Coping with Intractable Controversies: The Case for Problem Structuring in Policy Design and Analysis

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Intractable controversies and other types of policy disagreements correspond to policy problems with a different structure. The more structured a problem is, the more consensus there is about which values and information are at stake in the process of problem solving. Policymakers like to treat problems in a structured way as possible. Three policy strategies are described to move away from the unstructured to the more structured problem type. However, policymakers run the risk of oversimplifying an ill-structured problem, which means that elements of the problem situation relevant to other actors are overlooked or denied. Hence, policy controversies may become intractable. The remedy is a fourth strategy, characterised by problem structuring. This strategy requires political participation of actors with different views on the problem, and an argued political problem choice.

The Case for Frame Reflection

Forty-five years ago, Harold Lasswell (1951) launched a new academic enterprise called “policy sciences.” The most ambitious goal of this endeavour was to unite the social sciences and part of the natural sciences in a “policy sciences of democracy.” The focus would be on the study of how complex societal problems could be tackled, and how large processes and big structures could be influenced through public and democratic policy-making. In doing so, the policy sciences would help achieve human dignity, political democracy, and prudent judgment of every participant in the democratic policy-making process.

Lasswell’s initiative marks the beginning of what is now a thriving business for university departments, government agencies, and policy-analytic consultants. But what they are engaged in is better characterized as “policy analysis of technocracy” than “policy science for democracy,” for its success has been won by sacrificing the initial ideals. Seemingly forced to choose between rigor and relevance, the dominant trend has been to pick the former. Consequently, policy scientists have tended to steer clear of political hot potatoes and controversial issues. Methodologically, they have followed mainstream social science ideas about the fact-value dichotomy and the empirical-analytic tradition. A predominant concern among policy scientists has been to prevent their work from being used politically: “It is in analytical debates characterized by high levels of conflict, over analytically intractable issues, and in open fora that analysis is most likely to be employed primarily as a political resource” (Sabatier and Jenkins-Smith, 1993: 221; see also Hogwood and Gurn, 1986: 93-95).

The call for conventional scientific rigor combined with political neutrality has not gone entirely unchallenged. Starting in the late 1960s, three clusters of critical scholars have tried to remind policy analysis of its original calling (e.g., Fischer, 1990). First, doubts about the usefulness of the discipline generated the call for more “usable knowledge” (Lindblom and Cohen, 1979). This call was largely heeded by practitioners and applied policy analysts, with both groups periodically advocating a fine-tuning between policy-makers’ values, interests and concerns on the one hand, and policy science’s agendas and methodologies on the other. Other scholars argued that “immediate use” by policymakers was an improper criterion for the (social) science contribution to public policy to begin with. Rather, it should strive for a more diffuse “enlightenment” of policy-makers (Caplan et al., 1975; Weiss, 1980).

In this view, policy science should sustain a continuous “knowledge creep” of new concepts and models, leading to new ways of framing problems and more serious attention to innovative solutions. The third response was by “policy philosophers” and went to the heart of the issue. They demonstrated that the standard policy-analytic methodology, based on positivistic dogmas like the fact-value dichotomy and value neutral analysis, was simply unfit to address the underlying value dimensions of most policy issues (MacRae, 1976; Fischer, 1980; Hawkesworth, 1988; Stone, 1988; Dryzek, 1990).

These three responses, too, appear inadequate in the advent of the risk society, where fundamental controversies move center stage in the policy process (Beck, 1992; see further ‘t Hart and Kleibohr, this issue). To meet the challenge, some policy scholars have proposed and developed the concept of “frame-reflective policy analysis,” taking “frames” to be points of view or perspectives from which ill-defined problematic situations are given meaning by people and institutions (cf. Schön and Rein, 1994: xiii). In normal policy disagreements, frames are shared, or overlap substantially. In the case of frame conflicts, frame-reflective policy inquiry is called for. Thus, Frank Fischer has argued that policy scientists...must at minimum include the analysis of ideological systems within the purview of their activities. Ideological belief systems provide basic data for policy evaluation. As practical tools employed in the everyday...
world, ideologies shift emphasis from the philosopher's search for primary ideals to a more practical focus on the mixture of patterns of ideas that govern the decision-making processes. (1995:8)

Schön and Rein’s book stands squarely in this emergent strand of policy analysis. The central thrust of their argument runs counter to the mainstream view. Instead of staying aloof from controversies, Schön and Rein want policy science to place them at the heart of its agenda. At the same time, however, intractable, messy, and apparently debilitating problems and conflicts involving the contradictory certainties of conflicting frames require a different type of rationality than do the policy disagreements that have long dominated policy analysis. Participants in such conversations must be able to put themselves in the shoes of other actors in the environment, and they must have a complementary ability to reflect on their own action frames; they must overcome the blindness induced by their own ways of framing the policy situation” (our emphasis) (1994:187).

Although fundamentally sympathetic to the idea, we will attempt in this article to critically examine the call for frame reflection in policy analysis. We will examine what frame reflection is, i.e., what makes it different from more regular modes of policy design. We will particularly focus on the question of how policy conditions frame reflection can work. In answering this question, we must look into the nature of intractable controversy (to use Schön and Rein’s expression), since it is this type of controversy that calls for frame reflection as a strategy for solution. So we ask: What makes intractable policy controversies intractable? How and under what conditions is it possible to successfully cope with controversies?

