BRIDGING THE GAP BETWEEN SCIENCE AND POLICY AGAIN: PARTICIPATORY POLICY ANALYSIS FOR GROUNDWATER MANAGEMENT AS 'BRICOLAGE'

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ABSTRACT

The well-known controversy between science and policy is the subject of many theoretical deliberations (Weiss, 1977; the Utilization of Knowledge School). These deliberations have not resulted in any easy answers for bridging the controversy between scientists and policy professionals. Some of them find refuge in concepts as postnormal science or mode 2 knowledge creation. But for many 'hard headed' scientists and policy professionals these 'postmodern ideas' are a bridge too far. In this paper we advocate that policy analysis is a concept in which both communities can play their role by making productive use of their strengths. An important premises however is that nowadays policy analysis in our networked society is increasingly executed in a participatory way. Participatory policy analysis is essentially a social science and we can use its characteristics for bridging the gap. Non-representationalism (cf. Rorty, 1979), fallibilism (cf. Hoppe, 1998) and reflexivity (cf. Thomas, 1923; Frissen, 1999) are useful features of social sciences for fusing science and policy perspectives into a knowledge base that meets policy objectives and is scientifically viable at the same time. This fusion process can be denominated as 'bricolage' (Levi-Strauss, 1966) in which individual scientists and policy professionals play a decisive role. We will describe this process through a case study that supposedly belongs to the domain of the natural sciences: the construction of a groundwater model. The participatory modeling process for constructing the model can be perceived as a process of 'bricolage' between scientists and policy professionals. This paper is composed of the following components:

1. Introduction
2. The inadequacy of 'traditional policy analysis'
3. Some theoretical indications: policy analysis as social science
4. Participatory and reflexive approach to policy analysis: postnormal science?
5. Bridging the gap between science and policy in groundwater modelling
6. Methodological relativism: policy analysis as 'bricolage'.

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1 INTRODUCTION

According to an increasing number of policy scientists and policy practitioners the traditional approaches to policy analysis do no offer enough solace for dealing with today's complex societal problems. Instead of traditional modernistic approaches they advocate a more deliberative, practice based and step-by-step approach to policy analysis (see e.g. Hajer & Wagenaar, 2003).

The reason for the argued inadequacy of traditional, modernistic policy analysis can be found in what we now commonly call 'the network(ed) society'. In addition the recognition that social systems in which policies are supposed to intervene are fundamentally different than physical systems to which much of our interventionist methodologies are tailored, is gradually sinking in.

In contrast to physical systems, social systems 'talk back' at intervening policies, in some cases even before the actual interventions take place. As a consequence modernistic – some would say linear or 'digital' – execution of policy analysis would fail.

The reflexive nature of the systems to which our policy interventions are directed must, in my view, be a vital ingredient of our approach to policy analysis. This means that an alternative approach to policy analysis must be essential incremental, 'tuned in' towards already existing problem solving practices, is never objective or generally valid and has a fundamentally temporary relation with the object of intervention.

As a consequence the methodologies with which this alternative approach to policy analysis can be implemented must have matching characteristics. In this paper we will argue that these methodologies must be rooted in the tradition of pragmatism (cf. James, Dewey and Rorty) by accepting some sort of methodological relativism in conducting policy analysis.

2 THE INADEQUACY OF 'TRADITIONAL POLICY ANALYSIS'

With the deliberations of the Utilization of Knowledge School (Weiss, 1977; Caplan, 1979) and their Two Communities concept, the tension between science and policy was accurately denominated. It is obvious that the controversy between science and policy becomes eminently clear in the implementation of policy analysis. In policy analysis bridging the gap between the Two Communities seems to be the main challenge. Because of this proposition I will investigate into policy analysis by considering various definitions (e.g. Lasswell, 1971; Dunn, 1994; Dror, 1971). Especially Lasswell's (1971) principles for policy analysis, contextualized (context-oriented), problem oriented (problem-driven) and diversified and multi-disciplinairy (pluralistic), may be helpful in giving policy analysis the appropriate direction for 'bridging the gap'.

