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## 5. Problem delimitation in policy formulation

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It is a familiar and significant saying that a problem well put is half-solved . . . Without a problem, there is blind groping in the dark. John Dewey (1938 [2008], p. 173)

### INTRODUCTION

The idea that a well-defined problem is half-solved is not new and variations of Dewey's quotation can be found in much older literature. Thus, it is hardly surprising that the formulation of a policy problem in policy analysis ('what is the problem?') is seen not only as the initial but also as a crucial step that determines all other activities in policy formulation. The concept of the 'problem orientation' was the keystone in Harold Lasswell's vision of policy sciences, and for many it still animates the field (Turnbull, 2008). Textbooks on public policy analysis congruently stress the key role of correct formulation of problems for policy design: 'policy analysts fail more often because they formulate the wrong problem than because they choose the wrong solution' (Dunn, 1988, p. 720). In this sense, problem formulation takes priority over other activities of policy formulation, such as identification of variants and choosing among them.

Yet, the literature on problem formulation is very diverse and labyrinthine. Various authors use different terminology and approaches to the subject. Some authors talk about 'problem structuring' (Dunn, 2004), while others use terms such as 'problem definition' (Bardach, 2000) or 'problem modelling' (Weimer & Vining, 2005). More important, even the same term can be understood differently (Table 5.1).<sup>1</sup> To complicate things further, the relevant literature is scattered across different fields and thus various contributions are often discussed in isolation.

For this reason, I use the general term 'problem delimitation' to encompass all concepts mentioned above. I understand problem delimitation as a multidisciplinary field of study that seeks to analyse and understand causes of public policy problems, analyse and evaluate their different subjective representations, and try to suggest their formulation. Problem delimitation involves both subjective and objective elements as well as non-normative and normative ones.

This chapter is structured as follows. First, I distinguish two streams in thinking on problem delimitation, termed as 'political' and 'policy' streams. Then I show the different conceptualizations of 'policy problem', and show how they are related to the two streams. I then describe the two approaches in more detail. I conclude by showing how these streams complement each other.

*Table 5.1 Various definitions of problem formulation and related terms*

The term problem structuring is used here to describe the process by which the initially presented set of conditions is translated into a set of problems, issues and questions sufficiently well defined to allow specific research action	Woolley and Pidd (1981, p. 197)
[Problem structuring] . . . refers to the process, whether formal or informal, by which some initially presented conditions and requests become a set of issues for detailed research	Pidd (1988, p. 115)
The task of problem definition requires a careful consideration of the parameters of an issue and the context within which a recommendation for a policy change will be made	Irwin (2003, p. 36)
Problem definition is, in this sense, a never ending discourse with reality, to discover yet more facets, more dimensions of action, more opportunities for improvement	Dery (1984, pp. 6–7)
‘Problem definition’ has to do with what we choose to identify as public issues and how we think about these concerns	Rochefort and Cobb (1994, p. vii)
Solving an unstructured problem requires problem structuring, which is essentially political activity, to produce new insights on what the problem is about	Hisschemöller and Hoppe (2001, p. 51)

## DIFFERENT STREAMS IN PROBLEM DELIMITATION

The problem delimitation literature is very diverse and dispersed. Scholars are substantially divided in their epistemological, ontological and normative assumptions, which leads to quite different understandings of the concepts ‘policy problem’ and ‘problem delimitation’. Sometimes the usage of these concepts is straightforward, especially in policy analysis textbooks (Bardach, 2000; Dunn, 2004). Often, however, these concepts are part of broader theories of policy making, and are hardly comprehensible without referencing to it (Bacchi, 2009; Hoppe, 2010; Turnbull, 2006). Most of the problem delimitation approaches are embedded in a particular discipline (such as public policy, political science or public administration) and theoretical approach (positivist, interpretive, post-structuralist). Some of them blend different approaches into new ones.

Nevertheless, at the risk of oversimplifying, we can identify two major divisions in the literature. The first concerns the aim of the problem delimitation, and reflects Lasswell’s classical (1971) distinction between two strands in policy studies: ‘knowledge of policy’ and ‘knowledge in policy’. In this respect, there are two major streams of literature with different aims. These streams can be labelled as ‘political stream’ and ‘policy stream’ (Vesely, 2007).

The political stream concerns the ‘knowledge of policy’. It aims to analyse and understand how concrete public issues are identified, conceptualized and defined by different actors, why certain societal conditions become defined as public problems (and others do not) and what are the reasons and consequences of different definitions or frames of public issues. The political stream is mostly analytical and non-normative. Its focus is scientific rather than practical, seeking to describe and explain different definitions or frames of public issues.

Table 5.2 Different approaches to problem delimitation

	Positivist approach	↔	Post-positivist approach
Political stream	Rochefort and Cobb (1994) Peters (2005)		Stone (2002) Hoppe (2010)
Policy stream	Rosenhead and Mingers (2001) Bardach (2000) Dunn (2004)		Bacchi (2009)

The policy stream, in contrast, is more practical and aims at providing a formulation of public problems so that the problem can be effectively and efficiently solved. Although the policy stream also involves an analysis of different subjective approaches to problems, the basic motivation is to help to find a solution for a public issue, not to understand why a certain public issue is defined exactly in this way by a particular actor. Authors from the policy stream are mostly concerned with the methodology and methods of problem formulation (for example, Bardach, 1981; Dunn, 1988). The basic concern is which methods to use, and how, when formulating policy issues for policy makers.