We have at least two reasons for exploring these questions. First, one of the main difficulties is that there appear to be many more cases of failure in solving intractable controversies than success. If we want to make a convincing case for frame reflection, we should be able to point out what it is that makes it a success when other strategies fail. Second, policy analysts who argue for frame reflection tend to describe the process as a new “methodology” for policy analysis. This is quite peculiar, if we come to realize that frame reflection does not merely imply a particular kind of methodology, but also a policy practice characterized by a specific pattern of sociopolitical interaction. Therefore, as we will argue, both the conditions that produce intractable controversies and those that make frame reflection possible, are highly political.

This article will answer the question outlined above in the following manner. First, we will argue that four types of problems can be discerned in the policy process: structured, unstructured, and two types of moderately structured problems. We will further argue that policymakers show the inclination to move away from unstructured problems to more structured ones; even at the cost of losing touch with the true complexity and normative volatility of the problems as experienced by other groups. The “containment” of problems as structured or moderately structured levels is facilitated by two pervasive biases in public policy-making: policy elites use their power to limit the number of participants in a policy arena, or they may limit the range of politically acceptable arguments, i.e., the options for policy choice. These biases play out in different policy-making strategies that reflect different problem types. When such “containment” efforts fail, problems become unstructured and controversies flare up. This is illustrated in a case study of the so-called NIMBY-phenomenon in hazardous waste facility siting.

We show how both problem content and the policy process shift when policymakers, in defining the issue, move from one problem type to the other. Intractable controversies occur when policymakers stubbornly continue to address the “wrong” policy problem. Subsequently, we will show how these controversies can be transformed into a productive process of learning by problem structuring and problem choice.

Finally, we shall articulate political prerequisites for such policy learning, and conclude by reviewing some implications of our argument for the project of a frame-reflective policy analysis.

The Socio-Political Construction of Problems: Four Problem Types

In sociological and policy literature, a policy problem is usually defined as a gap between the existing and a normatively valued situation that is to be bridged by government action. Since not everyone considers the same situation as undesirable, policy problems are no objective givens. A problem is a social and political construct. These constructs articulate values as well as facts. What one person considers a matter of fact, another may well consider as a matter of ideology or a lie.

In the literature, two types of problems have been extensively discussed. If a problem is well-defined or structured, it is to be solved by standardized (quantitative) techniques and procedures. The disciplines and specialisms to be invoked are clearly defined and the policy-making responsibility is in the hands of one actor. These problems can also be referred to as technical. If a problem is ill-defined, "wicked" (Rittel and Webber, 1973), "messy" (Ackoff, 1974), "ill-structured" (Simon, 1973; Mason and Mitroff, 1981; Dunn, 1988), or unstructured, the term we prefer, technical methods for problem solving appear inadequate. The boundaries of the problem are diffuse, so it can hardly be separated from other problems. To address the whole problem is more than to address each of its parts. One cannot be sure what disciplines and specialisms are to be invoked for problem solving. Conflicting values and facts are interwoven, and many actors become involved in the policy process. Hence, these problems are to be more explicitly defined as political. Whereas structured and moderately structured problems can move straight from recognition to resolution, unstructured problems are too controversial and ambiguous to do so. Solving an unstructured problem requires problem structuring, which is essentially a political activity, to produce new insights on what the problem is about. In addition, Dunn (1981) describes a moderately structured problem, which type meets the characteristics of structured and unstructured problems somewhere halfway.
FIGURE 1
Four Types of Policy Problems

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNSTRUCTURED PROBLEM</strong></td>
<td><strong>MODERATELY STRUCTURED PROBLEM (ENDS)</strong></td>
</tr>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td><strong>CERTAINTY ABOUT</strong></td>
<td><strong>CERTAINTY ABOUT</strong></td>
</tr>
<tr>
<td><strong>RELEVANT KNOWLEDGE</strong></td>
<td><strong>RELEVANT KNOWLEDGE</strong></td>
</tr>
<tr>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td><strong>STRUCTURED PROBLEM (MEANS)</strong></td>
<td><strong>STRUCTURED PROBLEM</strong></td>
</tr>
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Source: Hischenmoller, 1993: 247

Let us take this line of thought one step further. In mapping problem types, we draw on the typology by Hoppe (1989). In this typology, four types of policy problem definitions are mapped out in two dimensions. One dimension refers to the (lack of) certainty concerning the kinds of knowledge about the problematic situation and the ways of converting it into a more desirable situation. The other dimension refers to the (lack of) consensus on relevant values. A problem is termed *structured* when there is a high degree of consensus and certainty. A problem is referred to as *moderately structured (ends)* when there is consensus on relevant values and uncertainty or dissent on what kind of knowledge is relevant. A problem is called *moderately structured (means)* when there is consensus on what kind of knowledge is relevant, but ongoing dissent with regard to the values at stake. A problem is called *unstructured* when there is neither consensus nor certainty, yet there is a widespread sense of discomfort with the status quo. Figure 1 shows a typology of the four types of policy problems.

