CHAPTER 11

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PARTICIPATION AS KNOWLEDGE PRODUCTION AND THE LIMITS OF DEMOCRACY

INTRODUCTION

This paper starts with a twofold observation: On the one hand, present day democracy and policy-making are confronted with a trend toward participatory policies rather than top-down policy-making. This trend is generally justified by the observation that current democracies face a crisis of legitimacy. There is widespread concern for a widening gap between the public and political agendas at national and international levels, including the European Union. Policy science has captured this trend in terms of a shift from 'government' to 'governance.' In 'governance,' power and responsibility have become dispersed among many actors at the national and international levels, but so is accountability. Traditional democratic institutions such as parliament are loosing power to institutions that serve to facilitate policy making by networks involving interested parties and expert communities. There is a growing awareness that issues such as the transition to a sustainable energy system, water management, food safety and the like, are characterized by the need for a long term approach, whereas elected officials have a rather short time horizon.

On the other hand, participatory tendencies in the area of political decision-making have become reflected in scientific practice that aims at producing knowledge for policy (Hisschemöller, Hoppe, Dunn and Ravetz 2001). The development of participatory knowledge production has been justified in several ways. Most importantly, today's complex issues cannot be effectively addressed from an academic point of view. Knowledge for policy would require interdisciplinary cooperation and 'extended peer review' in order to take account of the various goals and problem definitions of the stakeholders involved.

Although many have welcomed participatory developments in both policy and science as improvements of democratic practice, several authors have raised doubts. Critics assert that stakeholder participation weakens the policy-science boundaries and, in consequence, the integrity of both discipline-based science and democratic politics. Ezrahi (1990) has argued that participatory practice tends to undermine representative democracy in three ways: Firstly, by questioning the impartiality and objectivity of science, it has undermined the most powerful legitimization 'tool' of the liberal democratic system, the mechanism of depersonalizing the exercise of power through technical arrangements. Secondly, participation has brought about a

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shift in the focus of policy-making from a technical to a dramaturgical approach, replacing real interventions that serve political ends by symbolism and rhetoric. And thirdly, because of this, participation has undermined the transparency of policy-making and thereby the possibility to hold political decision-makers responsible and accountable for their actions. An other important objection to participation is that it may corrupt the integrity of science, given the many historic examples of misuse of science for ideological purposes. And even if liberal-democratic systems are supposed to possess an in built mechanism to prevent the worst cases from happening, the trend toward stakeholder involvement in research has raised legitimate questions with respect to possible misuses of science for sustainability and other political objectives. These criticisms deserve more serious attention than they have so far received in the (environmental) policy sciences community.

This paper sets out to, in a tentative way, unravel the complex relationship between participation, democracy and science. Although I endorse the claim that participatory trends in both politics and science are necessary and even inevitable, I will take argument with mainstream participatory discourse. The next section will unfold my central claim, which at the same time shapes the bias of the paper's argument: Whereas democracies have managed quite well to deal with conflicts of interests and of values, they have so far proven unable to effectively address conflicting knowledge claims at the level of the *political process* and the *political institutions*, i.e., the formal and informal rules of the game that shape political processes in democratic political systems. Then, I will analyze what I see as the key mechanisms which limit participation in policy processes in such a way that conflicting knowledge claims are organized out. Next, I will analyze mechanisms for reducing and enhancing conflict in participatory assessments meant to assist policy making. The concluding section will discuss in a tentative way how political institutions could be adjusted to effectively manage participatory knowledge production and how such adjustments may also help to resolve the apparent tension between participatory governance and representative democracy.

The paper's focus is on critical reflection, drawing on personal observations in combination with theoretical analysis. Rather than testing a given hypothesis through the collection of empirical data, the paper is meant to develop some explanatory hypotheses about the shortcomings of present day participatory discourse.

THE SOCIAL-CONSTRUCTIVIST CHALLENGE

The social-constructivist perspective stresses the notion that knowledge and the language used to conceptualize it, cannot be considered impartial or even objective, since the problems at stake are socially and politically constructed. In my view, this is not identical to the position that social reality cannot be known or, even more radical, does not exist. I take social constructivism as to acknowledge that social and political contradictions are a main feature of social reality itself, which not only affect peoples' values but also their 'facts.' The relevance of social constructivism is that it in a way extends the classic definition of a social problem as a gap between a given situation (the 'facts') and a desired one ('values'), because it points to the interplay of values and facts, stressing that different problem constructions cannot be

simply reduced to 'value conflict.' The observation that 'facts' and knowledge claims do matter is the basic justification for the academic interest in lay or practical knowledge next to, or even in contrast to expert knowledge (e.g., Schön 1983).

The social constructivist position has been used to highlight the need for a participatory approach (e.g., Hajer 1995). However, this is not what in my view makes this position particularly challenging. The argument could also go the other way: If social problems imply constructions of reality, then everyone is entitled to his own problem construction and participation would not lead to 'better' policies. This argument can be found in the work of social constructivists avant-la-lettre, such as Schumpeter and Hayek, but has led them to quite different inferences. Schumpeter concludes that any form of participation in policy making should be avoided. Even the most innocent attempts to influence policies as writing letters to policy-makers may harm the integrity of statesmanship (1942). In contrast but for the same reason, Hayek (1944) has launched his frontal attack on the legitimacy of the state: He stresses that it is impossible to render any public cause from the infinite number of social constructions in a society. This leaves us with the observation that social constructivism may be used in defence of totally opposite positions with respect to the legitimacy of participation and political order. However, social-constructivist views, irrespective of their differences, have one observation in common: In contrast to political theories which, from an objectifying perspective, see political conflict especially as a conflict between values and interests, social constructivism stresses the importance of competing and conflicting *knowledge claims*.

