proponent of each 'school' will be subjected to detailed analysis.

1.1 Presentation

The essential features of a top down approach are that it starts with a policy decision by governmental (often central government) officials and then asks:[2]

(1) To what extent were the actions of implementing officials and target groups consistent with (the objectives and procedures outlined in) that policy decision?

(2) To what extent were the objectives attained over time, i.e. to what extent were the impacts consistent with the objectives?

(3) What were the principal factors affecting policy outputs and impacts, both those relevant to the official policy as well as other politically significant ones?

(4) How was the policy reformulated over time on the basis of experience?

The work of Sabatier and Mazmanian serves as a useful example of the top-down approach because it has been around for several years; it has been subjected to extensive empirical testing; and it is viewed by at least a few completely disinterested observers (Alterman, 1983; Goggin, 1984) as a leading proponent of this point of view.

The Sabatier and Mazmanian framework (1979, 1980) took as its point of departure the first generation of implementation research with its very pessimistic conclusions (Pressman and Wildavsky, 1973; Murphy, 1973; Bardach, 1974; Jones, 1975; Berman and McLaughlin, 1976; Elmore, 1978). Sabatier and Mazmanian first identified a variety of legal, political, and 'tractability' variables affecting the different stages of the implementation process (see Figure 1).

They then sought to synthesize this large number of variables into a shorter list of six sufficient and generally necessary conditions for the effective implementation of legal objectives:

(1) Clear and consistent objectives.

Taken from Van Meter and Van Horn (1975), clear legal objectives were viewed as providing both a standard of evaluation and an important legal resources to implementing officials.

(2) Adequate causal theory.

Borrowing the fundamental insight of Pressman and Wildavsky (1973) that policy interventions incorporate an implicit theory about how to effectuate social change, Sabatier and Mazmanian pointed to the adequacy of the jurisdiction and policy levers given implementing officials as a means of ascertaining those causal assumptions.

(3) Implementation process legally structured to enhance compliance by implementing officials and target groups.

Borrowing again from Pressman and Wildavsky (1973), the authors pointed to a variety of legal mechanisms including the number of veto points involved in program delivery, the sanctions and incentives available to overcome resistance, and the assignment of programs to implementing agencies which would be supportive and give it high priority.

(4) Committed and skillful implementing officials.

Recognizing the unavoidable discretion given implementing officials, their commitment to policy objectives and skill in utilizing available resources were viewed as critical (Lipsky, 1971; Lazin, 1973; Levin, 1980). While this could partially be determined by the initial statute, much of it was a product of post-statutory political forces.

Tractability of the Problem

1. Availability of valid technical theory and technology
2. Diversity of target-group behavior
3. Target group as a percentage of the population
4. Extent of behavioral change required

Ability of Statute to Structure Implementation

1. Clear and consistent objectives
2. Incorporation of adequate causal theory
3. Financial resources
4. Hierarchical integration with and among implementing institutions
5. Decision-rules of implementing agencies
6. Recruitment of implementing official
7. Formal access by outsiders

Nonstatutory Variables Affecting Implementation

1. Socioeconomic conditions and technology
2. Media attention to the problem
3. Public support
4. Attitudes and resources of constituency groups
5. Support from sovereigns
6. Commitment and leadership skill of implementing officials.

Stages (Dependent Variables) in the Implementation Process

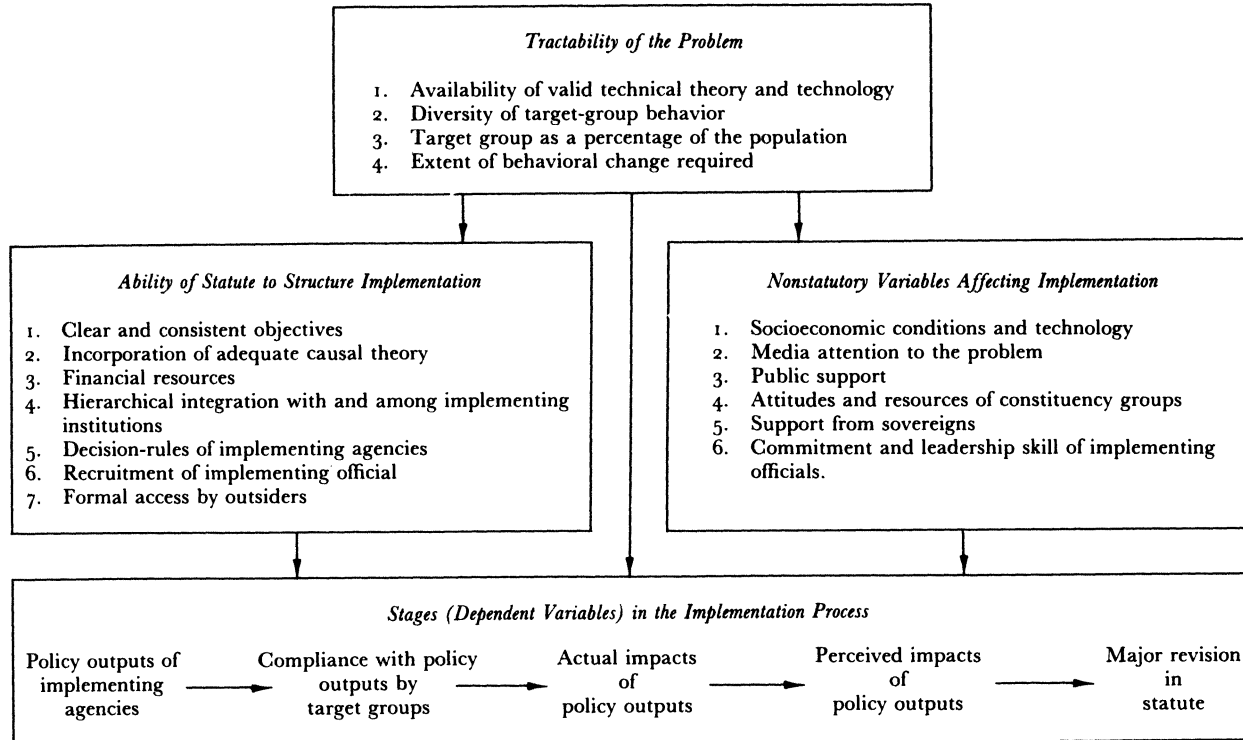| Policy outputs of implementing agencies | → | Compliance with policy outputs by target groups | → | Actual impacts of policy outputs | → | Perceived impacts of policy outputs | → | Major revision in statute |

FIGURE I. *Skeletal Flow Diagram of the Variables Involved in the Implementation Process*

Source: Sabatier and Mazmanian (1980: 542).