As an introduction to policy analysis, the definition of Lasswell (1971) on the concept of policy science is helpful. Policy science is aimed at producing (generating) and applying knowledge about and in policy. Dunn (1994) defines policy analysis 'as an intellectual and practical activity aimed at creating, critically assessing, and communicating knowledge of and in the policy-making process. The process of policy analysis has five interdependent phases that together form complex, nonlinear cycles (or rounds) of intellectual activities. These activities are ordered in time and embedded in a policy-making process that is

complex, nonlinear and essentially political. Next to this extensive definition, Dunn (1994, p. 84) offers a straightforward description of policy analysis:

> *an applied social science discipline that uses multiple methods of inquiry in context of argumentation and public debate, to create, critically assess, and communicate policy-relevant knowledge.*

Cohen and Lindblom (1979) speak of Professional Social Inquiry (PSI) that is 'both social science narrowly conceived and those many other forms of professional knowledge allied to social science but not properly or entirely scientific'. Dunn (1981 / 1994) perceives policy analysis as a social science with the unique characteristic of being able to mediate between and evaluate multiple scientific disciplines, within the natural scientific and the social scientific domain. Moreover, policy analysis is a means to ex ante evaluate (but ex durante and ex post also apply) the relevance of various knowledge contributions to structuring the policy problem, its alternatives and the way the alleged problem solving policy could be implemented. In addition, policy analysis is aimed at combining both scientific and non-scientific knowledge, both practical and theoretical insights in a context of societal debate and political struggle.

Dror (1971) thinks of policy science as an (new and additional) approach for the use of systematic knowledge, structured rationality and organized creativity on behalf of conscious governance and transformation of society. In this view, he defines policy analysis as a heuristic methodology for identification of desirable policy alternatives. The heuristic nature of policy analysis indicates an incremental approach of trial and error to the production of policy-relevant knowledge. Moreover, in this search, indications of what policy alternatives are perceived to be feasible and desirable (and by whom) will emerge.

Despite of its widely adopted characteristics, the concept of policy analysis became subject to criticism because it was regarded as a somewhat traditional approach to generating policy-oriented knowledge. (see e.g. Mayer, 1997; Heyne, 2000). The definitions of policy analysis mentioned above did no longer apply to new forms of policy-making. The policy process was no longer primarily reserved for governmental agencies and institutions, but became more and more a playing ground for other, non-governmental actors. This development had to have consequences for policy analysis, if only by allowing these non-governmental actors to contribute to policy-oriented knowledge generation and application. As a consequence, other forms of knowledge (than scientific or policy oriented) had to be accommodated in policy analysis, leading to new processes and methods. The previous descriptions and definitions of policy analysis can be considered as 'traditionalist'. The traits of traditional policy analysis can be described as follows. First policy analysis is considered to be highly rational and analytical activity, following the adagium 'first think (exhaustively), than act (cautiously)'. Second policy analysis seems to be mainly restricted to professionals, both scientists and policy officials. And third, there is the conviction that policy analysis has to be implemented according to prescribed procedures and phases, adding up to a predictable, controllable and uniform linear process.

The criticism on traditional policy analysis is identified by Mayer (1997) who introduces five dilemmas with which the 'traditional' approach to policy analysis is nowadays faced. These five dilemmas could be perceived of bridges that need to be crossed by policy analysis:

1. Scientism vs. lay knowledge;
2. Decisionism vs. multi-actor policy-making;
3. Limited utility vs. scientific consensus;
4. Disciplinarity vs. scientific consensus;
5. Technocracy vs. democracy.

These dilemmas lead to the acknowledgment that there are compelling reasons for policy analysis to be more open to participation from other than the traditional actors, because of:

- The use of alternative knowledge sources;
- The use of alternative types of knowledge;
- The involvement of those who will be affected by the policy decisions;
- The involvement of other actors who are vital to the implementation of the policy (or at lea st, are vital to avoid obstruction to the implementation).