Of course problems can never be defined “objectively.” Since policy problems are by definition sociopolitical constructs, the ways people define problems always contain political (inter)subjectivity. At the same time, this subjectivity does not operate in a random fashion. People may display certain judgmental and behavioral patterns in defining problems. We surmise that governmental policymakers prefer to define problems as structured. Doing so minimizes their uncertainty, limits the need for search activities, and constricts the range of possible solutions to existing repertoires. Furthermore, we suggest that when there is too much complexity or social conflict about the issue in question, they will continue trying to minimize “trouble.” Therefore, they will prefer to identify these more sensitive situations as one of the two classes of moderately structured problems, instead of admitting to themselves and their environment that they have fully unstructured problems on their hands. This logic implies that policymakers will show a marked tendency to ignore information that may complicate the policy problem under scrutiny. This tendency need not be deliberate or even well-recognized. Policymakers may, in fact, be completely unaware of their screening information away from the policy arena, since they may not grasp the biases that are inherent in their own policy frames. In any case, they run the risk of tackling what is called the “wrong problem.” They may treat as “structured” a problem that other stakeholders—be they pressure groups, target populations, or even their own executive officials and street-level bureaucrats—define as much more complex and controversial than they themselves are willing to admit. It is exactly at this point where, in our view, intractable policy controversies occur. But before taking up this argument, let us first examine more closely the link between problem definitions and problem-solving strategies in public policy-making.

The Implications for Problem Solving

Since policy problems are social and political constructs, problem structure is always a matter of choice, implicitly or explicitly. Those actors who have the power to decide on the policy agenda, also have the power to choose the problems they like to solve. Therefore, problem definition is part of the policy-making process as much as problem solving. We may refer here to the notion of the “two faces of power” (Bachrach and Baratz, 1970; Cobb and Elder, 1983). One face looks towards the visible struggle on solutions; the other one, less visible, looks towards the struggle over problems. Furthermore, it is widely recognized that problem defining and problem solving are not separate stages in the policy process. Defining a problem implies setting the alternatives for public policy, which Schattschneider referred to as “the supreme instrument of power” (Schattschneider, 1960:66). In this view, the actual construction of a policy problem already points to its (perceived) solution.

From a policy analysis perspective, Dery (1984:27) takes a similar position, when he refers to problems as “opportunities for improvement.” This is precisely what, according to Dery, makes policy problems distinct from “phenomena” or natural disasters. It is only one small step further to classify problems according to the method they require for solving them: “The
appropriateness of a particular type of method is a function of its congruence with the type of problem under investigation" (Dunn, 1988:724). The implication of Dunn's "principle of methodological congruence" is that problems, if not "adequately" structured, cannot be solved, since the "wrong" problem is addressed. The notion that policy problems and situations are connected by method, raises the question whether it is possible to identify the "methods" or "rules of the game" that constitute how problems of a certain kind tend to be addressed in the policy-making process. These rules of the game reflect the biases, to use Schattschneider's phrase, that are responsible for organizing some issues into politics and others out.

Two major biases may be observed. The first bias may appear if a policy problem is defined as well-structured, in particular as one that can be adequately resolved by the use of specialist knowledge and technical expertise. This bias tends to result in a policy-making strategy where one group of people is seen as qualified to make policy decisions, whereas another, much larger group of "lay citizens" (or, in some cases, "non-citizens") is regarded as unqualified and therefore defacto excluded from participation in public decision-making. Specialists may be defined in many ways: engineers in high-technology projects, economists in monetary policy, social workers in debates about homelessness. Sometimes, professional politicians as a class may define themselves as qualified to handle issues on behalf of, but not in dialogue with, their electorates. In Dahl's (1985) terminology, policy-making specialists consider themselves in that case to be "guardians of the public interest." Guardians in this view are made, not born: their acquired, role-related qualifications form the basis of their claim to competence and authority. As long as there is a broad consensus about who are the experts with regard to a given issue, policy controversies are unlikely to occur. However, if "lay people" do not accept this technocratic division of labor, and speak out on the issue, conflict is much more likely to surface.

The second bias may appear if a policy problem becomes defined as an issue of maximizing benefits. In this very common situation, the calculation of costs and benefits and efficiency considerations dominate the policy-making process. In this case, it is not so much participation that is being restricted, but rather the range of arguments regarded as pertinent by policy elites. The political discussion narrows down to what Diesing (1962) refers to as economic rationality. Other forms of reasoning—Diesing mentions five in total—hardly enter the process. Well-known examples of problems that are predominantly defined in economically terms are the tragedy of the commons, the prisoners dilemma and the free-rider phenomenon, all of which are common metaphors in diagnosing environmental problems.

Issues defined in the economic mode may be the source of serious political disagreements about the distribution of costs and benefits, but as long as people largely agree on the values at stake, they do not escalate into intractable controversies. This changes when the dominance of economic reasoning itself comes under dispute. As Diesing puts it: "Theories of economic decision are relevant only insofar as people know what they really want and what resources they have available, and insofar as their goals are not related to internal conflicts" (Diesing, 1962:96). Some parties may start claiming that certain values or rights should be protected whatever the costs involved. Others may advocate a fundamental redefinition of the discourse away from the language of costs and benefits.

Three Strategies and Their Biases for Solving Problems

Technocratic and economic reasoning are two biases in policy discourse. Policymakers and policy analysts will be very familiar with. How do they play out in the different problem types developed in figure 1? In our view, the two biases are important clues to understanding the processing of three of the four problem types.

Structured problems: The "rule" strategy

Both biases can be observed in the strategy to solve structured problems. In this policy strategy, policy goals are already clearly defined. The policy process concentrates on obtaining these goals as effectively as possible. This strategy we call rule. The main characteristics of this strategy are:

1) Government performs as one homogenous policy-making unit vis-à-vis the public;
2) It manifests itself as a near-ideal type bureaucracy, characterized by what seems to be an unambiguous distribution of competence;
3) The policy process is dominated by experts or actors claiming an expert role. There may be several disciplines involved, but these are well defined and the experts share the same ideas about the problem and the way to handle it;
4) There is a general absence of public participation in the policy process.