The second major division lies in ontological and epistemological assumptions. Again, with a certain simplification we can distinguish between the rational (positivist) approach (Bardach, 2000; Rosenhead & Mingers, 2001) and the interpretive (post-positivist) approach (Bacchi, 2009; Hoppe, 2010; Stone, 2002). Though both approaches treat policy problems as social constructs that involve both ‘objective conditions’ and their ‘subjective interpretation’, the emphasis differs profoundly. Authors with more positivist inclinations stress the social conditions that give rise to policy problems, assuming that there are some objective factors that influence how problems are – and should be – formulated. In contrast, authors with more post-positivist perspectives stress subjective interpretations and downplay social conditions. Of course, the problem delimitation terrain is much more nuanced. In post-positivist scholarship, Bacchi (2015), for instance, describes substantial differences between interpretive and post-structural approaches to problematization. Similarly, in the positivist tradition, there is a huge spectrum of approaches, ranging from a focus on ‘objective conditions’ to a systematic analysis of how these conditions are interpreted. Nevertheless, these two dimensions give us a very rough guide for classifying the main strands of scholarship (Table 5.2).

## THE CONCEPT OF POLICY PROBLEM

### The Concept of Problem

Because the concept of policy problem has been influenced by the understanding of the notion of ‘problem’ in other domains, it is worthwhile to briefly sketch the literature. While the term ‘problem’ plays a central role in many fields, with some exceptions (Agre, 1982; Landry, 1995), surprisingly few authors have attempted to define it. Duncker (1945, p. 1) in his classical work defined a problem as a situation where ‘a living creature has a goal but does not know how this goal is to be reached’. According to Hayes (1980, p. i),

‘whenever there is a gap between where you are now and where you want to be, and you don’t know how to find a way to cross the gap, you have a problem’. In other words, problem is understood as a gap between the existing and the desired state of affairs. Smith (1988, p. 1491) defined a problem in similar terms: ‘A problem is an undesirable situation that is significant to and may be solvable by some agent, although probably with some difficulty.’

Thus, most definitions understand a problem as a discrepancy between the way things are and where we want them to be (Pounds, 1969; Smith, 1988, p. 1491). While the existence of a discrepancy between an existing state and a desired (required) state is a necessary condition of a problem, many authors do not find it the only one. Some theorists (for example, Agre, 1982; Hattiangadi, 1978) consider ‘difficulty’ a necessary defining condition as well. Thus, many purposeful activities that we do to achieve a desirable state (such as picking up a book from the library) cannot be defined as a problem because they are rather routine activities with no intellectual or other requirements. A third condition is often added: that the discrepancy is significant enough to become part of the ‘problem agenda’ and motivate remedy efforts. In other words, ‘problems involve more than mere wishes; they must be able to engage one’s intentions and actions’ (Smith, 1988, p. 1491). Finally, some authors add a fourth condition, namely, problem solvability. It must be possible to find ways to bridge the gap between what there is and what we want there to be. While unrealistic and unattainable goals (for example, to live until one is 150 years old) may motivate our action as well, we label them as ‘wishful thinking’ rather than ‘problems’.

Landry (1995) summarizes the term ‘problem’ as the fulfilment of four interrelated conditions: (1) a past, present or future occurrence of one or more situations or events which are judged as negative by an individual or a group; (2) a preliminary judgement on the ways the problem can be addressed; (3) a clear expression of interest in doing something about the problem and committing resources (human or material); (4) uncertainty as to the appropriate action or measure and how to implement it. According to Landry, this general definition of a problem is broad enough to include different concepts of problems found in the literature yet at the same time it is not all-embracing. The second condition, for instance, states that a minimal sense of control over the situation or event must be felt. The key questions here are: ‘Can we do something about it?’ and ‘Do we have any resources available for solving the problem?’ If not, this condition is not fulfilled.

### **The Concept of Policy Problem**

The aforementioned conditions for the concept of ‘problem’ have been, to various degrees, applied in the conceptualization of ‘policy problem’. Dery (1984), in his now classic book *Problem Definition in Policy Analysis*, identified four different understandings of what a policy problem is: (1) problem as problem situations; (2) problem as discrepancies; (3) problem as bridgeable discrepancies; and (4) problem as opportunities.

First, policy problems can be understood as problem situations – as any state of difficulty, discomfort or undesirable conditions calling for remedy. In this sense, any difficult condition calling for action is a problem. According to Dery, a disadvantage of this definition is that it includes phenomena without a conceivable solution (referred to as ‘puzzles’ by Wildavsky, 1989). This notion of insoluble problems, Dery argues, is untenable.

Second, a problem can be understood not as a difficult condition in itself but as a discrepancy between what is and what should be. In other words, a policy problem exists where there is a gap between the current state and a desirable goal. According to Dery, this definition rests on the belief that goals exist prior to and independent of analysis, which is an unrealistic assumption. In reality the goals emerge only gradually in the process of problem definition. A policy problem is not equivalent with a decision problem in which the goal is clear from the beginning.