(5) Support of interest groups and sovereigns.
     This simply recognized the need to maintain political support
     throughout the long implementation process from interest groups
     and from legislative and executive sovereigns (Downs, 1967;
     Murphy, 1973; Bardach, 1974; Sabatier, 1975).

(6) Changes in socio-economic conditions which do not substantially
     undermine political support or causal theory.
     This variable simply recognized that changes in socio-economic
     conditions, e.g. the Arab oil boycott or the Vietnam War, could
     have dramatic repercussions on the political support or causal
     theory of a program (Hofferbert, 1974; Aaron, 1978).

In short, the first three conditions can be dealt with by the initial policy
decision (e.g. a statute), whereas the latter three are largely the product of
subsequent political and economic pressure during the implementation
process.

   Although Sabatier and Mazmanian took seriously the arguments of
Lipsky (1971), Berman (1978; 1980), and Elmore (1978) concerning the
substantial limitations of programmed/hierarchical control, they did not
accept the pessimists' conclusion concerning the inevitability of 'adaptive'
implementation in which policy-makers are forced largely to acquiesce to
the preferences of street-level bureaucrats and target groups. Instead,
they sought to identify a number of legal and political mechanisms for
affecting the preferences and/or constraining the behavior of street level
bureaucrats and target groups both in the initial policy decision and then
subsequently over time. For example, policy-makers normally have some
ability to select one set of implementing officials over another; to affect the
number of clearance points; to provide appropriate incentives and
sanctions; to affect the balance of constituency support; etc. And, as
Pressman and Wildavsky (1973) clearly showed, policy-makers can
strongly affect the implementation process by basing a program on a valid
causal theory rather than a dubious one. In short, while Sabatier and
Mazmanian rejected hierarchical *control* – in the sense of tightly
constrained behavior – as impossible, they argued that the behavior of
street level bureaucrats and target groups could be kept within acceptable
bounds over time if the six conditions were met (Sabatier and
Mazmanian, 1979: 489–92, 503–4).

   Over the next five years, Sabatier and Mazmanian sought to have the
framework tested – by themselves and others – in a variety of policy areas
and political systems. The results, summarized in Table 1, indicate that
the framework has been applied over twenty times. These cases have
involved ten policy areas, including strong representation from land use
control, education, and environmental protection. While a majority of
cases have been American, many of these have focused on state or local

TABLE 1: *Empirical applications of the Sabatier and Mazmanian framework*

I. Original Research by Sabatier and/or Mazmanian

    1. California Coastal Conservation Act, 1972–80 (Sabatier and Mazmanian, 1983b)
    2. San Francisco Bay Conservation and Development Act, 1965–72 (Sabatier and Klosterman, 1981)
    3. French Coastal Decrees of 1976 and 1979 (Sabatier, 1984)

II. Secondary Analysis of Others' Research by Sabatier and/or Mazmanian

    1. British Open University, 1969–79 (Cerych and Sabatier, 1986)
    2. French Instituts Universitaires de Technologie, 1967–79 (Cerych and Sabatier, 1986)
    3. Norwegian Regional Colleges, 1970–9 (Cerych and Sabatier, 1986)
    4. University of Tromsø (Norway), 1969–79 (Cerych and Sabatier, 1986)
    5. German Gesamthochschulen, 1970–9 (Cerych and Sabatier, 1986)
    6. Swedish 25/5 Scheme (Cerych and Sabatier, 1986)
    7. Polish Preferential University Admissions (Cerych and Sabatier, 1986)
    8. 1970 U.S. Clean Air Act, 1970–9 (Mazmanian and Sabatier, 1983)
    9. U.S. School Desegregation, South and North, 1955–75 (Mazmanian and Sabatier, 1983)
  10. 1965 U.S. Elementary and Secondary Education Act, Title I, 1966–7 (Mazmanian and Sabatier, 1983)
  11. 1970 New Towns Act (U.S.), 1970–8 (Mazmanian and Sabatier, 1983)

III. Utilization by Other Scholars

    1. Model Cities, Revenue Sharing, and CDBG in SF Bay Area (Browning et al., 1981)
    2. Variety of Federal Anti-Discrimination Programs (Bullock, 1981)
    3. Evolution of U.S. Welfare Policy since 1935 (Goodwin and Moen, 1981)
    4. 1965 ESEA, Title I, 1966–79 (Kirst and Jung, 1982)
    5. Groundwater Management in Several New York Counties (S. Jones, 1984)
    6. U.S. Hazardous Waste Policy (Bowman and Lester 1986; Lester, 1986; Davis, 1985)
    7. U.S. Coastal Zone Management (Lowry, 1985)

policy initiatives rather than on the implementation of federal policy. In addition, there have been eight cases, primarily in higher education, involving six European countries.

It is now time to assess the results of this research program. This will be done, first, from the standpoint of one of the authors and then from the perspective of their 'bottom up' critics.

1.2 A critical self-appraisal

One ought, of course, to be skeptical of self-evaluations. Authors are often tempted to select cases which fit their theories. In this instance, however, only seven of the twenty-four cases were selected by Mazmanian and Sabatier, thus affording some protection against biased case selection.[3] That still leaves the potential for biased data selection or interpretation of results, but the reader can decide for himself after examining the case evidence.

These caveats notwithstanding, experience has demonstrated some real strengths in the Sabatier/Mazmanian framework.

First, the importance it attaches to legal structuring of the implementation process – one of its major innovations – has been confirmed in numerous studies. This is particularly gratifying since one of the most frequent criticisms of the framework has been that the emphasis on structuring is unrealistic, i.e. that the cognitive limitations of policy-makers and the need for compromise at the formulation stage preclude careful structuring (Majone and Wildavsky, 1978; Barrett and Fudge, 1981). The evidence suggests that, while fairly coherent structuring is difficult, it occurs more frequently than critics realize and, when present, proves to be very important.

For example, the framework emphasized the importance of selecting implementing institutions supportive of the new program and suggested creating new agencies as a specific strategy. This turned out to be possible in six of the twenty-odd cases studied – the California coastal commissions, BCDC, Open University, French Instituts Universitaires de Technologie (IUTs), Norwegian Regional Colleges, and University of Tromsø – and in many other cases formulators expressly selected sympathetic existing institutions. When this was not possible, e.g. compensatory education in the U.S., it proved to be a serious impediment to effective implementation.