This observation leads to the following hypothesis, which is the central claim of this paper: Democratic systems, which have evolved in the 20th century, may have proven quite capable of dealing with conflicts of *values* and *interests,* but they have proven unable to effectively manage *conflicting knowledge claims*. Conflicting knowledge claims, as the concept is used here, refers to scientific knowledge as well as lay or practical knowledge. I am far from saying that interests and values can be considered apart from knowledge. If social-constructivism is taken seriously, one must accept the assertion that *interests* and *values* articulate *knowledge* claims as much as *knowledge* articulates *values* and *interests*. Indifferent of how these concepts are defined, the fact that language allows them to co-exist implies that they refer to different things. Rather than a matter of definition, my point is that *political processes* have a preference for articulating conflicts of values and interests and suppressing conflicts related to competing knowledge claims. Whereas values and interests are treated as legitimate categories in political discourse, conflicting knowledge claims are often not taken for what they are, that is conflicting observations with respect to socio-political contradictions. And if so, their evaluation is not considered a matter of politics but as one of science.

Yet, the hypothesis cannot be taken as a denial of the critical importance of knowledge for the well-functioning of effective democratic systems. On the contrary, it fully concurs with Ezrahi's (1990) notion of the relevance of science and expertise for liberal democracy in that knowledge helps to instrumentalize and depersonalize the use of political power. This line of reasoning in a sense even supports my claim, as it is based on the widely shared assumption that political action requires consensus on the knowledge for policy.

THE BIASES OF PARTICIPATION

How do democratic systems manage to exclude conflicting knowledge claims from straightforward consideration?[1] Figure 1 below presents a meta-theory, which distinguishes different types of policy problems according to their *structure*, which is defined as the relationship between contents and process. It also indicates the impact of policy process on the role of science in public policy. Given the social-constructivist perspective, it should be noticed that the distinction between knowledge and values is ideal-typical. The figure's cells show that knowledge and values are always articulated in a specific way.

Consensus on relevant values? / Consensus on relevant knowledge?	NO	*YES*
NO	Unstructured Problem Policy as learning Science as problem finding A	Moderately Structured Problem Policy as negotiation Science as advocate B
YES	C Badly Structured Problem Policy as accommodation Science as mediator	D Structured Problem Policy as ruling Science as problem solver

Figure 1: Four types of policy problems and their bearing on the role of science in public policy

The typology conveys a twofold message to the policy analyst: First, it shows how actual policies may reflect a correspondence between contents and process. It is assumed that in case of correspondence the (conflicting) information for addressing the policy issue has gained access to the policy agenda. The second message of the typology is that it provides a clue of how to look for mechanisms of exclusion. Two general mechanisms are distinguished:

1. The policy process maybe based on the assumption that all relevant knowledge is taken into account, which assumption is wrong, and
2. The policy process maybe based on the assumption that the relevant values (e.g., problem frames, policy goals) are taken into consideration, which assumption is wrong.

The cells of the typology reflect arguments from theories on policy-making and democracy. These insights are now used to explore how conflicting knowledge claims may become excluded from the political process in specific cases of policy-making, thereby assuming that these mechanisms maybe more or less frequently observed in all democratic polities.

Policy as Ruling: The Privileged Position of Expert Knowledge

The structured problem leaves the actual decision-making to experts. Who is considered an expert is dependant on the issue's context. Experts can be physicists, doctors, lawyers, politicians or social workers. The decision-making agency has all characteristics of a classic bureaucracy. With respect to the affected stakeholders and the public at large, the decision-making agencies appear as a monolithic actor. Policy agendas do not allow for debating competing knowledge claims. Rival hypotheses maybe dealt with by the science community, they are not supposed to have a bearing on policy. This type of policy works as long as there is consensus on the technical character of the issues involved and the impartiality of the (scientific) experts.

Dahl (1985) and Fischer (1990) take argument with rule by experts, thereby referring to theories of guardianship, such as Saint-Simon's theory on good governance.[2] Such theories defend rule by virtue of certain qualifications. Both Dahl and Fischer consider the growing power of experts in certain policy areas a threat to pluralist democracy and a shift towards technocracy. However, it is equally defensible to take this style of policy-making as indispensable for a well-functioning liberal democracy, which uses science and expertise to instrumentalize and depersonalize, to use Ezrahi's (1990) expression, the exercise of political power.

How policy as ruling organizes out contradictory knowledge claims may be illustrated by the case of the UK. The UK political system is often cited as the best example of a majoritarian democracy where "the winner takes all" (Lijphart 1984). In this system, where the decision-makers hardly have the need to negotiate with an opposition or to form winning coalitions, a somewhat technical style of policy-making is likely to foster the legitimacy of the party in power. In her analysis of the British BSE scare, Jasanoff points to a system where status and integrity determine the attitude of the public with respect to the leading policy advisors, "a relationship founded on shared values and deference to expertise – which is increasingly at odds with the conditions of citizenship in the modern world" (Jasanoff 2001: 261). And: "In the British regulatory process, then, public confidence in governmental advisors is secured through testing the reliability of persons (rather) than (primarily) the rationality of their views" (idem). "Advisors often relay their conclusions to decision makers in confidence and reports, when they are published, are rarely backed by records of behind the scenes argument or dissent" (idem). It is not a custom to consult the pub-

lic and everything is being done to prevent an adversarial process. Hence, in the (ideal typical) UK style the expert group, which constitutes and maintains itself, decides by virtue of its privileged position what 'knowledge' decisions maybe based on.