This is the archetype of technocracy. In a situation in which there is indeed widespread consensus on the relevant values and information, the mechanisms that shape the "rule" strategy will not normally be referred to as biases. Insofar as these mechanisms are identified at all, they have a positive ring to them: they are seen as promoting competence and efficiency in social problem solving, keeping "partisan politics" at bay in the resolution of what are considered essentially technical issues.

Moderately structured problem (ends): The "negotiation" strategy

The moderately structured problem (ends) is mainly characterized by the cost-benefit bias. The policy strategy linked to this problem we call negotiation. There is general consensus about the main thrust of policy, even though policy goals may not be as clearly defined as in the structured problem situation. There is, however, conflict about the means to reach the policy goal most effectively and efficiently. Negotiations are regarded as the institutionalized mechanisms for resolving conflict. This strategy has the following characteristics:
1) Policy-making by multiple actors: organized social groups as well as different segments of government articulate different positions on the issue. This divergence of opinion is publicly known and considered legitimate.

2) The policy arena is not organized hierarchically, and stakeholders are not constrained by compliance pressures in determining their position and tactics within the negotiation process.

3) Information produced by experts is used by the parties involved in the negotiating, yet expert opinion itself may be divided along the lines of interests that shape the political conflict about the means of policy: scientific disagreement emulates political disagreement.

4) Broader public participation than in case of structured problems, although mainly by established interest groups.

Here, we recognize the pluralist model of policy-making with all the positive connotations this market model of policy-making has acquired. Because of the involvement of multiple actors and the absence of hierarchy among policy-making agencies, the process this strategy sets in motion may sometimes appear as a completely unstructured one. But this is a first impression and often misleading. Discussants are bound by consensus about the policy goal orientation which prescribes what topics and interests are at stake. Therefore, the negotiation strategy tends to result in policies that differ only incrementally from the original situation.

Moderately structured problems (means): The “accommodation” strategy

In the moderately structured problem (means) we see a limitation of participants. This strategy is again characterized by the construction of a specialists-lay people distinction. Here, the dispute is about discordant values or “rights” (see also Schön and Rein, 1994: 17-18). This conflict is mitigated by incorporating into a compromise the values most relevant to the conflicting parties. This compromise is not about shared goals, but rather about the means that will be employed in order to enable future consensus. We call the policy discourse which originates from this type of problem accommodation, a concept used by Lipshart (1968) to characterize the Dutch political process. Accommodation takes place among parties that are deeply divided on what values are relevant with respect to a problem. Negotiation turns out to be an inadequate strategy, since some of the contested values will be irreversibly damaged by a tradeoff. By accommodation, the frame conflict is not dissolved, but rather frozen. Accommodation may imply that parties agree on a compromise that reflects the status quo (Thompson and Tudan, 1959). Accommodation takes the shape of the pacification of political conflict. Sensitive issues are depoliticized by policy elites that seek to handle value conflicts in a “realistic” “business-like” way. The characteristics of this strategy are:

1) Policy-making by elite consultation, sustained by the elites’ belief that expansion of the conflict should be avoided as much as possible;

2) Participants to policy-making who are of roughly equal status, but, since they want to prevent conflict expansion, the accommodation process proceeds largely behind closed doors, without the policymakers losing their access to all relevant information;

3) A high involvement of experts who have the task of depoliticizing the conflict. Similar to the roll strategy, accommodation requires experts to “objectify” the issue;

4) Low public participation: unlike in the negotiation strategy, participants claim to represent groups which, for one reason or another, are not able to speak for themselves.*

This strategy is often applied when ethical issues are at stake, or issues that affect the rights of cultural and ethnic groups.

By now, policy strategies have been defined which correspond to three types of problem structure. In some cases, this repertoire of responses may backfire, mainly because of mismatches between clusters of problem definitions and resolution strategies as advocated by different stakeholders. When this happens, issues become intractable and controversies may result. Let us illustrate this process in greater detail.

How Intractable Controversies Emerge: NIMBY and the Siting of Hazardous Waste Facilities

Intractable controversies occur if policymakers persevere in addressing the “wrong” problem. Addressing the wrong problem is not (merely) an epistemological error of the third type, as it is often referred to in policy science literature. It is rather a matter of political conflict and political interaction. The two biases that characterize three of the four policy strategies outlined above indicate how errors of the third kind can lead to intractable controversies:

1) Policies are based on the unwarranted distinction between a category of experts, qualified to solve the problem at hand, and a category of lay people who are excluded from participation;

2) Policies are based on the unwarranted assumption that problem solving requires a particular kind of value trade-off to be made, effectively excluding other value issues vital to at least some of the parties involved.