The third approach understands a problem as bridgeable discrepancies. A gap between what is and what should be is a problem only if it is accompanied by a conceivable solution. Dery challenges this conceptualization of problems, arguing that not all undesirable conditions are worthy of solving. Some solutions may be very costly or may produce many other problems. Thus, in reality we consider trade-offs between costs and benefits in solving different difficult conditions, and if the costs are too high (in relation to the benefits) we do not consider these conditions as policy problems.

Dery thus proposes a fourth approach. He suggests understanding a problem as an opportunity for improvement. While in the policy problem literature much attention is devoted to undesirable conditions and deficiencies, much less is written about positive opportunities for improvement. Nevertheless, if we get rid of what we do not want, we don't necessarily obtain what we want (Ackoff, 1978, p. 54). Thus, opportunities, and not only 'undesirable conditions', should be included in the process of problem definition. In other words, problem definition deals with both undesirable conditions and opportunities that are both solvable and worth solving. It involves searching, creating and initially examining ideas for solutions. Following Wildavsky (1966), Dery also argues that a comparison of costs and benefits of these possible solutions – and hence their 'worthiness' in terms of public policy solving – can be legitimately accomplished only through the political process. Dery advocates a pragmatic (in his words 'realistic') approach to a problem definition. A problem definition should be judged according to its usefulness, and 'a useful problem definition is one that proposes methods or directions for solving "the" problem' (Dery, 1984, p. 9). In sum, problem definition cannot be separated from the whole process of policy formulation. In fact, in this conceptualization, problem definition loses priority over other activities in policy formulation.

According to Dery, problems are defined, not 'identified' or 'discovered'. They cannot be detected as such 'but are rather the products of imposing certain frames of reference on reality' (Dery, 1984, p. 4). This attribute of problems is now generally accepted in policy analysis scholarship. Scholars from all strands do not take policy problems as 'objective entities' that are to be found, but as constructs that are defined. Authors, however, differ in terms of how this construction should be understood. According to Wildavsky (1989, p. 42), 'difficulty is a problem only if something can be done about it . . . analysts, who are supposed to be helpful, understand problems only through tentative solutions . . . for, analysts, problems do imply the real possibility of solution, for there would be no policy analysis if there were no action to recommend'. Wildavsky's approach is thus very close to Dery's one, and in its essence is rather pragmatic and analytic-centred. Similarly, Dunn defines policy problems as 'unrealized needs, values, or opportunities for improvement that may be pursued through public action' (Dunn, 2004, p. 72).

Kingdon (1984, p. 115) also stresses the construction of problems, and the difference between a condition (such as bad weather, illness or poverty) and a problem: 'Conditions

become defined as problems when we come to believe that we should do something about them. Problems are not simply the conditions or external events themselves; there is also a perceptual, interpretive element.’ In contrast to Wildavsky, Kingdon argues that a condition is a problem when people want to change this condition, not necessarily when they actually have a solution. In this respect, he gives the example of street crime, which is arguably a persistent problem on the policy agenda without any clear solutions. Whether the conditions are ‘translated’ into problems depends on several factors, including the values, comparison and categories that are used. For instance, concerning the role of values, though people might agree upon the observed conditions (for example, the number of crimes committed), they differ in how ‘appropriate for governmental action’ this situation (criminality) is.

Kingdon’s understanding of policy problem is thus close to the second meaning described by Dery (discrepancy between what is and what should be). Similarly, Hoppe (2002, pp. 308–9) defines problems as an ‘unacceptable gap between normative ideals or aspiration levels and present and future conditions’. ‘Problem’ is an analytical compound of three elements straddling the fact-value distinction: (1) an ethical standard; (2) a situation (present or future); (3) the construction of the connection between standard and situation as a gap that should not exist. Solving an unstructured problem requires problem structuring which is essentially political activity (Hisschemöller & Hoppe, 2001, p. 51).

The varying understandings of ‘problem’ result from the different orientation and aims of the two different streams. The aim of the political stream is to understand how conditions are framed and constructed as policy problems. The conceptualization of a policy problem in this stream is broader: conditions are often claimed to be problems, even though there is a possible solution it is not necessarily evident. The aim of the policy stream, in contrast, is to formulate an ‘actionable statement’. Consequently, the policy stream authors stress the importance of solvability as well as positive opportunities.

## POLITICAL STREAM

Let us now describe the two streams in more detail. Authors from the political stream are concerned with the process by which an issue (or an unexploited opportunity) has been recognized and placed on the public policy agenda as a public problem. The key to understanding problem definition is to know how and why the conditions become defined as public problems. The authors endeavour to ‘map out rhetoric most frequently employed by problem definers, and to analyze the scenarios by which definitions are built or crumble’ (Rocheffort & Cobb, 1994, p. 4). The basic idea behind this approach is that ‘problems do not exist “out there”; they are not objective entities in their own right’ (Dery, 1984, p. xi). In any particular problem, there can be – and there indeed are – divergent perceptions of its origin, impact and significance. Language, rhetoric and social construction are critical in determining which aspect of a problem will be examined (Stone, 2002).

There is often a mismatch between the seriousness of a problem and the level of attention devoted to it (Rocheffort & Cobb, 1994, p. 56). For example, Lineberry (1981, pp. 301–4) demonstrated the discrepancy between the official poverty rate and the public’s perception of poverty as an important problem. He concluded that other factors, in

addition to 'objective conditions', could be responsible for an issue's standing, such as intensity of issue advocacy, leaders' openness to the issue and the urgency of competing problems.