It could be argued that there is more to say to the UK mechanisms of dealing with participation and conflicting knowledge claims. Especially the *public inquiry* is considered an impressive participatory tool, where citizens arguments receive close attention (Huitema 2003). To some extent, indeed, the public inquiry makes it possible to seriously consider conflicting knowledge claims put forward by parties in an environmental controversy. So, even if the inquiry is considered imperfect given its bias for expert rather than lay knowledge, one may get the impression that through this instrument the UK political process has found a way to address competing knowledge claims after all. However, this is not entirely the case. Observers have pointed to the basic rule underlying the inquiry process, that the leading inspector has to decide what arguments are to be considered 'expert knowledge claims.' The inspector weighs the arguments put forward as if he were a judge. So, the public inquiry is to be considered a quasi legal process rather than an inherent part of the political process itself (Barker and Couper 1984; Huitema 2003). Hence, it is justified to conclude that the public inquiry system does not so much indicate that politics have found a way to deal with conflicting knowledge claims, but rather that politics have found a(n elegant) way of organizing rival hypotheses out of the political process.

As policy as ruling is built on closed and hierarchical networks of expertise, which have the privilege framing the information contents for policy makers, and given the built-in mechanism to avoid an open adversarial process, this type of policy is largely unable to address conflicting knowledge claims. Knowledge claims that contradict prevailing assumptions can gain access to the political agenda either by the election of new officials, replacement of staff and through changes in the expert networks themselves.

Policy as Negotiation: Shaping the Conflict of Interest

Policy as negotiation aims at finding a trade-off between conflicting interests. This policy type can be understood by reference to the typical American way of policy–making, as captured in concepts such "disjointed incrementalism" (Braybrooke and Lindblom 1963) and "partisan mutual adjustment" (Lindblom 1965). In contrast to Schumpeter's pluralist model, the US model considers stakeholder participation (lobbying) as a regular feature of the governmental process. It assumes that citizens organize in order to lower the costs of participation and maximize the opportunity to achieve their political goals. However, this pluralist conception also assumes – and this is critical for the stability of the system – that (1) the political elite reflects the heterogeneity of the electorate, which (2) to some extent guarantees alternate majorities, (3) that social interest groups overlap which contributes to the sharing of basic values and to (4) a melioration of positions. In short, social heterogeneity is vital for this model, as democracy then "makes for enough consensus to hold the system together and enough cleavage to make it move" (Berelson et al. 1954: 318).

How does this system work with respect to participation and the recognition of competing knowledge claims? Advocacy coalitions (Sabatier and Jenkins Smith 1993) use science to strengthen their position and weaken the claims of other coalitions. The 'knowledge in use,' 'practical knowledge' of 'cognitive maps,' terms used to refer to policy makers' assumptions, filters and selects the scientific information which is or can be made consistent with pre-existing views and insights. If this policy process works well, there is some possibility that at a certain point in time conflicting knowledge claims are explored and discussed within and across coalitions, i.e., *policy oriented learning*. But learning takes quite some time, according to Sabatier at least a ten year period. Furthermore, advocacy coalitions are only open to explore information that contradicts their own assumptions when they are under huge external pressure, e.g., disasters or loss of public support. Therefore, like in policy as ruling, 'learning' mostly occurs in an indirect way, through the election or appointment of new decision-makers and staff.

Negotiation is very different from ruling in handling expertise, as the US system is considered open, adversarial, formal and legalistic. In this open atmosphere, advisors are continuously subjected to supervision and challenge (Jasanoff 2001). US experts are in a less privileged position than their colleagues in the UK. Therefore, the US system does not have that many possibilities for ruling out competing knowledge claims by maintaining sharp policy-science boundaries. In contrast, in the process of Negotiation, it is the blurring of policy-science boundaries which leads to avoiding a reflection on competing realities and truth claims.

Knowledge claims are linked to (vested) interest positions. This happens, whether the experts involved like it or not. Knowledge claims that may articulate new or independent positions are either ignored or are translated into a warrant in support of an existing position. It may happen that scientific positions can be used to meliorate a conflict of interests, which may help to settle the dispute in an incremental manner. However, if information is ignored, the conflict may suddenly polarize. This can be illustrated by the many examples of so-called NIMBY behaviour, e.g., when local opposition against the siting of a facility associated with environmental or health risks is addressed as if it were based on clean calculation and self-interest. Decisions and decision-makers may have a problem of legitimacy, because the method used for arriving at decisions is only adequate insofar competing interests are at stake but not in case of conflicting knowledge claims. In order to overcome deadlock, at least one of the parties may seek for an institution that is able to take into account the *truth* as a value independent of (perceived) interest. Whereas the US system apparently lacks an ingenious instrument such as the UK public inquiry, a likely way is to go to court.

In conclusion, Negotiation has a particular capacity of handling political conflict, i.e., through shaping conflicting positions into interest positions. For this policy type to work, parties take a meliorative approach. This requires that preferences can be ranked on a single scale so that the acceptability of an option may increase through trade-off . However, when the conflict between knowledge claims tends to take over the conflict of interests, policy as Negotiation does not work anymore. Institutions that facilitate political decision-making, especially those that allow for an open pluralist process, may come under severe pressure. The more participation, the less likely is the possibility of a *political* settlement of the conflict. This is, because con-

flicting knowledge claims become intertwined with the articulation of advocacy positions and the process of majority formation instead of being taken for what they are, rival hypotheses with respect to the 'truth.'