Likewise, two of the major contributions borrowed from Pressman and Wildavsky (1973) – veto points and causal theory – were confirmed in many studies. In the case of the coastal commissions, for example, the agencies' greater success in protecting scenic views than in providing public access to the beach can largely be explained by reference to the number of veto points: In particular, the coastal commissions had all the legal authority necessary to protect scenic views, while actually providing public access required the cooperation of at least a half-dozen other agencies (Sabatier and Mazmanian, 1983). The superior ability of U.S. air pollution authorities to regulate automotive emissions than to reduce vehicle miles traveled can be attributed to a greater understanding of, and control over, the factors involved (Mazmanian and Sabatier, 1983: Chap. 4). The much greater success of the British Open University than the French IUTs in reaching projected enrollments can be partially attributed to the better theory utilized by policy formulators in the former case (Cerych and Sabatier, 1986). While Bowen (1982) rightly cautions that the analysis of veto points is more complicated than envisaged by Pressman and Wildavsky, their contributions remain of the first order.

Perhaps the best evidence of the potential importance of legal structuring is that the two most successful cases studied to date – the California coastal commissions (at least in the short run) and the British

Open University – were also the best designed institutions. That is, they structured the process to provide reasonably consistent objectives, a good causal theory, relatively few veto points, sympathetic implementing officials, access of supporters to most decisions, and adequate financial resources.

Second, the six conditions of effective implementation have proven to be a useful checklist of critical factors in understanding variations in program performance and in understanding the strategies of program proponents over time. While the relative importance of specific factors has varied across cases – with implementing agency support being probably the most consistently critical one – all except clear and consistent objectives have been important in many cases. There is also some evidence that interest group support may be more critical in the U.S. than in many European countries – presumably reflecting the greater autonomy of administrative agencies in countries like Great Britain, France, and the German Federal Republic.

Third, the relatively manageable list of variables and the focus in the framework on the formulation-implementation-reformulation cycle encouraged many of our case authors to look at a longer time-frame than was true of earlier implementation studies (i.e. ten years instead of four). This, in turn, led to a discovery of the importance of learning by propram proponents over time as they became aware of deficiencies in the original program and sought improved legal and political strategies for dealing with them. The best example is the American compensatory education case, where serious deficiencies revealed by early evaluation studies enabled program proponents to greatly strengthen the legal structure and constituency support over time (Kirst and Jung, 1982; Mazmanian and Sabatier, 1983). For other examples of learning over time, one can cite the supporters of the French IUTs who greatly improved their understanding of the factors affecting student choices over time (Cerych and Sabatier, 1986).

Fourth, our focus on legally-mandated objectives – particularly when combined with the ten-year time span for assessing program effectiveness – helped produce a less pessimistic evaluation of governmental performance than was true of the first generation of implementation studies. On the one hand, the focus on legally-mandated objectives encouraged scholars to carefully distinguish the objectives contained in legal documents from both the political rhetoric surrounding policy formulation and the tendency of critics to evaluate a program on the basis of what they mistakenly perceived to be its objectives – the criticism of the 'failure' of the Open University to meet the needs of working class students being a case in point.[4] In addition, the longer time-frame used in many of these studies meant that several which were initially regarded as

failures – U.S. compensatory education and the French IUTs – were regarded in a more favorable light after proponents had had the benefit of a decade of learning and experimentation (Kirst and Jung, 1982; Mazmanian and Sabbatier, 1983; Cerych and Sabatier, 1986).

On the other hand, several years' experience with testing the Sabatier/Mazmanian framework has also revealed some significant flaws – quite apart from the more serious methodological criticisms of the 'bottom-uppers.'

First, the emphasis they placed on 'clear and consistent policy objectives' was a mistake. Experience has confirmed the critics' charge that very few programs meet this criterion, either initially or after a decade (Majone and Wildavsky, 1978; MacIntyre, 1985). Instead, the vast majority incorporate a multitude of partially-conflicting objectives. This does not, however, preclude the possibility for assessing program effectiveness. Instead, it simply means that effectiveness needs to be reconceptualized into the 'acceptability space' demarcated by the intersection of the ranges of acceptable values on each of the multiple evaluative dimensions involved. This can be illustrated by the case of the Norwegian regional colleges: They were supposed to serve students from the local region and to foster regionally-relevant research at the same time that they were also mandated to be part of a national educational system in which the transfer of student credits among institutions and the evaluation of faculty research by peers in other institutions had to be protected. While the institutions after a decade were receiving 'excellent' ratings on very few of these dimensions, the evidence suggests they were satisfactory on all of them (Cerych and Sabatier (1986).

On a related point, most implementation scholars have followed Van Meter and Van Horn (1976) in assuming that, *ceteris paribus*, the probability of effective implementation of a reform is inversely related to the extent of envisaged departure from the status quo ante. In their study of European higher education reforms, however, Cerych and Sabatier (1986) provide evidence that the relationship is not linear but rather curvilinear. They suggest that very incremental reforms – e.g. the Swedish 25/5 Scheme for adult admission to universities – simply do not arouse enough commitment to get much done, while those such as the German *Gesamthochschulen* which envisage a comprehensive reform of the entire system arouse too much resistance to get off the ground.[5] Instead, those reforms – e.g., the British Open University – which are ambitious enough to arouse intense commitment from proponents but rather limited in their effects on the entire (e.g. higher education) system stand the best chance of success.

Second, while Sabatier and Mazmanian encouraged a longer time-frame and provided several examples of policy-oriented learning over

time, their framework did not provide a good conceptual vehicle for looking at policy change over periods of a decade or more (Goodwin and Moen, 1981; Browning et al., 1981; Goggin, 1984; Lowry, 1985). This is primarily because, as we shall see below, it focused too much on the perspective of program *proponents*, thereby neglecting the strategies (and learning) by other actors which would provide the cornerstone for a more dynamic model.

The assessment thus far has been from the point of view of the authors or other sympathizers of a top-down perspective. It is now time to examine the more fundamental methodological criticisms raised by 'bottom-uppers,' most notably, Benny Hjern.

1.3 The bottom-up critique

The fundamental flaw in top-down models, according to Hjern and Hull (1982), Hanf (1982), Barrett and Fudge (1981), Elmore (1979) and other bottom-uppers, is that they start from the perspective of (central) decision-makers and thus tend to neglect other actors. Their methodology leads top-downers to assume that the framers of the policy decision (e.g. statute) are the key actors and that others are basically impediments. This, in turn, leads them to neglect strategic initiatives coming from the private sector, from street level bureaucrats or local implementing officials, and from other policy subsystems. While Sabatier and Mazmanian are not entirely guilty of this – in particular, their focus on causal theory and hierarchical integration encourages the analyst to examine the perspectives of other actors – this is certainly a potential Achilles' heel of their model.

A second, and related, criticism of top-down models is that they are difficult to use in situations where there is no dominant policy (statute) or agency, but rather a multitude of governmental directives and actors, none of them preeminent. As this is often the case, particularly in social service delivery, this is a very telling criticism. While Sabatier and Mazmanian can recognize such situations – through the concepts of (inadequate) causal theory and (poor) hierarchical integration – they have very little ability to predict the outcome of such complex situations except to say that the policy they are interested in will probably not be effectively implemented.