This is not to say that 'objective conditions' do not exist at all, but they can be – and in fact really are – interpreted in completely different ways. The political stream authors analyse disputes over a problem – usually retrospectively – to see how the problem has been seen and formulated by the different actors ('the career of the problem'). They see problem definition as a social construct and a political struggle over alternative realities. Authors, however, differ in their epistemological and methodological perspectives. On the one hand, more positivist-inclined authors (often under the label of 'politics of problem definition') try to empirically discern different aspects of this construction, usually using quantitative techniques such as content analysis. As their theoretical foundation they often use different dimensions of the problem construction, trying to analyse in what dimensions the problem has been constructed. For instance, Rochefort and Cobb (1994) proposed a set of dimensions of problem. They include problem causation, nature of the problem, characteristics of the problem population, ends-means orientation of problem definer and nature of solution. A similar set of dimensions was developed by Peters (2005).

Post-positivist-inclined authors tend to focus more upon the theory of how the policy problems are constructed by different actors. Hoppe and colleagues (Hisschemöller & Hoppe, 2001; Hoppe, 2002) use grid-group culture theory focused on different actors' strategies in problem definition, and especially the level of 'structuredness' that these actors try to impose on the problem and why. The key questions Hoppe poses are: 'Why do some policymakers prefer to define problems as overstructured and not understructured? May one predict that policymakers who adhere to different ways of life will prove to be more adept in solving some problem types rather than others?' (Hoppe, 2002, p. 305). Although Hoppe takes policy problems as a subjective sociopolitical construct, he argues that 'this subjectivity does not operate in a random fashion. People may display certain judgmental and behavioral patterns in defining problems' (Hisschemöller & Hoppe, 2001, p. 52).

Hoppe shows that policy makers can (dis)agree on any of three problem elements (current situation, ethical standards and means to achieve the ethical standard). Hoppe's typology of four types of problems is constructed along two dimensions – degree of certainty about knowledge and degree of consent on relevant norms and values (Table 5.3). Hoppe and colleagues link these types of problems to different strategies of their definition. Specifically, they distinguish four types of 'definers'. 'Hierarchists' impose a clear structure on any problem regardless of cost. 'Isolaters' see social reality as an unstable casino in which any privileged problem structure jeopardizes chances for survival. 'Enclavists' (or egalitarians) define any policy problem as an issue of fairness and distributive justice. 'Individualists' exploit any bit of usable knowledge to improve a problematic situation. This approach, that is, finding certain patterns in different actors' problem definitions, has practical implications. Hisschemöller and Hoppe (2001), for instance, argue that policy makers show an inclination to move away from unstructured problems to more structured ones.

Table 5.3 *Four types of policy problems*

		Consensus on relevant norms and values	
		Yes	No
Certainty about relevant knowledge	Yes	Structured problem (e.g. road maintenance)	Moderately structured problem/ends problems (e.g. abortion, euthanasia or voting rights for foreigners)
	No	Moderately structured problem/ means problems (e.g. traffic safety)	Unstructured problem (e.g. car mobility)

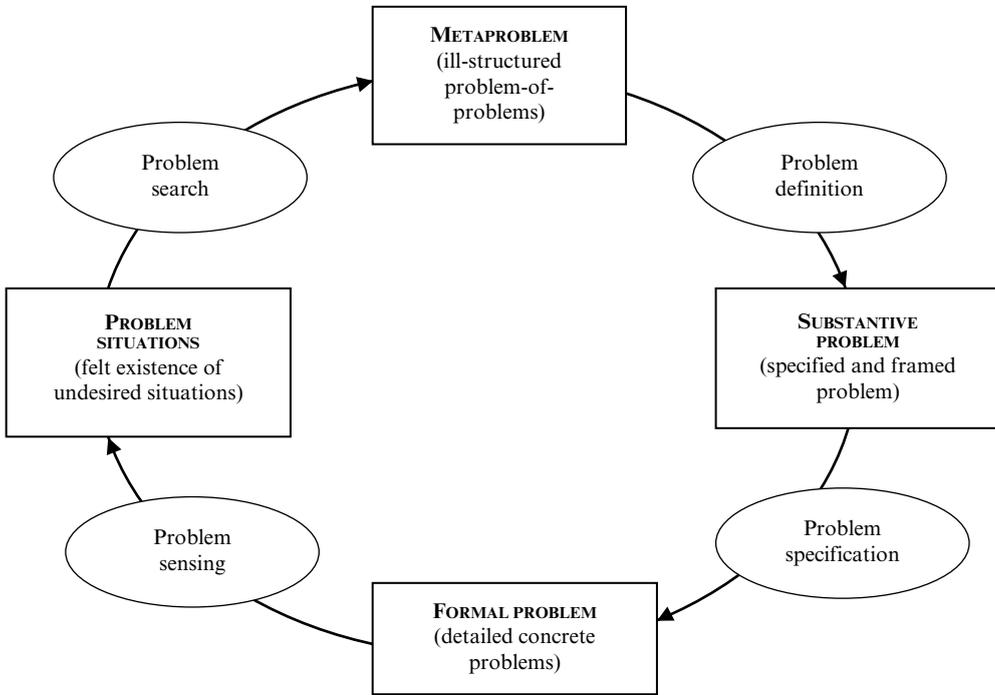
*Source:* Adapted from Hoppe (2002, p. 309).