Policy as Accommodation: Shaping the Conflict of Values

The Dutch political scientist Lijphart (1968) introduced the concept 'accommodation politics' in order to typify the Dutch political system as it had evolved during the first part of the 20th century (1917–1967). In later publications, this type of system has also been labelled the consensus model of democracy in contrast to the majoritarian model based on the 'winner takes all' principle. Accommodation politics differs strongly from American pluralism in that it applies to a social system, which is based on some sort of social segregation. In such context, a competitive pluralist approach would either yield oppression of minorities or the political system would fall apart. The democratic method fit for this particular situation would be a kind of elite rule based on a compromise among the leaders of the various cultural, ethnic or religious groups. This compromise would include critical rules of conduct, such as an agreement to disagree, which implies a *de facto* veto power for the blocks involved. Accommodation also involves secrecy vis-à-vis the rank and file. This model shares its rejection of participation with the model of expert ruling, as participation may destabilize of the political system. In one respect, however, Accommodation is very different from the pluralist models that are represented by both the UK and US, i.e., the absence of competition among the political elites (Huntington 1981).

Policy as accommodation may work in cases of irreconcilable values, such as culture, ethnicity or religion, it may also work in other controversies on environmental risk (Schwarz and Thompson 1990). After all, environmental conflict may articulate antagonistic values, like in the cases of nuclear power, GMOs or the protection of traditional landscapes and natural areas. The basic mechanism in Accommodation as a policy strategy is to seek consensus on means rather than ends. Means can be understood as all kinds of vehicles that may help to move away from a deadlock position, such as the conception of general policy framework documents that seek at integrating competing values (ecology versus economy, etc.) at a level so abstract that it does not (yet) touch the really hot potatoes, the application of broad policy principles, such as the precautionary principle, as well as concepts used to enhance dialogue and to establish a shared discourse, such as *sustainability*, *ecological footprint* or *transition management*. Policy may become symbolic in character. The basic idea is that a continuous dialogue among the parties may build trust and create a shared framework for understanding the complexities of the situation at hand.

It may not come as a surprise that the role of science and expertise is critical in Accommodation. The contribution by expertise tends to limit participation in two ways. Firstly, the level of abstractness of policy discourse and the scientific jargon discourage members of the attentive public to stay involved. Secondly, not only the number of participants is limited but also their role gets modified. Participants are expected to act as experts with respect to the perceptions, interests and values related to a certain issue. Through this subtle change in role the policy process will look distant as compared to Negotiation.

Policy as Accommodation is often used as an alternative for Negotiation, when an issue gets over-politicized. In order to understand what may happen with the science when the shift is made from Negotiation to Accommodation politics, this section first looks into the conclusions by Jasanoff in her famous study *The Fifth Branch* (1990). It is fair to state in advance that the concepts used by Jasanoff do not necessarily have the same meaning as they are given in this paper. However, her observations indicate that the US system of advisory boards successfully uses mechanisms that can be understood in terms of Accommodation. The first point to be made is that Jasanoff advises to avoid both the Scylla of technocratic science – policy separation and the Garybdis of politicization. In terms of policy types, what needs to avoided is both the models of expert ruling and negotiation:

> Scientific advice may not be a panacea for regulatory conflict or a failsafe procedure for generating what technocrats would view as good science. It is, however, part of a necessary process of political accommodation among science, society and the state and it serves an invaluable function in a regulatory system that is otherwise singularly deficient in procedures for informal bargaining. In order to accomplish this, science may need to negotiate some space to withdraw from politics where it can work out and negotiate 'serviceable truths.' In doing this, scientists get committed to moderate their views 'toward a societal mean' (Jasanoff 1990: 250).

What actually happens with competing knowledge claims in this process of accommodation and compromise? It is likely that antagonistic viewpoints are transformed into more abstract and general values. These values may play a visible role in political rhetoric but they are in fact organized out of the actual problem solving. The accommodation process may show that the science used in support of the advocacy positions is replaced by other types of expertise. An example is found in the study by Hoppe and Peterse (1993) on the controversy on LPG landing in the Netherlands (1980s) (see also Hisschemöller et al. 2001: 451–3). Accommodation has benefited the emergence of integrated methods such as risk analysis, impact assessment, technology assessment and integrated assessment. They are widely used to provide an interdisciplinary, basically quantitative (modelling) alternative for a process that is characterized by the articulation of rival scientific perspectives.

At the institutional level, science-policy interfaces have emerged that help in creating boundaries for legitimate policy science discourse, which happens especially by defining 'scientific uncertainty.' Policy science interfaces or epistemic communities have proven especially useful in facilitating political compromise in international environmental agreements, the International Governmental Panel on Climate Change (IPCC) being one of the most cited examples (e.g., Gupta 2001). The IPCC can neither be considered an open forum for debating conflicting positions in climate science nor as a closed expert community. Its major function is to shape common discourse with respect to incorporating the political sensitivities into the global climate change scientific reports.

In conclusion, policy as accommodation has this particular capacity of handling political conflict through transforming conflicting positions into values. Rather than debating values, parties focus on means that may provide a way out from deadlock. Consensus on knowledge is a prerequisite for political compromise. The risk of this policy type is that, by providing a pragmatic solution strategy for conflict between

irreconcilable values, it creates institutions and discourses that, because of their strategic asset, get a vested interest in addressing value conflict. If conflicting knowledge claims are considered values rather than knowledge, accommodation may become an obstacle rather than a vehicle for problem solving, as critical hypotheses are not being explored and may even remain unnoticed. This observation raises questions with respect to the qualities of so-called integrated methods, including tools and procedures for participatory assessments. If applied in the context of an accommodation strategy, participatory exercises may have this unintended effect that they not only prevent conflicting knowledge claims from entering the political agenda but the scientific agenda as well.