However, in contrast with Mayer (1997) who argues that a more participatory approach to policy analysis must not result in 'anything such as relativism or postmodernism', we argue that it is not possible to prevent this from happening. On the contrary, we think that it is desirable to accept a postmodern view on policy analysis to help its further advancement. For this argumentation, we refer to Lasswell (1971) who identified the main principles to the 'traditional policy analysis'. These principles are contextualized (context-oriented), problem oriented (problem-driven) and diversified and multi-disciplinairy (pluralistic).

Essentially, policy analysis should be contextualized, using the characteristics of the (historic) context of the problem situation and problem owners (actors involved) to shape the research process. Thus, standard, blueprint approaches are ruled out and pragmatic, context oriented and jointly accepted processes are designed and implemented.

The problem orientation of policy analysis is obvious and connects strongly to remarks above on the contextualization of policy analysis. Being problem oriented, policy analysis includes assessing the perspectives on the problem at hand, as well as the problem owners concerned. Moreover, the problem orientation refers to the need for action, by taking little and acceptable steps towards problem solution.

Policy analysis should be diversified and multi-disciplinairy, using methodologies that are based on the recognition that policy analysis is a social science. Furthermore, pragmatism is the guiding principle in jointly choosing, designing and implementing methods for knowledge production. In other words, 'anything goes' in methodological respect, as long as it is effective to reach the results required and is agreed upon by the actors involved (i.e. the problem owners).

All together the criticism on 'traditional' approaches adds up to a more pragmatic way of organizing and conducting policy analysis.

3 SOME THEORETICAL INDICATIONS: POLICY ANALYSIS AS SOCIAL SCIENCE

The previous considerations regarding policy analysis lead to a relativist / pragmatist view on policy oriented research. Most important reason to look at policy analysis in a relativist manner derives form the assumption that, ultimately, policy analysis is a research activity that belongs to the domain of the social sciences. Of course, in policy analysis, natural sciences play an important role, but nevertheless this type of knowledge will have to be translated in options for action, for example in an acceptbale framework of 'who does what, when and how'. The conclusion that policy analysis is a social science, leads to a relativist / pragmatist approach towards knowledge that is created and applied in a context of social interaction. This relativism – pragmatism approach stems from:

a) The abstinence of the idea of the 'Mirror of Nature'.
b) The fallibilistic nature of the social-scientific knowledge
c) The reflexive nature of social sciences.

3.1 The abstinence of the idea of Mirror of Nature

In Philosophy and the Mirror of Nature (1979) Rorty paints a picture of philosophy that has been valid for centuries: 'philosophy can provide a fundament with regard to the rest of culture, because culture is the collection of knowledge claims and philosophy decides upon these claims'. Traditional philosophy assumes to have access to the fundaments of knowledge. From this assumption follows the metaphor (in use for centuries) of the human mind as a mirror of nature: knowing is consciously representing of what is outside the (human) mind (Van Den Bossche, 2001). The use of this metaphor is based on the idea that it is possible to understand how the mind constructs these representations. In this way, philosophy 'strives' to be a general theory of representations, aiming at revealing the uncontrovertible truth(s) and therefore achieving certainty. The initial openness that encouraged the philosopher to think is covered decisively and technically; philosophers tend to ask technical and 'decisive' questions instead of being open to 'strangeness'. Abandoning this technical approach to philosophy is, according to Rorty, derived from Heidegger who replaces technical thinking by 'level-headed' and non-manipulative thinking (Van Den Bossche, 2001). The technical way of thinking excluding the uncalculable, means by definition compulsion and manipulation. Gadamer (1990) also points to the striving – all present in western societies – for certainty and truth. In pursuing this, modern science has come up with a method, or more accurately put: *the* method. Modern science gives preference to methodological thinking, with the ambition of being able to repeatedly follow the same methodological path to knowledge (Van Den Bossche, 2001). Going about knowledge in the same way is methodological justified and characteristic for modern science. However, this means also that we inevitably enter into a restriction of what is being considered to be 'true'. If being able to verify and control knowledge generation is decisive to what is true, than the criterium to which knowledge is measured, no longer is truth, but certainty. Only that knowledge which meets the ideal of certainty can be accepted as true. Of course, this way of thinking is desirable for certain domains, especially in the natural scientific field of research, such as nuclear physics or astronomy. But in the social sciences, or in social, interpersonal contexts, this way of thinking is less favourable, to say the least. In a certain period of western philosophy, truth was considered to be similar to certainty. Rorty indicated that this decisive historic change within philosophy begins with Descartes. Following Descartes philosophy as epistemology