## POLICY STREAM

Policy stream authors are concerned with providing guidance on how to formulate policy problems so that they can be effectively solved. Almost all policy analysis textbooks (Bardach, 2000; Patton & Sawicki, 1993; Weimer & Vining, 2005) stress the importance of precise problem formulation, and usually take it as a first step. Nevertheless, despite this declared importance, the guidance on how to formulate problems is often very vague. The notable exception to that is the work of Dunn (1988, 1997, 2004).

Dunn (1997, p. 281) uses the term ‘problem structuring’ that he defines as a ‘phase of inquiry in which policy analysts search among, and evaluate, competing problem representations’. According to Dunn, problem structuring is a process with four interdependent phases, namely, problem search, problem definition, problem specification and problem sensing (Figure 5.1). A prerequisite – and usual starting point – of problem structuring is the sensing of ‘problem situations’. Problem situations are diffused worries and inchoate signs of stress sensed by policy analysts, policy makers and citizen stakeholders. Problem situations, not well-articulated problems, are what we first experience. The next stage the analysts engage in is problem search. The goal of problem search is not to discover any single problem but on the contrary to discover a ‘metaproblem’. A metaproblem is an ill-structured ‘problem-of-problems’ that includes many problem representations of multiple and diverse policy stakeholders. The number of these socially constructed representations seems unmanageably huge. Moreover, they are dynamic and scattered throughout the whole policy-making process.

Then the central task comes: how to structure a metaproblem. Dunn calls this activity problem definition. For Dunn, problem definition is the act of choosing (or ‘filtering’) from the whole set of possible representations one particular aspect of the problem – a ‘substantive problem’. Problem definition means formulating the basic and general aspects of a given problem. It is a choice of conceptual framework (that is similar to the choice of particular worldview or ideology) and that ‘indicates a commitment to a particular view of reality’ (Dunn, 2004, p. 84). Any problem can be defined – and often equally persuasively – in quite different frameworks. For instance, the problem of poverty can be explained either in terms of failure of the state or the poor themselves. Once a substantive problem has been defined, a more detailed and specific formal problem may



Source: Adapted from Dunn (2004, p. 82).

Figure 5.1 Phases of problem structuring

be constructed. Dunn calls this process problem specification. Problem specification typically involves the development of a formal mathematical representation of the problem.

The critical issue then is how these formal ('technical') formulations of a problem correspond to the original problem situation. One can easily imagine the exact and clear formulation of a problem that has one important drawback: it is not sensed as a problem. This means that we may have committed a so-called error of the third type ( $E_{III}$ ) – solving the wrong problem. The reasons for this type of error are threefold. First, we could have incorrectly formulated the boundaries of a metaproblem (perhaps some important definitions of particular stakeholders were omitted). Second, during the problem definition phase we may have chosen the wrong worldview or ideology to conceptualize a 'problem situation'. Third, during problem specification we may have chosen the wrong formal representation of the problem.

Dunn argues that problem structuring is embedded in a political process and that policy problems are usually ill-structured. Consequently, he stresses the role of creativity and insight in problem structuring, and called for the development of 'methods of second type' that would take into account the fact that the boundaries of problems are usually ill-defined. He also gives a summary of these techniques and some new methods, such as boundary analysis. Table 5.4 summarizes these methods and includes some others.<sup>2</sup> It is important to note that these methods are mostly heuristics, aimed at stimulating creative

*Table 5.4 Methods for problem structuring*

Method	Source
Argumentation mapping <sup>a</sup>	Toulmin (1958)
Assumptional analysis <sup>a</sup>	Mitroff and Emshoff (1979)
Boundary analysis <sup>a</sup>	Dunn (2004), Hosseus and Pal (1997)
Brainstorming <sup>a</sup>	Proctor (2005)
Causal models	Jones (1995, chapter 7)
Classificational analysis <sup>a</sup>	O'Shaughnessy (1971)
Dimensional analysis	Jensen (1978)
Fishbone diagram (Ishikawa diagram)	Higgins (2006)
Hierarchy analysis <sup>a</sup>	O'Shaughnessy (1971)
Interpretive structural modelling	Warfield (1976)
Mind maps, cognitive maps	Eden and Achermann (2004)
Multiple perspective analysis <sup>a</sup>	Linstone (1981)
Problem tree	Start and Hovland (2004)
Q-methodology	McKeown and Thomas (1988)
Stakeholders analysis	Montgomery (1996), Varvasovszky and Brugha (2000)
SWOT analysis	Proctor (2005)
Synectics	Gordon (1961)
Technique of decisions seminars	Lasswell (1960)
Why-why diagram	Higgins (2006)

*Note:* <sup>a</sup> Included in Dunn's (2004) textbook.

and systematic thinking rather than providing a clear-cut sequence of steps with replicable results. They are used in different ways and with different frequency. For instance, SWOT analysis (which I also take as a problem delimitation method) is widely used, but I have found only one application of boundary analysis in the literature (Hosseus & Pal, 1997).