A third criticism of top-down models is that they are likely to ignore, or at least underestimate, the strategies used by street level bureaucrats and target groups to get around (central) policy and/or to divert it to their own purposes (Weatherly and Lipsky, 1977; Elmore, 1978; Berman, 1978). A related point is that such models are likely to neglect many of the counterproductive effects of the policies chosen for analysis. While a really

skillful top-downer can attempt to deal with such deficiencies, there is little doubt that these, too, are important criticisms.

Finally, there are a whole series of arguments that the distinction between policy formulation and policy implementation is misleading and/or useless (Nakamura and Smallwood, 1980; Barrett and Fudge, 1981; Hjern and Hull, 1982; Hjern, 1982). These include the following: The distinction ignores the fact that some organizations are involved in both stages and/or that local implementing officials and target groups often simply ignore central legislators and administrators and deal directly with each other; since it is difficult to isolate policy decisions, it is preferable to talk about action and reaction (Barrett and Fudge, 1981); and because policies change as they get implemented, it is better to talk about policy evolution (Majone and Wildavsky, 1978).

This criticism strikes me as much less persuasive than the previous three. On the one hand, there are certainly cases, such as the Swedish 25/5 Scheme (Cerych and Sabatier, 1986), where there is no discernible policy 'decision' but rather a series of very incremental steps over time. But in the vast majority of the cases using the Sabatier and Mazmanian framework, it was not only possible but also highly desirable to retain the distinction between formulation and implementation. In fact, of the twenty-four cases, the 25/5 Scheme was the only one in which anyone even remotely skilled in legal analysis would find it difficult to discern an initial major policy decision. As for the arguments that some organizations are involved in both formulation and implementation, so what? The same organizations also try to influence local and central government; does this suggest that distinction between levels of government ought also to be rejected as useless? Finally while local officials and target groups may sometimes ignore the legal authority of central officials, if such officials were really as insignificant as Hjern et al. suggest then why do the very same local officials and interest groups spend thousands of hours and millions of dollars every year trying to influence them?

Furthermore, obliterating the distinction between formulation and implementation will have two very significant costs (Sabatier and Mazmanian, 1983a). First, it makes it very difficult to distinguish the relative influence of elected officials and civil servants – thus precluding an analysis of democratic accountability and bureaucratic discretion, hardly trivial topics. Second, the view of the policy process as a seamless web of flows without decision points (Majone and Wildavsky, 1978; Barrett and Fudge, 1981) precludes policy evaluation (because there is no policy to evaluate) and the analysis of policy change (as there is never a defined policy at t_0 which changes into another defined policy at t_1).

In sum, while the first three criticisms are reasonably persuasive, the fourth is not. The bottom-uppers have thus been able to advance some

rather telling arguments against the top-down approach. Have they also been able to accomplish the more difficult task of developing a more viable alternative?

2. *Bottom-up approaches: the Promised Land?*

In discussing the bottom-up perspective, the focus will be on the work of Benny Hjern and his colleagues – David Porter, Ken Hanf, and Chris Hull – who, while at the Science Center in Berlin during the period from roughly 1975 to 1983, developed a coherent methodology for conducting implementation analysis.[6] It is this willingness to propose an intersubjectively reliable alternative to top-down approaches which distinguishes Hjern et al. from many bottom-up critics (e.g. Barrett and Fudge, 1981) and is one of the principal reasons their work has been chosen for analysis.

2.1 Presentation

Hjern et al. began with an acute awareness of the methodological weaknesses of the top-down approach, a commitment to the development of an intersubjectively reliable methodology, and a concern with policy areas – e.g. manpower training – involving a multitude of public and private organizations.

In contrast to the top-down approach – which starts from a policy decision and focuses on the extent to which its objectives are attained over time and why – the bottom-up approach of Hjern et al. starts by identifying the network of actors involved in service delivery in one or more local areas and asks them about their goals, strategies, activities, and contacts. It then uses the contacts as a vehicle for developing a network technique to identify the local, regional, and national actors involved in the planning, financing, and execution of the relevant governmental and non-governmental programs. This provides a mechanism for moving from street level bureacrats (the 'bottom') up to the 'top' policy-makers in both the public and private sectors (Hjern et al., 1978; Hjern and Porter, 1981; Hjern and Hull, 1985). Table 2 compares some of the central features of top-down and bottom-up approaches.

The study of Swedish manpower training programs, for example, by Hjern et al. (1978) started with the interaction of unions, governmental employment agencies, local governments, and industrial firms in several areas, and then moved from there via a networking technique to identify the people actually involved in planning, financing, and executing the relevant programs. They concluded that program success was far more dependent upon the skills of specific individuals in 'local implementation structures' than upon the efforts of central government officials.

TABLE 2. *Comparison between top-down and bottom-up approaches*

	Top-Down (Sabatier & Mazmanian	Bottom-up (Hjern et al.)
Initial Focus	(Central) Government decision, e.g., new pollution control law	Local implementation structure (network) involved in a policy area, e.g., pollution control
Identification of major actors in the process	From top down and from govt. out to private sector (although importance attached to causal theory also calls for accurate understanding of target group's incentive structure)	From bottom (govt. and private) up
Evaluative criteria	Focus on extent of attainment of formal objectives (carefully analyzed). May look at other politically significant criteria and unintended consequences, but these are optional.	Much less clear. Basically anything the analyst chooses which is somehow relevant to the policy issue or problem. Certainly does not require any careful analysis of official govt. decision(s).
Overall Focus	How does one steer system to achieve (top) policy-maker's intended policy results?	Strategic interaction among multiple actors in a policy network.

In addition to their study of manpower training programmes in Sweden and the German Federal Republic, Hjern et al. have sought to apply this technique to a variety of programs designed to foster the economic viability of small firms in the Federal Republic and several other countries (Hjern and Hull, 1985). They have also encouraged the application of their approach to Swedish energy policy (Wittrock et al., 1982), English manpower training (Davies and Mason, 1982), Dutch pollution control (Hanf, 1982), and Swiss economic development (Ackermann and Steinmann, 1982). It should be noted, however, that – with the exception of Hanf – these latter papers are more united by a bottom-up perspective than by any serious effort to employ the networking methodology first outlined by Hjern and Porter (1981).

2.2 Evaluation

The approach developed by Hjern et al. has several notable strengths.