would be a continuous search for the unchangeable structures in which knowledge, life and culture were enclosed. These structures were (to be) discovered by the privileged representations of the philosopher. Rorty abandons this view on philosophy that regards the mind as a mirror of nature. In his view, philosophy is no longer about confrontation (of conflicting representations) but about conversation (between diverse opinions). Knowledge is a matter of conversation and social practice, instead of a series of attempts to represent nature (or in other words, the essence of things). In this conversation, no one is able to act as same kind of 'supreme court': there is no 'meta practice' from which all possible entities (forms) of social practice can be criticized. The quest for certainty ends here, and the philosopher can no longer regards truth as 'being in contact with reality'. From here on, truth is defined as 'that what is good for us', a definition with which Rorty joins the tradition of pragmatism (with Dewey and James as advocates). And so, an approach of anti-representationalism emerges in thinking about how to deal with knowledge and research in today's society.

3.2 Fallibilism in social sciences

According to Hoppe (in: Hoppe & Peterse, eds.,1998), there is a changing perspective on policy oriented research, in this study referred to as policy analysis. He defines this change as a transition from empirical-analytical and instrumental rationality to a dialogue of fallibilist-pragmatist rationality.

Many definitions of policy analysis are based on the rationalist assumption that it is possible to generate objective, rational knowledge on 'unshakable truths'. This assumption is funded on the expectation that policy analysis – as a social science – could be cast in the same mould as natural sciences. Thus, policy analysis should be based on the same methodological principles as natural sciences and should arrive at results that could meet the standards of natural sciences. However, as many researchers have indicated (Toulmin, 2001; Rorty, 1979), the objects of research in social sciences are fundamentally different from the objects under study in natural sciences. Next to this, the opinion takes hold that scientific knowledge, even natural scientific knowledge, is always of a fallibilist nature. Fallibilism implies the acknowledgement of the possibility of being wrong, and the willingness to learn from this by reviewing one's assumptions. Hoppe (in: Hoppe & Peterse, eds.,1998) states that the Cartesian idea of an 'or – or' situation in which knowledge is vested in solid principles of certainty and rationality or becomes subject to 'a relativist swamp of intellectual and moral chaos' is more and more abandoned. Thus, rationality becomes an approach to the extend we realize that 'although we must begin any inquiry with prejudgments and can never call everything into question at once, nevertheless there is no belief or thesis – no matter how fundamental – that is not open to further interpretation and criticism' (Bernstein, 1991, in: Hoppe & Peterse, 1998). From this citation, the conclusion lies before us that Bernstein advocates dealing with social-scientific, policy oriented research in an ironic way (cf. Rorty, 1989). In the initial stage of research, certain boundaries and assumptions are needed, but nevertheless, these values and hypotheses must be open to further interpretation or criticism. In other words, to make research possible, some principles are necessary, but these must be abandoned if in the research process it becomes clear that they are no longer support that research. In this respect rationality is considered to be 'the openness to learn', a proposition with which is assumed that the policy researcher is part of the social context of an acting and dialogue community (Hoppe & Peterse, 1989). The policy researcher does not have an isolated

position in relation to the location of the discussion and action (i.e. the policy arena) but is part of that. The knowledge arena and policy arena are intertwined and thus, interact. This interaction is considered to be desirable, as the RMNO states that 'the communication between research (science) and policy-making[1] contributes to the quality of democratic decision-making and cooperation between governmental agencies and societal actors in the governance of our society, is indispensable. Moreover, communication between policy arenas and knowledge arenas enhances the chance for smoother decision-making and implementation. And finally, the involvement of a larger diversity of values can lead to more creative solutions (RMNO, 2000).