Despite its pragmatic and analytical orientation, Dunn's approach cannot be judged as a solely positivist one, especially when compared to work of scholars such as Bardach (2000) or Rosenhead and Mingers (2001), who also formulated methodology for problem formulation. Nevertheless, it is deeply embedded in the policy analysis tradition in attempting to increase the rationality of the policy-making process. It strives to help to solve social problems, which includes the identification of the right policy problems. This method is in sharp contrast with new approaches to problem structuring such as the one proposed by Bacchi (2009), whose 'what's the problem represented to be?' (WPR) approach rests on quite different assumptions. Bacchi argues that most government policies do not officially declare that there is a problem the policy will address and remedy; it is usually implicit. WPR assumes that we are governed through problematizations and we need to study problematizations rather than 'problems'. The goal of the WPR is thus to problematize (interrogate) the problematizations in selected government policies, through scrutinizing the premises and effects of the problem representations these problematizations contain.

## BEYOND POLITICAL AND POLICY STREAMING

As we have seen, there are quite diverse understandings of problem delimitation, and the topic is approached from different angles and on the basis of different assumptions. Unfortunately, these approaches are spread among different types of literature, making mutual discussion and inspiration difficult. Moreover, the topic is discussed under many different labels, such as problem structuring, problem modelling, problem definition, problem formulation and others, often used carelessly. The strongest division line lies between the 'political' and 'policy' streams. While the 'political' stream strives to understand the process of how conditions and problem situations become defined as public problems, the policy stream attempts to influence this process by suggesting more or less explicit procedures of formulating problems.

Given the 'knowledge in' and 'knowledge for' distinction, this division in the literature is understandable. However, it is also rather artificial and unproductive. In fact, these two basic approaches are not contradictory but complement one another. Some authors indeed have combined these two approaches (Dunn, 2004; Hoppe, 2002) and shown that it is possible and useful to have an understanding of the problem and to contribute to its effective formulation. Although the 'policy side' of problem delimitation is important, we need, at the same time, to grasp the history of the problem and the reasons why it is framed in a particular way. Knowing the 'career' of the problem can help in finding a problem definition that fulfils the requirements of solvability by public policy instruments. On the other hand, the analysis of a 'problem career' can be enriched by including changes of objective conditions in the problem, that is, when the subjective definitions (frames) of the problem are directly connected to actual societal changes (that is, it is acknowledged that policy problems are not completely socially constructed). Similarly, an analysis of how different actors 'play' with hard data could be very useful and interesting.

It thus can be argued that problem delimitation should be understood centred either on policy or politics, but as two related activities. The first one is mostly academic and could be called problem analysis (or problem diagnosis). This includes the study of facts and different perspectives as well as their interrelations. In other words, it includes both the study of social conditions and their subjective interpretation and also, more importantly, the relationship between the subjective and objective dimensions. The second activity is more practical and normative and could be called problem formulation. This activity would build upon an understanding of a problem (problem analysis) but explicitly and transparently add analysts' values.

Indeed, there is some evidence of a gradual convergence of these two perspectives. While the political stream is becoming more 'pragmatic' (considering practical implications), the policy stream seems to be more informed by the complexity of the political environment. The old days of purely rational techniques of problem formulation seem to have come to an end. Indeed, in the last decade, the problem delimitation scholarship has changed, and new approaches and concepts have been introduced. Two prominent new concepts include 'wicked problems' (Head & Alford, 2015; Weber & Khademan, 2008; see also Chapter 2 of this volume on ill-structured problems) and 'problematization' (Bacchi, 2009; Turnbull, 2005).

These two concepts have well-established roots in the literature, but their current orientation is changing. Authors using the concepts have convincingly demonstrated that

problem formulation is deeply embedded in political processes that cannot be escaped by any type of rational reasoning. At the same time, however, many of them have tried to overcome defeatism and proposed how to deal with the problems of complexity, uncertainty and values.<sup>3</sup> In any event, in all approaches where ‘political’ and ‘policy’ streams are converging, problem delimitation loses its primacy over other policy formulation activities, such as goal formulation and recommendation of policy solutions. If problem delimitation includes values and trade-offs among different solutions which can be decided only through the political process, then problem delimitation is inherently interconnected with searching for goals and solutions. It is thus close to seeing problems as ‘opportunities for improvement’, as envisioned by Dery more than three decades ago.

The conceptualization of a problem as a triplet of problem conditions, goals and solutions that are inherently linked to one another conflicts with the approach taken in many traditional policy analysis textbooks. These usually assume policy analysis as a process with several steps where problem analysis precedes the solution analysis (Weimer & Vining, 2005). Consequently, policy analysts are warned against defining the solution into the problem (Bardach, 2000, p. 5). In more ‘politically informed’ textbooks (Dunn, 2004), problem delimitation is depicted as a starting point that is refined in an iterative process.<sup>4</sup>

But if problem formulation has a meaning only in relation to solutions, the crucial question is what counts as a solution. Problem structuring necessarily includes not only discussion about the goals that are worth pursuing but also the means that are considered most effective and legitimate. In problem structuring, analysts must make assumptions about the best way to tackle problematic situations. These problematic situations are often vague, dispersed and multifaceted. If they are to be approached they must be labelled and clustered into sets of problems that can be subject to policy actions. For instance, if we are to deal with the reproduction of social inequalities, in practical terms this wicked problem has to be aligned with the organizational structure of the government and policy instruments available. It is necessary to address this through the social security system, educational system, labour policy and so on, which are usually managed by different government bodies.