First, they have developed an explicit and replicable methodology for identifying a policy network ('implementation structure'). In the small firms study, for example, they started with a random sample of firms in an area, and then interviewed key officials in each firm to ascertain their critical problems, the strategies developed to deal with each, and the persons contacted to execute each of those strategies. They then used those contacts via a networking technique to identify the 'implementation structure' (Hull and Hjern, 1982). In the case of financial problems, for

example, the structure would include local (and perhaps regional) banks, officials in agencies with financial asistance programs, and, in the most successful case, an official in a local redevelopment agency who had extensive contacts he could direct firms to. It is this intersubjectively reliable methodology which separates Hjern et al. from the vast majority of bottom-up (and even top-down) researchers.

Second, because Hjern et al. do not begin with a governmental program but rather with actors' perceived problems and the strategies developed for dealing with them, they are able to assess the relative importance of a variety of governmental programs vis-a-vis private organizations and market forces in solving those problems. In contrast, a top-down approach is likely to overestimate the importance of the governmental program which is its focus. For example, Hanf's (1982) bottom-up analysis of pollution control in the Netherlands concluded that energy policies and the market price of alternative fuels had more effect on firms' pollution control programs than did governmental pollution control programs – a conclusion which would have been difficult for a top-downer to reach.

Third, because Hjern et al. do not start with a focus on the attainment of formal policy objectives, they are free to see all sorts of (unintended) consequences of governmental and private programs.

Fourth, this approach is able to deal with a policy/problem area involving a multitude of public (and private) programs, none of them preeminent. In contrast, such cases present substantial difficulties for top-down approaches.

Finally, because of their focus on the strategies pursued by a wide range of actors, bottom-uppers are better able to deal with strategic interaction over time than are top-downers – who tend to focus on the strategies of program proponents, while neglecting those of other actors.

For all these strengths, however, the Hjern et al. approach also has its limitations.

First, just as top-downers are in danger of overemphasizing the importance of the Center vis-a-vis the Periphery, bottom-uppers are likely to overemphasize the ability of the Periphery to frustrate the Center.

More specifically, the focus on actors' goals and strategies – the vast majority of whom are at the Periphery – may underestimate the Center's *indirect* influence over those goals and strategies through its ability to affect the institutional structure in which individuals operate (Kiser and Ostrom, 1982). For example, if Hjern et al. had studied the California coastal commissions, they would have taken as given that the vast majority of coastal officials were very sympathetic to environmental protection – without ever realizing that the distribution of officials' preferences was a consequence of the prior efforts of the framers of the

coastal law to structure the situation in such a way – via the distribution of appointments between state and local governments – as to maximize the probability of that outcome. Likewise, Hjern et al. would simply take as granted that Actor A had certain resources without inquiring into the reasons s/he had them. In short, one of the most basic shortcomings of the Hjern et al. approach is that it takes the present distribution of preferences and resources as given, without ever inquiring into the efforts of other actors to structure the rules of the game.

Second, in a related point, Hjern et al. take the present participants in an implementation structure as given without examining the prior efforts of various individuals to affect participation rates. For example, their networking methodology would simply have revealed that environmental groups were frequent litigants in American air pollution cases – thus neglecting the extensive efforts of drafters of the 1970 Clean Air Act to provide such groups with legal 'standing' (formal rights of intervention) to participate in such litigation.

This brings us to a third, and more fundamental, limitation with the Hjern et al. approach: Its failure to start from an explicit theory of the factors affecting its subject of interest. Because it relies very heavily on the perceptions and activities of participants, it is their prisoner – and therefore is unlikely to analyze the factors *indirectly* affecting their behavior or even the factors directly affecting such behavior which the participants do not recognize. Hjern et al. suffer from all of the limitations – as well as the advantages – of 'grounded theory' (Glaser and Strauss, 1967). Their networking methodology is a useful starting point for identifying many of the actors involved in a policy area, but it needs to be related via an explicit theory to social, economic, and legal factors which structure the perceptions, resources, and participation of those actors.

Scharpf (1978) and Thrasher (1983) have attempted to use exchange theory toward this end, but that hasn't been followed by Hjern et al. Likewise, Barrett and Fudge (1981) and Barrett and Hill (1984) have toyed with a number of approaches – mostly related to bargaining – but thus far haven't come close to an explicit conceptual framework. Until they do, the implicit assumptions which are guiding their data collection will remain difficult to discern.

Finally, it is worth observing that top-downers and bottom-uppers have been motivated by somewhat different concerns and thus have developed different approaches. Top-downers have been preoccupied with (a) the effectiveness of specific governmental programs and (b) the ability of elected officials to guide and constrain the behavior of civil servants and target groups. Addressing such concerns requires a careful analysis of the formally-approved objectives of elected officials, an examination of relevant performance indicators, and an analysis of the

factors affecting such performance. Bottom-uppers, on the other hand, are far less preoccupied with the extent to which a formally enacted policy *decision* is carried out and much more concerned with accurately mapping the strategies of actors concerned with a policy *problem*. They are not primarily concerned with the implementation (carrying out) of a policy per se but rather with understanding actor interaction in a specific policy sector.

3. *Where do we go from here?*

Having identified the strengths and weaknesses of the two approaches, there are at least two strategies which can be pursued. The first is to indicate the conditions under which each is the more appropriate approach. The second is to develop one or more syntheses of the competing approaches.

3.1 Comparative Advantage

The top-down approach is useful, first, in cases where there is a dominant public program in the policy area under consideration or where the analyst is solely interested in the effectiveness of *a* program. In cases like the California coastal commissions or the Open University – where a single public agency clearly dominated the field – the top-down approach is appropriate. On the other hand, in policy areas such as manpower training and employment development – which necessarily involve a multitude of public and private actors – the bottom-up approach is more appropriate. One might in fact be tempted to demarcate entire policy areas – e.g. highways, social security, income taxation – where there is a dominant public agency, but this should only be done with caution as unions and other private actors may turn out to be more important than anticipated.

On a more general note, the top-down approach is more useful in making a preliminary assessment of which approach to use: To the extent that the scores on the six conditions of effective implementation are relatively high and the investigator is primarily interested in the *mean* policy outputs and outcomes, then the top-down approach is appropriate. On the other hand, in cases where the scores on the six conditions are relatively low and one is interested in inter-local variation, then the bottom-up approach should be employed. When scores on the six conditions are moderate or mixed, the appropriate methodology depends on whether one is primarily interested in mean responses or in assessing inter-local variation. The top-down is more appropriate for the former because it focuses on the extent to which the overall system is

structured/constrained. The bottom-up focuses on local implementation structures, and thus is better for assessing the dynamics of local variation. One could, of course, aggregate across numerous bottom-up studies to obtain a mean response, but this would normally be prohibitively expensive.