3.3 The reflexive nature of social sciences

Reflexivity addresses the mechanism of self-reference that occurs while research or (policy) intervention 'bends back on', refers to and thus changes the entity instigating the research and/or intervention. Reflexivity occurs when the observations and/or interventions of observers and/or intervening actors in the social system influence and change the situation they are observing and/or intervening in. This mechanism emerges when a (research or policy) theory is being disseminated to and thus affecting the behaviour of the subjects or systems the theory is meant to 'objectively' model or explain. As a consequence observation and/or interventions are never independent of the participation of the observer or initiator.

The concept of reflexivity applies especially to the social sciences (In 't Veld and Verhey, in: RMNO, 2000) because social scientific knowledge is fundamentally different from natural scientific knowledge (Toulmin, 2001). The consequences of the reflexive nature of social sciences studying social systems can perhaps be best understood by the work of the sociologist William Thomas (see: Coser, 1977). Thomas (1923) 'invented' the well known adagio that 'if men define situations as real, they are real in their consequences'. What Thomas meant by this is that people do not only respond to the 'objective' characteristics of a situation, but also, and often mainly, to the meaning that situation has for them. And when these meanings 'have sunken in', their consequent behaviour follows the experienced (or perceived) meaning. Reflexivity entails the assumption that our ideas and expectations have their influence on the way we act. Reflexivity in policy-making means that we determine and shape our future by our policy decisions and interventions (Gels, 2001).
With regard to the consequences reflexivity has for social sciences, Frissen (1998) indicates that 'every social scientist knows that with intelligent manipulation of questioning, research can prove anything that is desirable. At the same time, the natural science preoccupation of the parties involved in research activities comes to play. Research is conducted to reduce uncertainty (based on the preoccupation). The opposite effect occurs inevitably: research increases uncertainty'. This mechanism has to do with the fundamental reflexivity of knowledge, i.e. all knowledge, even natural scientific knowledge. Each form of knowledge production leads to learning among the actors involved, and thus to changes in the (social) context. In addition, the knowledge production changes the empirical reality to which this refers to, due to the fact that the produced knowledge is added to reality, and therefore the conditions of its validity are changed (Frissen, in: RMNO, 2000).

4 PARTICIPATORY AND REFLEXIVE APPROACH TO POLICY ANALYSIS: POSTNORMAL SCIENCE?

The relativist perspective on science and its contributions to policy processes, is captured by the concept of 'postnormal science' (Funtowicz and Ravetz, 1993) and by the concept of mode 2 science (Gibbons et al, 1994). These concepts advocate a socially justified and reflexive way of science that acknowledges the social context of research and in which other non-scientific experts are involved. Funtowicz and Ravetz argue that in today's society science has to consider fundamental uncertainties in policy issues on societal risks and environmental challenges. Postnormal science must be able to deal with the abstinence of traditional dichotomies of facts versus values and knowledge versus ignorance. Applied science, professional consultancy and postnormal science connect to policy situations that are characterized by an increasing manifestation of uncertainty and policy interests (In 't Veld & Verhey, in: RMNO, 2000). As more complex uncertainties emerge, controlling the scientific quality of research activities is subject to evaluation by a broader group of stakeholders. It is desirable that this is a pluralistic group composed of scientific experts as well as non-scientific experts.

In postnormal science, phrases like 'negotiated knowledge' (Frissen, 1998) and 'serviceable truth' (Jasanoff, 1990) have become metaphors for the relativist way of dealing with policy oriented knowledge. Negotiated knowledge is knowledge that is the result of negotiations between scientists among each other and between scientists and stakeholders involved. Jasanoff (1990) advocates abandoning the strict of boundary between secience and policy because it proves to be fruitful when stakeholders join the negotiations on the choices to be made in a process of policy analysis. Or as Jasanoff puts it: '…scientific advisory proceedings – no less than administrative proceedings of nontechnical kind – are most effective in guiding policy when they foster negotiations and compromise'. However, this does not mean that science and policy should entirely assimilate when engaged in a process of policy analysis. Even negotiated knowledge should live up to the qualification of 'good science' and must not be compromised by political negotiations (cf. Van Eeten & Ten Heuvelhof, in: Hoppe & Peterse, 1998). Serviceable truth is 'a state of knowledge that satifies tests of scientific acceptability and supports reasoned decision-making, but also assures those exposed to risk that their interests have not been sacrificed on the altar of an impossible scientific certainty' (Jasanoff, 1990). This citation not only refers to the production of useful, serviceable expertise (abandoning the concept of unshakable truths) but also to sustainability and robustness, as this type of knowledge is more proof against the deconstructive efforts of (opposing) actors and therefore, plays a more lasting role in the policy debate.