Problem structuring necessarily includes decisions about the general strategy to tackle problematic situations. Some people believe that these problematic situations cannot be addressed in isolation and only a systemic strategy is appropriate (Ackoff, 1974, p. 21):

Every problem interacts with other problems and is therefore part of a system of interrelated problems, a system of problems . . . I choose to call such a system a mess . . . The solution to a mess can seldom be obtained by independently solving each of the problems of which it is composed . . . Efforts to deal separately with such aspects of urban life as transportation, health, crime, and education seem to aggravate the total situation.

In contrast, Lindblom (1959) and his followers argued that from the purely rationalist perspective, the democratic political process is – and always will be – imperfect. Consequently, the policy formulation should focus upon ‘partial solutions’.

Part of any problem delimitation is necessarily also judgement as to whether the problems should be structured in concert with systemic or incremental solutions. This is, no doubt, a crucial decision that will influence all other activities. But the situation is even more complicated. Some authors have challenged the concept of policy solution itself and argued that instead of presuming problems require solutions to dissolve them, policy

problems should be taken as questions that require answers (Turnbull, 2006). What is important for governments, then, is the question and answer process. Governments are supposed to respond to problematic situations but not necessarily to solve them (Hoppe, 2010). Clearly, at least sometimes it is necessary to act despite the lack of a clear solution: ‘You don’t so much “solve” a wicked problem as you help stakeholders negotiate shared understanding and shared meaning about the problem and its possible solutions. The objective of the work is coherent action, not final solution’ (Conklin, 2007, p. 5).

This understanding of problems is close to what Ackoff labelled as ‘messes’. Messes cannot be solved, but can, and should be, managed or tackled. Cognitively, messes can only be structured or delimited, that is, we can describe different aspects of the problem and its proposed boundaries. We cannot, however, precisely define it. But as we know, without a precise definition of a problem, it is hard to find a cognitive solution. Thus, in the real world, problem delimitation is often a never-ending process of formulations of tentative problem definitions. It includes both political and cognitive dimensions, or in Hecló’s (1974, pp. 305–6) words, it includes both powering and puzzling:

Politics finds its sources not only in power but also in uncertainty – men collectively wondering what to do. Finding feasible courses of actions includes, but is more than, locating which way the vectors of political pressure are pushing. Governments not only ‘power’ (or whatever the verb form of that approach might be); they also puzzle. Policy-making is a form of collective puzzlement on society’s behalf; it entails both deciding and knowing.

## NOTES

1. It is a bit symptomatic that most authors writing on ‘problem definition’ do not define what problem definition is at all. Most authors take the process of problem delimitation for granted, and do not state explicitly how they understand it.
2. For readers’ information, we have indicated which methods were included in Dunn’s original review.
3. In this respect, it is interesting to note that Dery refused to give a guide on ‘how to define policy problems’ and was very sceptical of the actual possibility to do so: ‘A how to-do-it guide on creativity would be self-contradictory. The nature of question-finding processes resists precise or useful description’ (Dery, 1984, p. 2).
4. In Dunn’s widely used textbook, problem structuring is depicted in the middle of the policy analysis process, surrounded by expected policy outcomes, preferred policies, observed policy outcomes and policy performance (Dunn, 2004, p. 56).

## REFERENCES

- Ackoff, R.L. (1974). *Redesigning the Future*. New York: Wiley.
- Ackoff, R.L. (1978). *The Art of Problem Solving*. New York: Wiley.
- Agre, G.P. (1982). The concept of problem. *Educational Studies*, **13**, 121–42.
- Bacchi, C. (2009). *Analysing Policy: What’s the Problem Represented to be?* Frenchs Forest, NSW: Pearson.
- Bacchi, C. (2015). The turn to problematization: political implications of contrasting interpretive and poststructural adaptations. *Open Journal of Political Science*, **5**(1), 1.
- Bardach, E. (1981). Problems of problem definition in policy analysis. In J.P. Crecine (ed.), *Research in Public Policy & Analysis and Management* (pp. 161–71). Greenwich, CT: JAI Press.
- Bardach, E. (2000). *A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving*. New York: Seven Bridges Press.
- Conklin, J. (2007). Rethinking wicked problems (interview). *NextDesign Leadership Institute Journal*, **10**(1), 1–30.