It bears emphasis that these (often implicit) assumptions are not unwarranted by definition. If there is broad agreement about the technical nature of the problem, or if everyone shares the notion that the problem is one of distributing limited resources, then problem structuring may not be necessary and the problem may be solved or at least settled in a more or less satisfactory way. The crucial matter is whether a given problem construction takes into account all the differences of opinion about the problem and its possible solutions. Differences of opinion about social and political problems exist between persons and groups in a society (and sometimes even in the minds of individuals). Our observation is that intractable controversies come into existence if viewpoints of certain groups or interests are not taken seriously by policymakers.
How various policy strategies may actually turn into intractable controversies can be illustrated by pointing to so-called "Not In My Back-Yard" (NIMBY) problems, like (hazardous) waste disposal (Hisschemöller and Midden, 1989; see also Piller, 1991). In the typical NIMBY-situation, policymakers see themselves confronted with people who adamantly resist waste treatment facilities because they do not want them in their direct environment. If issues are defined as NIMBY-problems, the policy process is likely to contain the two biases which exclude local residents from actual participation.

On the one hand, the NIMBY-metaphor refers to citizen participation based on emotions and fears. Local residents are afraid that their environment and even human health are threatened by waste treatment activities. The experiences with the siting of nuclear waste and nuclear power plants provide illuminating examples in this respect (Hisschemöller and Midden, 1989). According to the NIMBY-story, people are inclined simply not to believe technical specialists who take considerable pains to demonstrate that the activities are carried out safely and without damage to the environment. Even local benefits, like job creation or income increases for the local community as a whole, may not put the suspicions of local residents to rest. Citizens who question or resist waste treatment facilities are, in this mode of framing the problem, considered to behave irrationally, since they distrust the legitimate institutions that are professionally equipped to deal with safe waste disposal. Here we see at work the bias of distinguishing a group of experts, qualified to efficiently solve the problem, and a group of lay people, not capable of political participation.

On the other hand, the NIMBY-metaphor implies that some sort of social dilemma exists. According to this frame, individuals opposed to a waste treatment facility defend their self-interest, in spite of the fact that they see the need for collective waste treatment activities as such. In this conception, resistance is based on a calculation of per capita costs and benefits. The benefits of a waste treatment facility affect a group of people much larger than the group sharing the burden, which group consists only of those living in the immediate surroundings of the facility site. Hence, the per capita costs for the locals near the facility are much higher than the per capita benefits. The notion that they have to pay almost all for a common good gives the locals a strong motivation to resist the facility, while at the same time the low benefits barely provide the larger group with a motivation to resist the opposition. Following the argument of Mancur Olson's Logic of Collective Action (1971), the large group is less successful in obtaining a common good than the small group is in opposing it—and, therefore, the large group is less successful in realising its own "common" good. In this framing of the problem, citizen participation is primarily based on self-interest. Citizens are conceived of as rational, though in an economic sense. Even the motivation for political action is generated by a mere calculation of costs and benefits. Here we see at work the bias of framing the problem merely as an issue of calculating and distributing costs and benefits.

The citizen, whose behavior is perceived to be based on a combination of fears for waste treatment technology and calculation, becomes a selfish person unable to act on behalf of the general interest. No wonder that by framing the issue as a NIMBY-problem, political interaction with "lay" citizens is conceived of as an obstacle rather than a helpful illustration of structured problems. Ends and means are conceived of as clearly defined. The role of government is to take care of the general interest. Government rules in a hierarchical or bureaucratic-managerial way (Hoppe and Petersen, 1993: 152). If necessary, physical coercion against those individual citizens and interest groups that are not willing to comply. It is because of this conception of policy problems that the Dutch parliament recently passed some laws meant to restrict opportunities for public participation related to the siting of unwanted activities like industrial plants and big infrastructural works.

The trend of limiting participation is observable in many democracies, but not universally so. In most countries, an alternative strategy is also explored in order to overcome perceived NIMBY-behavior. This strategy is based on the assumption that people who oppose unwanted activities that serve the common good, do so for good reasons. After all, they are saddled-up with a burden. Rather than using force, this strategy focuses on compensating the locals for the burden they shoulder. Under the assumption that opposition is primarily based on (economically) rational deliberations, negotiating a "fair" price for acceptance is the most appropriate means to overcome the social dilemma. Especially the U.S. provides examples of applying negotiation as a strategy in cases of (hazardous) waste facility siting. In this situation the problem is framed as a moderately structured (ends) one. The policy ends remain given, i.e., to develop a site for waste treatment, but the means by which this end will be obtained are open for disagreement. Compensating a local community through establishing a community park, and mitigating measures like monitoring the environment, may increase investment costs and lead to increasing waste charges for the community as a whole. In this individualist-pluralist strategy, which produces a tradeoff between costs and benefits for the parties involved, public participation is no longer seen as an obstacle to problem solving. On the contrary, it is considered a tool for reaching an equitable settlement (Hoppe and Petersen, 1993: 152).

In both conceptions of the NIMBY-phenomenon citizens may find themselves in the position of not being taken seriously by policy elites. In the first case, when the NIMBY-problem is perceived as completely structured, their input seems not to be heard at all. In the second case, if the problem is framed as a matter of negotiating costs and benefits, the situation becomes somewhat more complicated. In this instance, defending one's self-interest is considered legitimate and, hence, the policy process is open for participation. Here, the limitation does not affect the participating actors but the issues at stake. The issues are formulated in such a way that all values involved either become part of the tradeoff between costs and benefits, or are excluded from the discussion. Serious concerns about environmental or health risks,
however, are considered non-negotiable by many people. They demand protection from such risks, before they will enter any negotiation about a tradeoff on other values. Therefore, disagreements about waste treatment facilities can easily turn into intractable controversies, as people get the impression that irreparable harm is being done to nature, the environment, or public health. Such vulnerable interests require government protection and cannot, according to many, be subject to a tradeoff. Negotiations for mitigation and compensation will not help to avoid an emotional conflict. They will rather push the conflict beyond the limits of disagreement by undermining the basic mutual trust needed for proper negotiation. There are many cases in which local citizens, concerned about health and environment, perceived offers for compensation as a bribe in exchange for accepting a facility for hazardous waste disposal (Portney, 1985).