Van Eeten and Ten Heuvelhof (in: Hoppe & Peterse, 1998) advocate the process-contingent application of scientific knowledge. In this respect, process-contingent means that 'the application of scientific tools in research is determined by the characteristics of the policy process, without assimilating them in this process'.

Van Eeten and Ten Heuvelhof suggest several principles to organize the process-contingent application of scientific knowledge, such as:

- organizing research as a process, adjacent to the decision-making process;

- advoiding the emergence of 'mandated science' (Salter, 1988) in which decision-making is mandated to scientists;
- stimulating stakeholders to come up with alternative, researcheable options;
- facilitating the production of 'negotiated knowledge'.

The pragmatic perspective indicates the favourability of a crossover in scientific, advisory, lay and other knowledge to support the policy process. However this crossover does not just apply to the knowledge domain of the science – policy duet, in the sense that science represents knowledge and policy represents striving or acting. The crossover also refers to the mechanism in which scientists become policy makers and policy makers become (applied) scientists. Weinberg (1972) speaks of policy analysis as co-production between science and policy. Research questions are often formulated by policy makers. In addition, scientists are often the first to identify workable problem definitions and feasible problem solutions. Thus, the professionals from the two domains (two communities) are often involved in a role switch. Hoppe (2002) calls this mechanism – "border traffic" – between scientific professionals and policy professionals who are both involved in policy analysis. This metaphor strongly refers to Jasanoff's conception of 'boundary work' (1990) to indicate the prudency with which the cross border activities between science and policy regarding 'the production of serviceable truth' should be managed.

It is our proposition that participatory policy analysis should use the reflexive and fallibilistic nature of social sciences to its advantage. The reflexive reaction of the social system that is intervened by policy analysis provides the policy analyst with vital and insightful information for formulating and reformulating an acceptable policy plan. Hence policy analysis should be (essentially) fallibilistic, incremental and experimental, at least for so called 'ill structured policy problems' (Mitroff & Sagasti, 1973; Douglas & Wildavsky, 1982). Instead of unfolding comprehensive packages of policy measures, we should suffice with implementing one (or a restricted number) of measures. Then we should evaluate its reception in and impact on the social system it aims to change, before launching another one. This means that supporting actual policy practice should be the main objective of policy analytical activities. Much attention and effort is often devoted to policy analysis on a so called 'strategic level', without much consideration for its implications in the implementation stage of the policy process. It is our proposition that these 'strategic policies' will always be subject to renegotiation and compromise once being implemented in problematic situations of everyday practice. This is induced by the fact that policy analysts will have to confront (representatives of) network actors with the abstractions of decision makers and other 'strategists'. The interactions between policy analysts and network actors will ultimately deform the 'prescribed' policy.

5 BRIDGING THE GAP BETWEEN SCIENCE AND POLICY IN GROUNDWATER MODELING

In this paragraph we will briefly describe the participatory process of policy analysis for constructing a groundwater model. In addition we reflect on this process by looking at its capacity to 'bridge the gap between science and policy'. Currently the Dutch water policy sector is in change: the traditional techniques for water management – stemming and containing floods by levees and dams – are no longer viable because of their extensive negative societal impacts. The acknowledgement that 'controlling' water as the key principle for 'keeping our feet dry' is no longer feasible has lead to a new policy frame

work[‡‡]. This frame work advocates to accommodate flooding and provide water systems with more space. As a consequence innovative policies are needed to accommodate the new perspectives on water management. The required innovation must result in new solutions to make the water system robust for its new and still developing requirements. In 2003 the National Governance Agreement Water was signed by the water managing parties in the Netherlands. It was agreed that one of the policies for reaching a better balance between water management and spatial development, was the implementation of a so-called 'desired surface and groundwater regime'. This regime helps to identify the appropriate combinations of groundwater levels and spatial functions, such as agriculture, housing, nature and recreation. It also helps to decide on the feasible policy measures to influence surface and ground water levels in the desired direction.