- Dery, D. (1984). *Problem Definition in Policy Analysis*. Lawrence, KS: University Press of Kansas.
- Dewey, J. (1938, reprinted in 2008). *The Later Works, 1925–1953*. Carbondale, IL: Southern Illinois University Press.
- Duncker, K. (1945). On problem solving. *Psychological Monographs*, **58**(5), 1–110.
- Dunn, W.D. (1988). Methods of the second type: coping with the wilderness of conventional policy analysis. *Policy Studies Journal*, **7**(4), 720–37.
- Dunn, W.N. (1997). Probing the boundaries of ignorance in policy analysis. *The American Behavioral Scientist*, **40**(3), 277–98.
- Dunn, W.N. (2004). *Public Policy Analysis: An Introduction* (3rd edn). Upper Saddle River, NJ: Prentice Hall.
- Hattiangadi, J.N. (1978). The structure of problems (Part 1). *Philosophy of the Social Sciences*, **8**(4), 345–65.
- Hayes, J. (1980). *The Complete Problem Solver*. Philadelphia, PA: The Franklin Institute.
- Head, B.W. and Alford, J. (2015). Wicked problems: implications for public policy and management. *Administration & Society*, **47**(6), 711–39.
- Hecl, H. (1974). *Social Policy in Britain and Sweden*. New Haven, CT: Yale University Press.
- Higgins, J.M. (2006). *101 Creative Problem Solving Techniques*. Winter Park, FL: New Management Publishing.
- Hisschemöller, R., & Hoppe, R. (2001). Coping with intractable controversies: the case for problem structuring in policy design and analysis. In R. Hisschemöller, R. Hoppe, W.N. Dunn, & J. Ravetz (eds), *Knowledge, Power, and Participation in Environmental Policy Analysis* (Vol. 12, pp. 47–72, Policy Studies Review Annual). New Brunswick, NJ: Transaction Publishers.
- Hoppe, R. (2002). Cultures of public policy problems. *Journal of Comparative Policy Analysis*, **4**(3), 305–26.
- Hoppe, R. (2010). *The Governance of Problems: Puzzling, Powering and Participation*. Bristol: Policy Press.
- Hosseus, D., & Pal, L. (1997). Anatomy of a policy area: the case of shipping. *Canadian Public Policy*, **23**(4), 399–413.
- Irwin, L.G. (2003). *The Policy Analyst's Handbook: Rational Problem Solving in a Political World*. Armonk, NY: M.E. Sharpe.
- Jensen, J.V. (1978). A heuristic for the analysis of the nature and extent of a problem. *Journal of Creative Behaviour*, **12**, 168–80.
- Jones, M.D. (1995). *The Thinker's Toolkit*. New York: Three Rivers Press and Random House.
- Kingdon, J.W. (1984). *Agendas, Alternatives, and Public Policies*. Boston: Little, Brown.
- Landry, M. (1995). A note on the concept of 'problem'. *Organization Studies*, **16**(2), 315–43.
- Lasswell, H. (1971). *A Pre-view of Policy Sciences*. New York: American Elsevier.
- Lindblom, C.E. (1959). The science of 'muddling through'. *Public Administration Review*, **19**(2), 79–88.
- Lineberry, R. (1981). *Government in America*. Boston: Little, Brown.
- Mitroff, I.I., & Emshoff, J.R. (1979). On strategic assumption-making: a dialectical approach to policy and planning. *Academy of Management Review*, **4**(1), 1–12.
- O'Shaughnessy, J. (1971). *Inquiry and Decision*. New York: Harper & Row.
- Patton, C.V., & Sawicki, D.S. (1993). *Basic Methods of Policy Analysis and Planning*. Englewood Cliffs, NJ: Prentice Hall.
- Peters, G.B. (2005). The problem of policy problems. *Journal of Comparative Policy Analysis*, **7**(4), 349–70.
- Pidd, M. (1988). From problem-structuring to implementation. *Journal of the Operational Research Society*, **39**(2), 115–21.
- Pounds, W.F. (1969). The process of problem finding. *Industrial Management Review*, **11**, 1–19.
- Proctor, T. (2005). *Creative Problem Solving for Managers: Developing Skills for Decision Making and Innovation*. New York: Routledge.
- Rochefort, D.A., & Cobb, R.W. (eds) (1994). *Problems of Problem Definition: Shaping the Policy Agenda*. Lawrence, KS: University Press of Kansas.
- Rosenhead, J., & Mingers, J. (eds) (2001). *Rational Analysis for a Problematic World Revisited: Problem Structuring Methods for Complexity, Uncertainty and Conflict*. Chichester, England: Wiley.
- Smith, G.F. (1988). Towards a heuristic theory of problem structuring. *Management Science*, **34**(12), 1489–506.
- Stone, D. (2002). *Policy Paradox: The Art of Political Decision Making*. New York: W.W. Norton & Company.
- Toulmin, S. (1958). *The Uses of Argument*. Cambridge: Cambridge University Press.
- Turnbull, N. (2005). *Policy in Question: From Problem Solving to Problematology*. Sydney: University of New South Wales.
- Turnbull, N. (2006). How should we theorise public policy? Problem solving and problematolgy. *Policy and Society*, **25**(2), 3–22, doi: 10.1016/S1449-4035(06)70072-8.
- Turnbull, N. (2008). Harold Lasswell's 'problem orientation' for the policy sciences. *Critical Policy Studies*, **2**(1), 72–91, doi:10.1080/19460171.2008.9518532.
- Vesely, A. (2007). Problem delimitation in public policy analysis. *Central European Journal of Public Policy*, **1**(1), 80–100.
- Weber, E.P. and Khademian, A.M. (2008). Wicked problems, knowledge challenges, and collaborative capacity builders in network settings. *Public Administration Review*, **68**(2), 334–49.

- Weimer, D.L., & Vining, A.R. (2005). *Policy Analysis: Concepts and Practice*. Upper Saddle River, NJ: Prentice Hall.
- Wildavsky, A. (1966). The political economy of efficiency: cost-benefit analysis, systems analysis, and program budgeting. *Public Administration Review*, **26**(4), 292–310.
- Wildavsky, A.B. (1989). *Speaking Truth to Power* (2nd edn). New Brunswick: Transaction Publishers.
- Woolley, R.N., & Pidd, M. (1981). Problem structuring. Literature review. *Journal of the Operational Research Society*, **32**(3), 197–206.