Once policy disagreements have evolved into intractable controversies, a strategy most frequently invoked is accommodation. It is recognized that not only the means but also policy goals, i.e., the relevant values themselves, have become part of the problem. In order to pacify the conflict about the specific waste treatment facility at the site under attack, the process shifts to a higher level of abstraction. Policymakers start reformulating goals and adding standards in such a way that the concerns of the citizens involved are, at least formally, addressed. Shifting to accommodation and compromise is therefore often characterized by disconnecting the conflicting values from the specific problem situation. The discussion turns into a discourse about values, norms, standards and goals in general. This may lead to non-decisions. But it may also create a fruitful basis for future policymaking. There is however no guarantee that accommodation will prevent a new intractable controversy, as soon as the policy-making process reenters the stage of specificity.

The NIMBY-phenomenon illustrates why the term “wrong” problem is justifiable. By excluding other actors from participation decision makers may ignore, slight, or obscure differences of opinion which reflect divergent readings (in terms of facts as well as values) of the problem situation. Thus, policymakers frequently are mistaken or biased in their perception of the motives, intentions, beliefs and values of other actors. This generates a fundamental mismatch between decision makers’ and other actors’ problem frames. The excluded may feel so seriously hurt that they withhold their trust in authorities, policy-making procedures and institutions (Hisschemöller and Midden, 1985; Piller, 1991). This will inhibit, or even block any political settlement of the problem, since the delicate institutional fabric underlying all societal problem solving efforts is damaged.

Copring with Intractable Controversies: The “Learning” Strategy

Pointing out the self-defeating impact of exclusionary biases that turns disagreements into intractable controversies is one thing. Yet the key to the exercise is to define a policy strategy that is appropriate to deal with controversies, and to outline its political preconditions. In such a strategy, the two exclusionary biases are absent or actively mitigated by enlightened institutional practices. This results in a strategy which is as unstructured as the problem type itself. The policy strategy for unstructured problems that we envision here involves elements of the frame reflection advocated by Schön and Reim, yet it is somewhat broader. We prefer the term “learning.” The main characteristics of the learning strategy are as follows:

1) Political conflict between multiple actors, which results in a political choice by political representatives;
2) A high level of public participation. Unlike rule, learning is based on the assumption that citizens are capable of rational judgment on matters they feel personally involved with;
3) There is an almost complete equality among actors. Even persons and groups that normally relate to each other in a hierarchic fashion treat each other as equals, if only temporarily;
4) Scientific experts have no role other than non-expert participants, since the essence of the process is recognized as evolving around the production of political choice. Experts are not excluded from participation, but the status gap between them and lay citizens is not big. As Mitroff puts it: “An expert is not a special kind of person, but each person is a special kind of expert, especially with respect to his or her own problems.” (Mitroff et al., 1983:125)

This policy strategy concentrates on “problem structuring” and a reasoned “problem choice.” Problem structuring involves the confrontation, evaluation, and integration of as much contradictory information as possible (Hisschemöller, 1993; Roe, 1990). Engaged in debate, participants become aware of the multiple aspects of the problem by argument and counter-argument. Public participation in a learning strategy is not primarily motivated by calculations of self-interest, as in negotiation. Problem structuring requires a shared sense of social and political responsibility. Persons participating in this process do not see each other primarily as selfish interest-maximizers or as mere instruments to their own ends. Instead they seek each other as persons, presenting information on the issue at stake. Participants take on the role of citizens (Hoppe, 1989).

Problem structuring, therefore, requires social rationality, the kind of rationality which, in Diesing’s words (1962), enables people to get to know and respect each other as persons, each with her or his unique qualities and habits, good or bad. As an ideal type, social rationality is the opposite of economic rationality, which transforms individuals into utility-maximizing political consumers. Socially rational interaction enables participants to reframe their conception of the problem situation, since this kind of rationality can be used to solve emotional conflicts between and within persons and groups. Actors become capable of creating new visions of the policy problem at hand and discover new opportunities for solving it. Problem structuring without public participation is inadequate, since the group which debates the problem may be too homogeneous in values, culture and social background. Problem structuring as political process needs to involve a group as heterogeneous as the problem situation requires.
The primary condition for problem structuring to be set in motion is that at least some segments of the official policy elite start interacting with those who have alternative views on the problem. This condition is that all actors involved, but especially those with the authority and the power to take the decision, are willing to participate. This means that actors must invest time so that the broad range of options, even those elements taken for granted, may become part of the discussion. A frequent cause for intractable controversies to occur is that policymakers, but not only they, are inclined to avoid political interaction with actors who appear to have completely different views.

For problem structuring to be successful it is also necessary that differences of opinion are not blurred. The favorite mechanism to obscure and thereby pacify contradictory views, is to redefine the issue in the abstract and, if possible, as a technical rather than a political one. This is, we argued, the main characteristic of the accommodation strategy which fits in with the moderately structured problem (means). We agree with Schön and Rein that a policy conversation must address a concrete, pressing issue which needs resolution (49). In taking this view, we also follow Schön and Rein (1994: 50) where they take issue with Habermas: "The different approaches to idealized discourse (...) are formulated at a high level of abstraction, and in a way that seems impossibly remote from actual practice." Therefore, the third condition for problem structuring or reframing to be successful is that it should address concrete cases and the experiences of those involved.