The top-down approach is more useful for making these preliminary assessments because of its greater theoretical development. The identification of specific variables and causal relationships makes predictions possible. On the other hand, the bottom-up approach of Hjern et al. (or Barrett and Fudge) has not yet developed much of a substantive theory and thus is poorly equipped to make predictions.

In summary, the top-down approach appears to have a comparative advantage in situations in which (1) there is a dominant piece of legislation structuring the situation or in which (2) research funds are very limited, one is primarily interested in mean responses, and the situation is structured at least moderately well. In contrast, the bottom-up approach is more appropriate in situations where (1) there is no dominant piece of legislation but rather large numbers of actors without power dependency, or where (2) one is primarily interested in the dynamics of different local situations.

3.2 Syntheses

A preferred alternative to these either-or choice situations is to synthesize the best features of the two approaches. To date, there have been at least three such efforts.

The most ambitious has been the study of the implementation of programs designed to reduce sulfur dioxide emissions in several European countries directed by Peter Knoepfel and Helmut Weidner. The conceptual framework for the study was explicitly designed to be a synthesis (Knoepfel and Weidner, 1982a). But it is also very complicated and, at times, difficult to understand. Unfortunately, the full results of their massive research program are available only in German and thus probably will not receive the dissemination they merit.[7]

A second approach, developed by Richard Elmore (1985), attempts to combine his previous work on 'backward mapping' – one of the bottom-up classics – with what he terms 'forward mapping,' essentially a top-down perspective. He argues that policy-makers need to consider both the policy instruments and other resources at their disposal (forward mapping) *and* the incentive structure of ultimate target groups (backward mapping) because program success is contingent on meshing the two. Elmore's paper is primarily concerned with aiding policy practitioners by indicating the need to use multiple perspectives in designing and

implementing policies. At that very practical level, it is excellent. It does not purport, however, to provide a model of the policy process which can be used by social scientists to explain outcomes in a wide variety of settings.

The third approach, to be outlined below, explicitly attempts to develop such a general model of the policy process which combines the best features of the bottom-up and top-down approaches, while also applying them to a longer time frame than is the case in most implementation research.

4. *An advocacy coalition framework of policy change*

One of the major contributions of Mazmanian and Sabatier (1983) was their contention that the relatively short time-span (4–5 years) used in most implementation studies not only led to premature judgments concerning program failure but also missed some very important features of the policy process, namely, the extent of policy-oriented learning.

For example, early studies of Federal compensatory education programs (Title I of ESEA) concluded that the program was bringing about very little change because of ambiguous objectives, dubious causal theories, resistance of implementing officials, and the inability of proponents to organize at the local level (Murphy, 1973) But later studies incorporating a 10–15 year time-span portrayed a fair amount of improvement on the part of both school officials and students' educational achievement (Kirst and Jung, 1982; Mazmanian and Sabatier, 1983: Chap. 6). Over time, objectives were clarified; research resulted in more adequate causal theories; and supportive constituencies were fostered at both the state and local levels. This suggested a process of policy learning by program proponents, as they discovered deficiencies in the existing program and then developed a series of strategies to deal with them.

While this approach did a good job of illustrating learning by proponents, its top-down assumptions made it difficult to focus equally on learning by opponents. This deficiency can be addressed, however, by incorporating bottom-uppers' techniques for ascertaining the strategies – and, by extension, the learning from experience – of a wider variety of actors concerned with a program. This points to a synthesis which combines top-down and bottom-up approaches in the analysis of policy change over periods of a decade or more.

4.1 Elements of the synthesis

The elements of such a conceptual framework are at hand. Consistent with the bottom-uppers, one needs to start from a policy *problem* or

subsystem – rather than a law or other policy *decision* – and then examine the strategies employed by relevant actors in both the public and private sectors at various levels of government as they attempt to deal with the issue consistent with their objectives. The networking technique developed by Hjern et al. can be one of the methods for determining the actors in a subsystem, although it needs to be combined with other approaches indicating the actors who are indirectly (or even potentially) involved.

Likewise, the concerns of top-down theorists with the manner in which legal and socio-economic factors structure behavioral options need to be incorporated into the synthesis, as do their concerns with the validity of the causal assumptions behind specific programs and strategies. This leads to a focus on (1) the effects of socio-economic (and other) changes external to the policy network/subsystem on actors' resources and strategies; (2) the attempts by various actors to manipulate the legal attributes of governmental programs in order to achieve their objectives over time; and (3) actors' efforts to improve their understanding of the magnitude and factors affecting the problem – as well as the impacts of various policy instruments – as they learn from experience.

Attention thus shifts from policy implementation to policy change over periods of 10–20 years. The longer time span creates, however, a need to aggregate actors into a manageable number of groups if the researcher is to avoid severe information overload. After examining several options, the most useful principle of aggregation seems to be by belief system. This produces a focus on 'advocacy coalitions,' i.e. actors from various public and private organizations who share a set of beliefs and who seek to realize their common goals over time.

In short, the synthesis adopts the bottom-uppers' unit of analysis – a whole variety of public and private actors involved with a policy problem – as well as their concerns with understanding the perspectives and strategies of all major categories of actors (not simply program proponents). It then combines this starting point with top-downers' concerns with the manner in which socio-economic conditions and legal instruments constrain behavior. It applies this synthesized perspective to the analysis of policy change over periods of a decade or more. This time-frame is required to deal with the role of policy-oriented learning – a topic identified as critical in several top-down studies, although by no means inherent to that approach. Finally, the synthesis adopts the intellectual style (or methodological perspective) of many top-downers in its willingness to utilize fairly abstract theoretical constructs and to operate from an admittedly simplified portrait of reality. It is primarily concerned with theory construction rather than with providing guidelines for practitioners or detailed portraits of particular situations.

4.2 Overview of the framework

The advocacy coalition framework starts from the premise that the most useful aggregate unit of analysis for understanding policy change in modern industrial societies is not any specific governmental organization but rather a policy subsystem, i.e. those actors from a variety of public and private organizations who are actively concerned with a policy problem or issue such as higher education or air pollution control (Heclo, 1978; Jordan and Richardson, 1983; Milward and Wamsley, 1984; Rose, 1985; Sharpe, 1985).

Figure 2 presents a general overview of the framework. On the left side are two sets of exogenous variables – the one fairly stable, the other dynamic – which affect the constraints and resources of subsystem actors. Air pollution policy, for example, is strongly affected by the nature of air quality as a collective good, by the geographical contours of air basins, and by political boundaries which are usually quite stable over time. But there are also more dynamic factors, including changes in socio-economic conditions and in system-wide governing coalitions, which provide some of the principal sources of policy change. These are all features drawn from top-down models which 'structure' policy-making.