Summarizing the Main Observations

This section has explored how types of democratic governance manage to organize out conflicting knowledge claims from political decision making. The main observations are summarized in Figure 2.

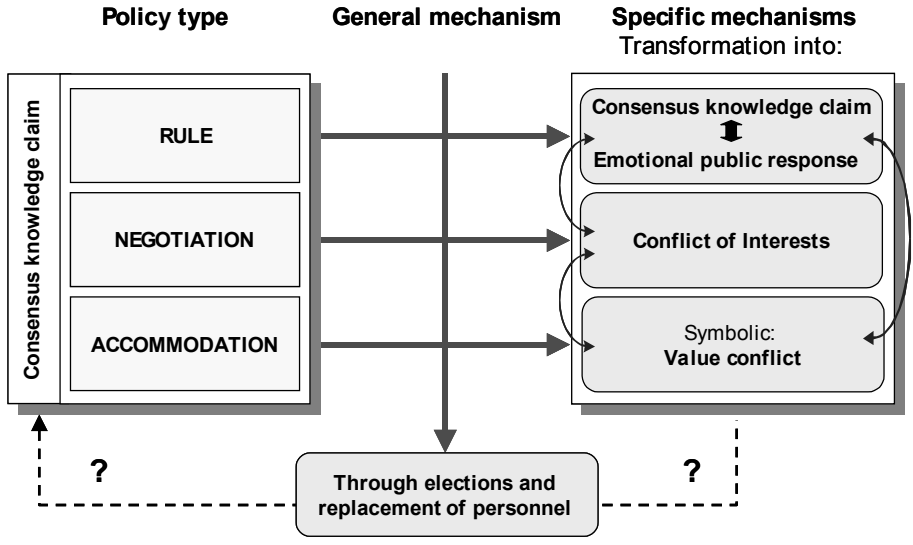

Figure 2: Mechanisms to deal with conflicting knowledge claims in three types of policy

The observations indicate that three types of policy that, according to a broad body of knowledge on politics and policy making dominate democratic political systems and policy-making institutions, tend to avoid conflicting knowledge claims from being openly considered as part of the political process. This is most obvious in policy as Rule, where self-established networks of competent experts define the boundaries of authoritative knowledge. Where participation is to some extent encour-

aged, i.e., in *negotiation* and *accommodation*, conflicting knowledge claims are transformed into conflicting interests or values, respectively. Hitherto marginalized knowledge claims may become dominant through personnel changes. Rather than the political process, (quasi) legal procedures may provide an opportunity to bring critical information to bear.

At this point, I would like to stress that these observations cannot be interpreted as an oversimplification of the political process. In democracies, conflicting knowledge claims are part of the day-to-day political debate. In some instances, they may even become subject of political inquiries that are explicitly aimed at evaluating the state of the art knowledge with respect to a specific issue. Policy learning by confronting rival claims happens. My point however is that this is an exception rather than a rule and that current democracies lack the institutions to facilitate participation as knowledge production rather than to express one's concerns, interests or values.

PARTICIPATORY KNOWLEDGE PRODUCTION: THE METHODOLOGICAL CHALLENGE

Whereas participation has for quite some time been associated with the realm of policy, the articulation and confrontation of competing knowledge claims is generally considered a task for science. Approaches such as participatory technology assessment and integrated environmental assessment, indicate that the boundaries between science and policy have become obsolete. This development has been captured and justified by concepts such as transdisciplinarity (Gibbons et al. 1994) or postnormal science (Funtowicz and Ravetz 1993). In a sense, both concepts link the classic political ideal of learning through participation to the current notion that disciplinary academic inquiry is unable to cope with the huge complexities of social issues.

To what extent is participation in the production of knowledge able to do what is promised by participatory discourse? Where boundaries between science and policy are getting diffuse, the policy types discussed before constitute a context in which the rules of the game normally associated with policy tend to overrule one basic feature of knowledge production in science, the articulation and testing of rival hypotheses. From the angle of policy, especially the need for consensus on knowledge as to enable political consensus, there might be a discrepancy between promise and practice. However, in order to assess the possibilities for and limitations of participation as knowledge production, to point to political context only would not be convincing. After all, many scientists, policy-makers and policy stakeholders in society are genuinely interested in new forms of knowledge production. Quite some approaches, tools and procedures are in place to facilitate these efforts. Apart from the dominant context, these may make a difference.

Therefore, this section focuses on methods that are meant to facilitate participatory assessments. These participatory methods cover a range of approaches, tools and procedures developed in quite different traditions and fields. Without pretending to give an exact definition, this paper understands participatory methods as more or less precisely defined process steps and procedures for realizing a more or less precisely defined outcome, that can be distinguished from other (social science) methods in that groups of people are brought together at a specific location (which may also be at the www) in order to make some sort of assessment. To mention some: *Brain-*

storming, developed in the 1930s and 1940s (Osborn 1953) and *Focus Group methodology* have been developed in marketing. Methods known as *Simulation and Gaming* originate from the military and engineering (Parson 1996). *Policy delphi* (Linstone and Turoff 1975) and *backcasting* (Dreborg 1996). have their roots in future research and technology assessment; they were originally not meant to be participatory at all. The founding father of policy science, Lasswell (1960), developed the *Decision Seminar* in the early sixties. Social scientists, who participated in the democratic wave of the sixties and seventies, developed what has become known as deliberative methods, such as *Planungszelle* and *Citizens Forum* in Germany (Renn, forthcoming) and the *Dialectical Method* by Mason and Mitroff (1981) in the US. Controversies on issues related to science and technology in the 1970s and 80s gave rise to methods such as *scientific mediation* (Abrams and Primack 1980), Citizens' Juries (Seley 1983) and the *Consensus Conference* (Joss and Durant 1995).