Problem structuring leads to what Hannah Arendt has termed political judgment by means of representative thinking: "The more people’s standpoint I have present in my mind while I am pondering a given issue, and the better I can imagine how I would feel and think if I were in their place, the stronger will be my capacity for representative thinking and the more valid my final conclusion, my opinion" (Arendt, 1958:422). Also, for Arendt, coming to a valid political judgment is dependent on political interaction. Her theory of political judgment can be considered a bridge between thinking and acting in the public sphere (Arendt, 1968: 223). Although Arendt was admittedly inspired by Aristotelian phronesis, for her, unlike Aristotle, political judgment could not be merely based on agreement among a few privileged, experienced individuals (the phronimos), who, in the course of time, have gained the administrative and political experience and reputation to judge others’ actions and decisions. Arendt calls upon a capacity available to us all, i.e., representative thinking leading to the enlarged mentality.

Of course, problem structuring does not guarantee that a broad consensus will emerge about the nature of the problem. In policy practice unanimity is rare, if not nonexistent. However, problem structuring lays the foundation for a reasoned choice of a problem frame, in a process that is widely regarded as legitimate. A political choice is made by those who, in a parliamentary democracy, have the responsibility for making political decisions, i.e., the elected representatives and politically appointed authorities. To back up their special privilege, these policymakers should also be actively involved in the process of problem structuring. By making a decision, they complete (literally, "cut off," from the Latin de-clude) the process of structuring and participation. This is as inevitable as it is problematic: although a decision is always necessary to prevent the political process from becoming paralyzed, there always remains a tension between the tendency to decide and the desirability to further integrate alternative views and contradictory information about the problem.

This tension is an inherent property of what Diezing has termed "political rationality" (Diezing, 1962:171–72). This kind of rationality organizes the communication process, which establishes and certifies the production, dissemination, and use of knowledge for the solving of policy problems. It is the highest form of rationality, since it enables the choice of decision-structures in relation to problems of a certain type. Political rationality is characterized by two processes. On the one hand there is the process of differentiation, which is to gather as much information about a problem as possible. Diezing considers direct participation a key element of differentiation. On the other hand, political decisions mean that one particular problem solving alternative is chosen, based on at least part of the information gathered. This is called the process of unification. Thus, the political system is in a permanent state of tension between differentiation and unification. In Diezing’s view, the more tension can be tolerated, the more politically rational a decision will be.

At what point can problem structuring turn into actual policy choice without prematurely interrupting the interaction process? Although the answer to this question differs from case to case, it is possible to suggest a general thrust. If the process of problem structuring has really started, a moment will come at which (almost) all actors involved have come to reframe their original position. In other words, the interaction process will have produced some really new ideas. This new conception of the problem will probably take special notice of one (or some) vulnerable interests that were not taken into account before. Examples are the way in which health and environment issues are taken into account in policy-making on siting hazardous waste treatment facilities. Another example is the way Dutch policymakers recently have reframed farming problems by taking into account environmental, landscape and forest issues (Van der Meer, 1995). Thus, the fourth condition for successfully applying learning as a policy strategy is that the decision is not taken before problem structuring has produced new insights on the problem and its potential solutions. Although learning is not best by the biases inherent in the other three policy strategies, this strategy too has a specific weakness. Learning presupposes that all relevant parties are involved in the interaction process. However, in a democracy, people have the right to abstain from participation. If only one party vital to the outcome of a controversy refuses to enter the dialogue, the approach may be still-born and the controversy may remain intractable. This is all the more true if parties with formal responsibility for the decision avoid the confrontation of (potentially) conflicting views.
FIGURE 2

The Relationship between Problem Structure and Policy Strategy

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNSTRUCTURED</strong></td>
<td><strong>MODERATELY STRUCTURED</strong></td>
</tr>
<tr>
<td><strong>PROBLEM (ENDS)</strong></td>
<td><strong>PROBLEM (MEANS)</strong></td>
</tr>
<tr>
<td><strong>Policy as learning</strong></td>
<td><strong>Policy as negotiation</strong></td>
</tr>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td><strong>D</strong></td>
</tr>
<tr>
<td><strong>CERTAINTY ABOUT</strong></td>
<td><strong>RELEVANT KNOWLEDGE</strong></td>
</tr>
<tr>
<td><strong>Policy as accommodation</strong></td>
<td><strong>Policy as rule</strong></td>
</tr>
</tbody>
</table>

Consensus on relevant norms and values

problems in political interaction. The more structured a problem is perceived
to be, the more the policy process is characterized by mechanisms that dis
courage interaction between citizens with diverging views and interests. If a
problem is considered to be unstructured, participation by citizens with con
flicting views and interests is likely to produce new visions, necessary for struc
turing the policy problem itself. Hence, three of the strategies outlined in this
paper reflect practical methodologies for problem solving and one only, learning,
reflects the often neglected capacity for problem finding.