Within the subsystem, the framework draws heavily upon the bottom-up approach. It assumes, however, that actors can be aggregated into a number of advocacy coalitions – each composed of politicians, agency officials, interest group leaders, and intellectuals who share a set of normative and causal beliefs on core policy issues. At any particular point in time, each coalition adopts a strategy(s) envisaging one or more changes in governmental institutions perceived to further its policy objectives. Conflicting strategies from different coalitions are mediated by a third group of actors, here termed 'policy brokers,' whose principal concern is to find some reasonable compromise which will reduce intense conflict. The end result is legislation or governmental decrees establishing or modifying one or more governmental action programs at the collective choice level (Kiser and Ostrom, 1982; Page, 1985). These in turn produce policy outputs at the operational level (e.g. agency permit decisions). These outputs at the operational level, mediated by a number of other factors (most notably, the validity of the causal theory underlying the program), result in a variety of impacts on targeted problem parameters (e.g. ambient air quality), as well as side effects.

At this point the framework requires additional elements not normally central to implementation studies. Some aspects of public policy clearly change far more frequently than others. In order to get a conceptual handle on this, the framework distinguishes the *core* from the *secondary* aspects of a belief system or a governmental action program. Recall the
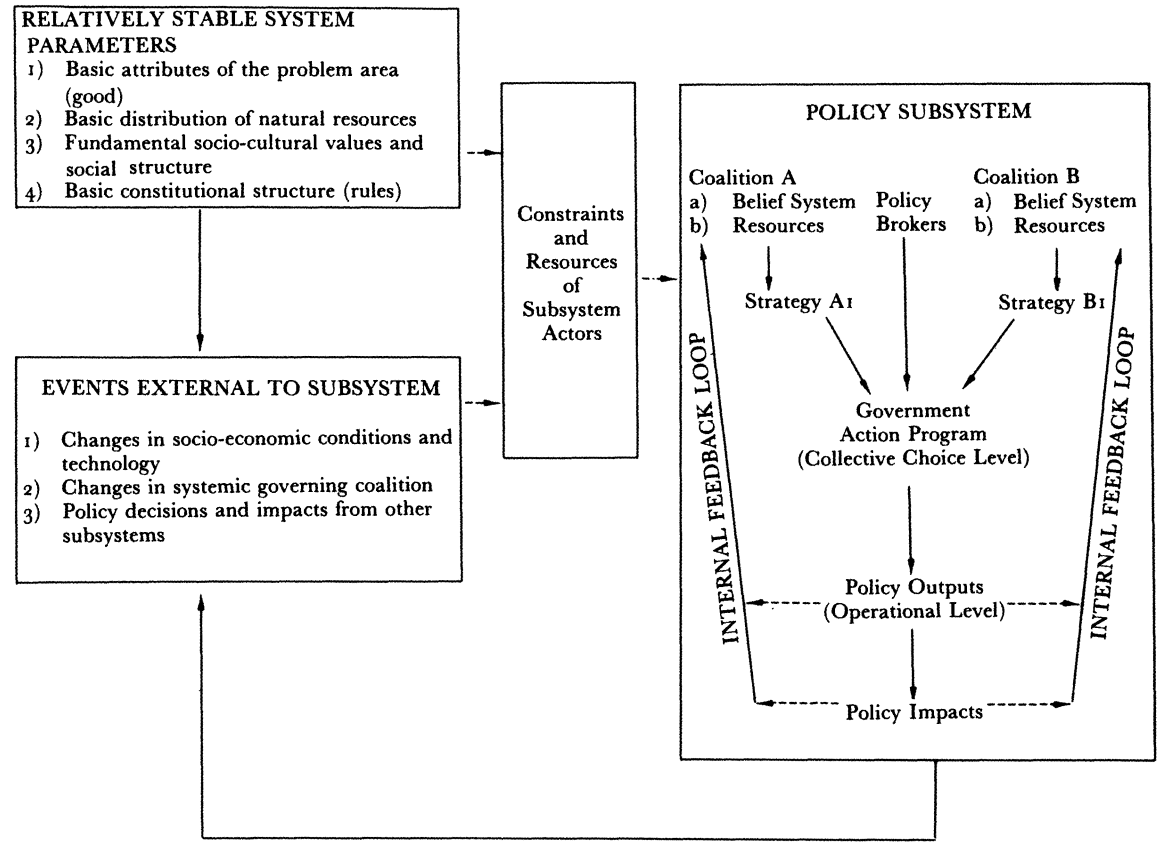
RELATIVELY STABLE SYSTEM
PARAMETERS
1) Basic attributes of the problem area
   (good)
2) Basic distribution of natural resources
3) Fundamental socio-cultural values and
   social structure
4) Basic constitutional structure (rules)

Constraints
and
Resources
of
Subsystem
Actors

POLICY SUBSYSTEM

Coalition A
a) Belief System
b) Resources

Policy
Brokers

Coalition B
a) Belief System
b) Resources

Strategy A1

Strategy B1

Government
Action Program
(Collective Choice Level)

INTERNAL FEEDBACK LOOP

INTERNAL FEEDBACK LOOP

Policy Outputs
(Operational Level)

Policy Impacts

EVENTS EXTERNAL TO SUBSYSTEM

1) Changes in socio-economic conditions and
   technology
2) Changes in systemic governing coalition
3) Policy decisions and impacts from other
   subsystems

FIGURE 2.   *General overview of conceptual framework of policy change*

coalitions are seeking to get their beliefs translated into governmental programs, so the two concepts can be analyzed in similar categories. The extent to which a specific program incorporates the beliefs of any single coalition is, however, an empirical question and will reflect the relative power of that coalition within the subsystem.

Table 3 represents a preliminary attempt to identify the principal topics addressed in the Deep Core, the Policy Core, and the Secondary Aspects of a belief system. (Only the latter two are relevant to governmental action programs.) It suggests that coalitions will be very reluctant to alter their beliefs concerning core issues such as the proper scope of governmental vs. market activity; their orientation on basic policy conflicts; the relative distribution of authority among different levels of government; or their identification of social groups whose welfare is most critical. For example, Federal air pollution policy in the U.S. – which essentially reflects the beliefs of the environmental coalition – accords government a very important role in this policy area; places greater priority on public health than on economic development; gives the Federal Government an unusually preeminent role over states and localities; and places a high priority on protecting the welfare of susceptible health populations, e.g. people suffering from emphysema. These are topics on which neither the environmental coalition nor Federal law have changed very much since 1970 (Mazmanian and Sabatier, 1983: Chap. 4).