It must be very clear that, even if all these methods maybe labelled participatory in some way, they are largely different in terms of their specific aim, scope and procedure. It is beyond the scope of this section to discuss the methods in detail or to give a judgment on their specific qualities.[3] However, using examples from specific procedures, I will show that participatory integrated environmental assessments, participatory technology assessments and similar exercises may suffer from mechanisms that prevent the articulation and assessment of conflicting knowledge claims.

What are the elementary requirements for an approach that aims at learning through participation? I would suggest that such an approach should have the following features: Provided that the relevant stakeholders have been adequately identified,

3. It must facilitate the interactive *articulation* of conflicting viewpoints, e.g., rival hypotheses and information;
4. It must facilitate the interactive *evaluation* of conflicting lines of argument, taking into account a wide range of aspects;
5. It must facilitate a *conclusion* of the debate, either in the form of consensus recommendations or of rival policy alternatives.

Any approach that meets these requirements might be fit for what I refer to as *problem structuring*. Drawing upon the work by Mitroff and Dunn, I define this concept as *the articulation, confrontation, comparison and, where possible, integration of as many contradictory arguments as possible*. It is assumed that an understanding of conflicting approaches is the key to policy learning (Figure 1, cell A). 'Policy as learning' relates to problem structuring and a reasoned problem choice (Hisschemöller 1993: 170; Hisschemöller and Hoppe 2001: 63). Problem structuring can be understood as second order learning (Fischer 1990: 248) or double-loop learning (Argyris and Schön 1978) in that all these concepts point to some sort of dialogue between actors who draw upon specific constructions of (social) reality.

From the perspective of mainstream participatory discourse, the idea of problem structuring through a dialogue between stakeholders with different perceptions of the issue might look common sense or even trivial. However, for critics of participation, the idea of a dialogue might look controversial or even dangerous. There seem to be three main objections against this idea: First, because the dialogue participants will not give up their core assumptions with respect to their key interests and basic val-

ues, a dialogue may very well yield an escalation of (latent) conflict. Second, as there is an almost infinite number of stakeholder views and selection of 'relevant views' can impossibly happen on objective grounds, a dialogue between all involved is not feasible. Third, since institutionalized voices, i.e., vested interests, have a huge advantage in terms of information and communication skills, a dialogue might lead to a situation in which the views already powerful get even more attention.

Methodological devices for stakeholder participation in the production of knowledge for policy might be understood as responses to these quite fundamental criticisms, as they try to avoid the risks of failure that the criticisms imply. My point is – and this will be illustrated below – that specific methodological devices may adequately address either one of these risks, but are unable to address them all at the same time. Moreover, the first and the third point may lead to inconsistent devices, as the obvious answer to a fear for escalation is to build in mechanisms for the avoidance or reduction of conflict, whereas the need to address the status quo inevitably leads to devices that, in a sense, encourage conflict.

Having made these general observations, I will now discuss the mechanisms (1) to reduce and (2) to enhance conflict. The second criticism, about the infinite number of claims, will be dealt with under 2), since it is especially relevant if one pretends to articulate the relevant viewpoints with respect to a given issue.

Mechanisms to Reduce Conflict

Learning through a dialogue between conflicting stakeholder views is not an easy exercise for those involved. This is because learning may touch upon rethinking and redefining ones interest, which is likely to yield a new perspective on reality with respect to the issue discussed (Connolly 1974). There are many situations indeed, where a dialogue may not work or even be counter-productive. And even in case one may not immediately expect an unwillingness on the side of stakeholders to listen to one another, the design of the process is critical. Many tools depart from the assumption that the main barrier for open and safe atmosphere is that participants get stuck within their daily routine. Tools are aimed at stimulating 'out of the box' thinking, which would enable participants to put themselves in the shoes of others. This would imply, however, that an immediate focus on conflicting views is avoided. There are basically three mechanisms that may help to provide trust.

The first mechanism is to reduce the heterogeneity of the stakeholder group to be involved. This may lead to a discussion among stakeholders who have a lot in common, such as culture, expertise, interest, place or age. Although a more or less homogeneous stakeholder group is not a guarantee for consensus and even if consensus is not explicitly aimed for, this mechanism increases the probability of a dialogue among like-minded stakeholders. It is fair to say that some homogeneity will always be needed to enable any dialogue at all, but it may reduce the learning potential when specific views are consciously excluded. The building of arguments in a like-minded group of citizens or stakeholder representatives maybe warranted as part of a process of broader interaction. It should however be noticed that participation is frequently meant to build some 'countervailing power' by groups of people that are considered to be in a position of disadvantage. In the 1970s and 1980s, participatory tools have

been developed to specifically serve the purpose of developing informed citizens' considerations in addition to, or opposed to dominating expert views. The *consensus conference* can be considered an example of such an approach.

The second mechanism is to prevent any discussion. Dialogue participants are supposed to listen to one another and to react but not to criticize. The best examples are tools aimed at the identification of issues and options for problem solving. *Brainstorming* is meant to identify options for creative problem solving. People are supposed to mutually stimulate creative association. This requires a high tempo and, as Osborne clearly points out a well defined problem. The procedure does not allow for any discussion on the options raised. *Focus group methodology* is meant to identify issues of concern to people, but not for the structured exchange and exploration of conflicting views (Huitema et al. 2003). Many other tools, e.g,. backcasting (Van de Kerkhof 2004), although not explicitly aimed at preventing discussion, focus on identification rather than on exploring argument. A quite different example of a tool that may fit into this category is the original scope and focus of *policy Delphi.* This method explicitly aims at confronting and comparing conflicting lines of argument among experts. The experts do not talk with one another, though, they communicate through written statements via the facilitator.