All problem types and related policy strategies can be, and often are,
validly applied in policy practice. We assert that all conceivable social prob
lem situations may take the character of each of the problem types identi
fied. This implies that, in the course of time, problem definitions can also
shift from one type to another. Shifts in problem definition are to be ex
pected because not all policy problems are, from the outset, structured in
such a way that they cover the full range of different options for solution. In
such instances, the biases characteristic for different types of policy prob
lems become (implicit) justifications for the permanent exclusion of poten
tial actors and issues from political debate. This happens either by es	ablishing a category of experts qualified to solve the problem vis-à-vis a
category of lay persons deemed unable to rationally judge the quality of
proposed policies, or by defining the problem as a tradeoff between values
that are not considered negotiable by everybody. To typify these structural
mismatches between the problem frames of actors, we borrowed the term
“wrong” problem from the literature on policy science methodology (in
particular Dunn, 1988). We argued that especially when political authori
ties persevere in attempts to solve the “wrong” problem, policy disagree
ments may easily turn into intractable controversies. As the concise analysis
of the NIMBY-phenomenon illustrates, this is most likely to happen when
actors willing to participate feel they are not being taken seriously by pol
cymakers or other parties. We suggested that the learning strategy offers
the best chances to productively cope with intractable controversies, and
formulated four critical conditions for its viability.

The argument presented in this article referred mainly to policy practice.
But as we pointed to striking similarities between actual policy strategies
and policy-analytic methodologies for problem solving, our argument has
some implications for the policy sciences. Policy analysts may help to over
come intractable controversies by focusing on the mechanisms responsible
for excluding participants and issues from the policy process. It is neces
sary to stress this point time and again, since too many policy analysts, even
those in favor of frame-reflective analysis, are given to an implicit elitist bias by
focusing only on “legitimate” issues discussed by “legitimate” participants.” Our
typology of the relation between problem content and policy strategy may be
used not only for the analysis of policy-making pro cesses, but also in research
which aims at providing policy advice regarding the framing of the problem and
defining the options for solution. It should be kept in mind, however, that policy
analysts in polyarchic political systems cannot and should not decide what a “right” problem construc-

Source: Hischemöller, 1993:239

Some Implications for Policy Analysis

In this article we have addressed two questions: what makes intractable
policy controversies intractable, and how and under what conditions can
such controversies successfully be coped with? In order to answer them, we
argued that different types of policy strategies, which can be observed in
actual policy processes, are linked to different types of policy problems. The
relationship we identified between problem structure and policy strategy is
summarized in figure 2. Three strategies—rule, negotiation, and accommo
dation—are shaped by at least one of two biases that usually generate “wrong”
tion ought to look like. How a problem is to be defined is ultimately a matter of political choice. This follows from the notion that policy problems are social and political constructs. Unstructured problems require an intensive process of socio-political interaction. This usually will produce new insights on the policy problem which can not be foreseen in policy analysis. It is exactly this empirical property of many policy problems, and not a relativist epistemology, which brings us to this conclusion. We stress this point, since it does not follow from the thesis that one cannot objectively identify the right policy problem, that it is equally impossible to show objectively that the "wrong" problem is being addressed. To the contrary, this can be done with a high degree of plausibility. And it should be done, if policy analysis is to contribute to overcoming or preventing the political knots of intractable controversies. Therefore, the normative implication of this paper is not that structured or moderately structured problems are always "wrong" or that unstructured problems are always "right." It is rather that improving the quality of policy problem structuring is a worthwhile endeavour, in policy design as well as in policy analysis. We believe that to take up this challenge is, at the same time, a contribution to the policy sciences of democracy as conceptualized by Myrdal, Lasswell, Diesing and others.

Notes

1. Unfortunately, these scholars have predominantly stopped at the point of showing that policy analysis, in dealing with value issues, is much like the continuation or application of political philosophy and social ethics with other means, and have not developed an alternative methodology (e.g., Hoggins, 1978; Paris and Reynolds, 1983; Anderson, 1987).

2. A constructivist approach to social problems should not be confused with an denial of social reality. We rather prefer the position taken by Ackoff (1974) that problems are interpretations of "problem situations." Since conflicting views and perceptions are part of social reality, studying problems is, in a sense, articulating the contradictions that form an integral part of reality. A still illuminating example of this position is found in Myrdal's (1944) "American Dilemma." It appears to be appropriate to reserve the term ill-structured for those cases in which the problem is not adequately structured and, hence, the "wrong" problem is being addressed. Obviously, ill-structured problems constitute a subset of the unstructured problems, since they also need to be structured. Still, the latter category is broader, since it cannot be excluded that unstructured problems are immediately recognized as such by policy-making agencies.

4. This phenomenon has been termed "error of the third kind" (Kimball, 1957; Raiffa, 1968; Dunn, 1988).

5. This policy strategy has also been referred to as "computation" (Thompson and Tudor, 1959) or "calculation" (Douglas and Wildavsky, 1982). Rule and similar types of policy are often considered non-democratic (Lovlin, 1972) or technocratic (Fischer, 1990).

6. If participation is allowed, the participants take on the role of specialists, as in corporatist policy systems (Smitter, 1979).

7. An interesting example is the Massachusetts Hazardous Waste Siting Facility Act (1980). According to this law, local communities are provided with resources which must enable them to negotiate a price for safe waste facilities. Except for creating the conditions for "false negotiations," state government refrains from intervention. In cases of conflict, the assistance of a mediator is to be invoked (Bacon and Milkey, 1982).

8. Because of the new insights produced by this strategy, it has also been referred to as inspiration (Thompson and Tudor, 1959).

References