On the other hand, there has been a great deal of change in the secondary attributes of Federal air pollution programs which are instrumental to achieving the core aspects. These include such topics as the appropriate deadlines for meeting particular emission standards; the relative importance of various sources of pollutants affecting air quality; the most valid methods for measuring ambient air quality; the proper enforcement budget of implementing agencies; the perceived feasibility of particular pollution control technologies; and the precise effects of pollution concentrations on specific populations. While these have all been the subject of vigorous debate, they represent rather marginal, instrumental choices within the context of core beliefs.

The framework argues that the core aspects of a governmental action program – and the relative strength of competing advocacy coalitions within a policy subsystem – will typically remain rather stable over periods of a decade or more. Major alterations in the policy core will normally be the product of changes external to the subsystem – particularly large-scale socio-economic perturbations or changes in the systemwide governing coalition. An example of the latter would be the change in Britain from Parliaments dominated by moderate socialists and conservatives to a system dominated by Mrs. Thatcher's wing of the

TABLE 3: *Structure of belief systems of policy elites*[a]

	Deep (Normative) Core	Near (Policy) Core	Secondary Aspects
Defining characteristics	Fundamental normative and ontological axioms	Fundamental policy positions concerning the basic strategies for achieving normative axioms of deep core.	Instrumental decisions and information searches necessary to implement core policy positions
Susceptibility to change	Very difficult; akin to a religious conversion.	Difficult, but can occur if experience reveals serious anomolies.	Moderately easy; this is the topic of most administrative and even legislative policy-making.

Illustrative components	1) The nature of man
	    i) Inherently evil vs. socially redeemable
	    ii) Part of nature vs. dominion over nature
	    iii) Narrow egoists vs. contractarians
	2) Relative priority of health, love, beauty, etc.
	3) Basic criteria of distributive justice: Whose welfare counts? Relative weights of self, primary groups, all people, future generations, non-human beings, etc.
	4) Ability of society to solve problems
	    i) Zero-sum competiton vs. potential for mutual accommodation
	    ii) Technological optimism vs. pessimism
		1) Proper scope of governmental (vs. market) activity
		2) Proper distribution of authority among various units (e.g. levels) of government
		3) Identification of social groups whose welfare is most threatened/critical
		4) Orientation on basic policy conflicts e.g. environmental protection vs. economic development
		5) Basic choices concerning policy instruments, e.g. coercion vs. inducements vs. persuasion
		6) Desirability of participation by various segments of society
		7) Perception of relative seriousness of this problem area. problem area.
			1) Most decisions concerning administrative rules, budgetary allocations, disposition of cases, statutory interpretation, and even statutory revision
			2) Information concerning program performance, the seriousness of the problems, etc.

[a] The Near Core and Secondary Aspects also apply to governmental action progams.

Conservative Party with a *fundamentally* different conception of the proper scope of governmental activity.

While changes in the policy core are usually the result of external perturbations, changes in the secondary aspects of a governmental action program are often the result of policy-oriented learning by various coalitions or policy brokers. Following Heclo (1974:306), policy-oriented learning refers to relatively enduring alterations of thought or behavioral

intentions which result from experience and which are concerned with the attainment or revision of policy objectives. Policy-oriented learning involves the internal feedback loops depicted in Figure 2, as well as increased knowledge of the state of problem parameters and the factors affecting them. For example, a decade of experience and research in U.S. air pollution programs has indicated that efforts to reduce vehicle miles traveled by commuters through the use of, e.g. parking surcharges, have only very modest effects on air quality, impose very substantial costs on commuters, and therefore are no longer a feasible policy option (Mazmanian and Sabatier, 1983). Since the vast majority of policy debates involve secondary aspects of a governmental action program – in part because actors realize the futility of challenging core assumptions – such learning can play an important role in policy change. In fact, a principal concern of the framework is to analyze the institutional conditions conducive to such learning and the cases in which cumulative learning may lead to changes in the policy core.

A more extensive exposition of the framework can be found in Sabatier (1986). This overview should, however, indicate how it synthesizes important elements from both top-down and bottom-up perspectives within the implementation literature. But the framework also borrows from a number of other literatures, including those on long term policy change (Heclo, 1974; Derthick, 1979; Browning et al., 1985; Hogwood and Peters, 1983), coalition stability (Dodd, 1976; Hinckley, 1981), elite belief systems (Putnam, 1976), and the utilization of policy research (Weiss, 1977).

NOTES

1. This is really a focus on two scholars: Paul Sabatier, including his collaboration with Dan Mazmanian and Ladislav Cerych, and Benny Hjern, including his collaboration with David Porter, Ken Hanf, and Chris Hull. The principal selection criterion is the extent of theoretical and/or methodoligical development. Sabatier et al. was chosen instead of Pressman and Wildavsky (1973) or Van Horn (1979; Van Meter and Van Horn, 1976) because his work built on theirs and was subjected to more extensive empirical testing. Hjern was selected rather than other 'bottom-uppers' (Lipsky, 1971; Berman, 1978; Barrett and Fudge, 1981; Barrett and Hill, 1984) because of Hjern's superior methodology.
2. Note that the top-down approach is very similar to classic studies of program/policy evaluation (Weiss, 1972), although placing greater emphasis on the factors affecting policy outputs and program outcomes.
3. The cases in the *Effective Implementation* book were selected not because of any knowledge of the case on the part of the editors but rather because we knew the authors were first-class scholars who had ongoing research projects involving policy implementation. As for the cases involving European higher education reforms, these were all selected by Cerych before he had any knowledge of the Sabatier/Mazmanian framework.
4. For example, the OU was criticized in 1971 for failing to meet its mandate of reducing the social inequalities in the British higher education system. While that had been one of the goals articulated in the early stages of the formulation process, it was *not* included in the final charter and, in fact, the OU was expressly to serve students on a 'first come, first serve' basis. Thus an affirmative action

program for working class students would have violated the OU's charter (Cerych and Sabatier, 1985).
5. The Swedish 25/5 Scheme was a proposal instituted over several years in the early 1970s which waived normal entrance requirements for adults over 25 years of age with 5 years work experience. The German Gesamthochschulen was a massive reform launched in the early 1970s which originally sought to completely transform German higher education. For discussions of each, see Cerych and Sabatier (1986).
6. These comments are based primarily upon extended discussions with Benny Hjern during the 1981–2 academic year which I spent at the University of Bielefeld. They are also based upon his key articles (Hjern et. al, 1978; Hjern and Porter, 1980; Hjern and Hull, 1982), his review of the *Effective Implementation* book (Hjern, 1982), and his manuscripts on Swedish manpower training and on the 'helping small firms' project (Hjern and Hull, 1985).
7. The German versions should be available from Weidner at the International Institute for Environment and Society, Science Center, Berlin. For discussions in English of some of the results, see Knoepfel (1981) and Knoepfel and Weidner (1982b).

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