The third mechanism is to allow for discussion, except on conflicting knowledge claims. The major example here is *Simulation and gaming*, which covers a wide range of tools and procedures. *Simulation and gaming* has originally been developed for assisting policy makers and risk managers to prevent group-think. This is done by taking a perspective distant from daily short-term routine, such as by putting the stakeholders in a position different from their own (e.g., of an opponent), a different place (China instead of Germany) or a different time (the future instead of the present). People are thus put in a role different from who they really are. Hence, they are prevented from putting forward their genuine concerns, their knowledge and their views.

However, even participatory methods that are explicitly aimed at enhancing a deliberative process use mechanisms to prevent conflicting knowledge claims from being considered. An example can be found in the participatory method proposal by Renn (forthcoming), which concentrates on conflicting values as a means to create a common discourse, thereby leaving the so-called 'cognitive aspects' to the experts.

Mechanisms to Enhance Conflict

It has been argued that social-constructivism predicts an infinite number of individual problem constructions. However, there is evidence to suggest that the range of problem constructions is actually quite limited and can be obtained by 15–30 interviews using repertory grid analysis (Dunn 2001, also for an interactive application).[4] What follows from this is that, for participatory assessments, a thorough stakeholder analysis might reveal the potentially conflicting views with respect to a certain issue.

As a quality indicator, good participatory assessments produce counter-intuitive results. Dunn further specifies this point where he argues:

> From the standpoint of communication theory and language, the information content of a hypothesis tends to be negatively related to its relative frequency, or probability of occurrence. Hypotheses that are mentioned more frequently – those on which there is substantial consensus – have less probative value than rarely mentioned hypotheses, because highly probable or predictable hypotheses do not challenge accepted knowledge claims (Dunn 2001: 425–6).

This observation suggests that the mechanisms should be in place to articulate assumptions that are marginal and build comparably strong cases for each line of argument. I would suggest that, in order to give marginal hypotheses a fair chance, there are three mechanisms that could be explored.

The first mechanism is, in contrast with Simulation and Gaming, to articulate and assess authentic conflict. The articulation and assessment of conflicting lines of argument has proven to be difficult and may depend on national custom. The Dutch experience reveals that a dialogue group, if not adequately facilitated, shows an inclination toward artificial consensus, i.e., agreement on an abstract level, leaving the 'hot issues' aside. In a similar vein, participatory assessments show many difficulties in selecting priorities. A tool such as the Devil's Advocate might help to articulate critical views. The weakness of such an approach appears to be that it replaces authentic conflict by artificial conflict, as participants maybe aware that the Devil's Advocate plays a role. Only authentic conflict provides persons debating a controversial issue with the stimulus to put forward genuine concerns and to articulate the knowledge and experience it draws upon. As comes forward social-psychological experiments, learning benefits from authentic conflict, but artificial conflict may reinforce stakeholders' original beliefs (Nemeth, Brown and Rogers 2001).

The second mechanism is to articulate and discuss stakeholders' taken for granted assumptions. As taken for granted assumptions are normally hidden below the surface of conscious reflection, the articulation of such assumptions may require a critical attitude and a lot of *Why* questions. Instead of shifting the discussion to values, Mason and Mitroff (1981) have suggested a *Dialectical Method*, which is based on the idea that a process of argument and learning not only requires that stakeholders get a better understanding of the views put forward by others, but also of their own. The *Dialectical Method* suggests that an articulation and assessment of conflicting claims and arguments supposes a shifting back and forth between heterogeneous and homogeneous groups. Also methods such as *Interactive Policy Delphi*, *Scientific Mediation* and *Citizens' Juries* may provide tools for articulating conflicting assumptions. One of the main problems is that, to my knowledge, detailed evaluations of these and other participatory methods in practice are scarce.

The third mechanism is to be transparent with respect to the quality of policy argument. Most of what has been written about this issue, is about the evaluation of public policies. Van de Kerkhof (2004), evaluating the Dutch stakeholder dialogue on Climate Options for the Long term (COOL) suggests to focus on *differentiation*, i.e., the range of different aspects that the stakeholders have taken into account, *empirical content*, i.e., as to whether they have used state of the art scientific knowledge and *integration*, i.e., the way different aspects and claims are linked in the conclusive arguments.

Conclusions on Methodology

In conclusion, methods used for participatory knowledge production address different requirements. In order to facilitate a dialogue between (potentially) conflicting views, the building of trust is necessary to get the process going, but mechanisms for building trust through 'out of the box thinking' are inconsistent with mechanisms to articulate and assess conflicting lines of argument. More work needs to be done, especially because mechanisms that exclude conflicting knowledge claims from consideration appear to be dominant and well documented evaluations of the methods and tools used in participatory assessments are scarce.

CONCLUSIONS: THE CHALLENGE FOR DEMOCRATIC INSTITUTIONS

The international environmental policy- and science communities face a growing awareness that problems in areas such as global environmental change require a participatory and transdisciplinary approach. National governments and the European Union are trying and experimenting with fora for inter- and transdisciplinary work. However, criticisms raised with respect to participatory knowledge production deserve more serious attention than they have so far received in the environmental policy sciences community. In many countries, participatory practices have not led to an increased public involvement in public policy. Instead, the gap between government and society even seems to widen. The explanation offered in this paper is that present day democracies lack institutions for managing conflicting knowledge claims, thereby defining *institutions* primarily as the formal and informal 'rules of the game' for reaching at political decisions.

The analysis of three policy types indicates that conflicting knowledge claims are organized out of the political process by transforming them into interests and values. I do not claim that there is anything wrong with policies that manage to work out solutions for conflicts of interests and values, as long as the stakeholders involved (either citizens or representatives from NGOs or private business) agree on what the values and interests are. What can be learned from environmental policy analysis though, is that in many cases knowledge input from scientific experts as well as non-scientists, is neglected. The dominant policy context tends to intrude into the domain of scientific knowledge production, either by turning knowledge claims into (vested) interest advocacy positions or by imposing scientific consensus in the interest of politics. Under these conditions, participation may become an obstacle for the advancement of policy-making, which may result in non-decisions with respect to urgent social and environmental issues. What remains, for the time being, is policy rhetoric, paper work and scientific discourse on Governance by Networking. What may come is an anti-participatory backlash, driven by the widely shared view that government is there to simply 'do the right thing,' but which is highly unlikely to effectively address urgent social issues either.

A look into the dominant policy types and their mechanisms to limit participation to interests and values, provides a picture which actually offers two main alternatives, i.e., the traditional strong monolithic government with low opportunity for public participation versus a multi-actor multi-level governance with a rather high

level of (vested interest) participation. Remarkably, what is missing in the landscape of political institutions, is strong governance, which in my view also includes strong elected bodies, combined with a high level of public participation. This raises the question, as to whether such a model of democracy might be imaginable, and what conceptual barriers must be removed in order to present it as a visible and appealing alternative within the framework of existing policy-making institutions?

The discussion of participatory methods may provide some basic notions with respect to the direction of the institutional challenge. The first one is the concept of *problem structuring*. This concept is embedded in the idea that western culture, including western Europe and the United States, is *solution oriented* in that it focuses on developing (procedures for finding) solutions rather than specifying problems. Democracies have focused on providing methods for conflict resolution, e.g., through negotiation and accommodation, and have invested in applied science methodologies that might reduce decision costs. What has been neglected is the orientation toward *problem finding*, i.e., a focus on articulating and investigating into potentially rival positions instead of avoiding these. Rather than closure, such orientation would relate to the articulation and testing of rival hypotheses through involving knowledge from a variety of sources. The benefits of such an approach might largely outweigh the costs of symbolic policies and unimplemented decisions.

The second notion that might be critical in reflecting on institutions for addressing conflicting knowledge claims, draws upon the diverging positions with respect to the feasibility of stakeholder dialogue on conflicting lines of argument. On the one hand there is the position that the major barrier for such a dialogue is the difficulties people have with 'out of the box' thinking. From this perspective, it makes sense to shape the discussion in such a way that an immediate focus on authentic conflict is avoided. This may happen either by organizing more or less homogeneous groups ('consumers,' 'poor farmers,' etc.) or, in case of heterogeneous groups, by introducing mechanisms that create some distance between subject (the participant) and object (the issue for discussion). On the other hand, there is the position that the barriers for 'learning' not only originate from persons' lack of understanding of perspectives taken by others, but that it is especially difficult for persons to question their own taken for granted assumptions. The best way of doing this is with the 'help' of critics.

I tend to argue that both methodological positions are not irreconcilable and that the question how to structure a debate as to enable participants to engage in the process is an empirical one.

However, the notion that learning benefits most from authentic conflict seems to contradict common-sense. There is this widespread idea that persons are capable of a rational judgment with respect to the public good once they are brought into a *disinterested* position. This idea is found in 20th century political philosophy. A much cited example is the 'veil of ignorance,' introduced by Rawls (1971) in making a case for a political order that might be supported by rational persons irrespective of their specific position in society. Another well-known example is Habermas' (1981) notion of the 'ideal speech' situation, which would enable people to have an open conversation in the absence of power. Both concepts can be understood as methodological devices to address social dilemmas. As such they reflect a powerful notion found in democratic theories from Rousseau and J.S. Mill, that participatory democracies

should resist partiality on the side of their citizens. Renn and Webler (1995) explicitly refer to the ideal-speech situation in developing devices for a fair and competent dialogue.

It is my observation indeed, that, certainly in the western European tradition, institutions for political participation and even some of the most well-known tools for participatory assessments, are (implicitly) based on the assumption that the success of joint problem solving is dependant on the readiness of persons involved to take a low profile with respect to their specific interests. From the social constructivist perspective, which is guiding my argument, I would suggest to turn this assumption upside down. A focus on diverging interests, once this happens openly, may facilitate a discussion on conflicting knowledge claims, because stakeholders do possess specific knowledge *because* of their interested position that other stakeholders for the same reason don't.

Hence, participatory policy analysis could assist in (re)shaping political institutions in such a way that they address the structuring of problems through encouraging the articulation of conflicting arguments and thereby take stakeholders as interested persons and groups who have, not in spite but because of their biased position, specific knowledge to offer.

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NOTES

1 This section draws upon findings from earlier work, especially Hisschemöller 1993; Hisschemöller and Hoppe 1996/2001; Hisschemöller, Hoppe, Groenewegen and Midden 2001.

2 By three Chambers consisting of scientists, artists, engineers and captains of industry.

3 See for an overview and more detailed analysis Mayer 1997; Van de Kerkhof 2004.

4 Elements, such as climate options, are combined into a number of triads. For each triad, the following questions are asked: (1) In what respect do two of these options equal one another and differ from the third? The answer to this question provides a construct, such as end of pipe versus innovative. (2) What would you prefer as a criterion for the long term? And (3) Please rank all options now on this dimension.

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