To determine the regime for each water management area a new and detailed groundwater model is needed. This model would help water managing authorities, mainly provinces and water boards, to ex ante evaluate (or pre-test) the impact of future groundwater measures, before being implemented. This type of detailed model that is also widely accepted among water managing authorities is not available yet.

Currently this ground water model is under construction in a participatory modeling process in which scientists, engineers and policy professionals from seventeen water managing organizations work together and 'fuse' their knowledge into a model that is scientifically viable and has practical meaning for policy making. This fusion process between these actors can be denominated as 'bricolage'. Learning is the key driver behind the process of bricolage: scientists, engineers and policy professionals learn to discover the possibilities of the intended model while constructing it. In addition they together identify the 'blank spots' in the knowledge available to fully live up to the expectations they and their constituents had, before starting the modelling process. And although the construction of the groundwater model is largely supported by knowledge and insights from the natural sciences, the participatory process towards a policy instrument transforms this into an object of social sciences. And precisely the characteristics of social sciences (see par. 3) are capable of bridging the gap between science and policy and should be used to design our approach to participatory policy analysis.

6 METHODOLOGICAL RELATIVISM: POLICY ANALYSIS AS 'BRICOLAGE'

Dealing with the practical challenges of policy analysis can only be done by taking the person (i.e. the policy analyst or the practitioner) back into play. If any subjects are sensitive to 'foreign' and non-conformational experiences and insights, it is – or at least should be – the policy analyst and/or practitioner. Or as Wagenaar and Cook (2003) advocate accurately: 'the analyst needs an inside understanding of the formal and tacit knowledge that informs actors' daily activities. A lack of understanding of the practices of policy actors, in the sense of a thick description of what it takes for the actor to be an experienced practitioner, would keep the analyst from understanding the pragmatic roots of contested policy situations. People solve problems by employing their commonsense

[‡‡] Water Management in the 21st Century. An exploratory study of the Dutch Ministry of Public Works, Transport and Water Management, 2001.

rationality, their *phronesis*[4]; even when they 'apply' general knowledge, since general knowledge can never exhaustively cover the contingencies of concrete situations'.

Policy analysts – trained, managed and instructed to perform according to standard routines and procedures – are members of (policy) communities in which they are confronted with a variety in experiences, insights and opinions of other practitioners, representing network actors. They will be challenged to uphold and defend the existing policy practice and if they cannot do so convincingly, urged to co-work on a new, alternative practice. As a consequence policy analysts must have the ability to surface and process the components for these new practices, brought into play by the discourses of the representatives of network actors involved. Based on Jonsen and Toulmin (1988) and Schwandt (2000a) Wagenaar and Cook indicate that 'the analyst must interpretatively reconstruct their point of view. One has to describe and interpret the concrete, temporal and presumptive knowledge the actor evokes to find his way through the practical contingencies of concrete situations'. Of course, in some way this observation is tributary to Dewey's process of inquiry.

Wagenaar and Cook (2003) advocate that (re-) introducing the practice perspective in policy analysis recasts the traditional object of analysis in dialectical terms[§§]. This means that practice is never entirely instrumental but also entails an overall judgment, taking into account various aspects of the situation, both "the objective" and "the personal". Policy analysis as practical activity can be perceived as 'the relational interdependency of agency and world, of activity, meaning, cognition, learning and knowing (cf. Lave & Wenger, 1991). Policy practice originates from a sense of urgency and of currency about specific and 'real' situations. Being able to relate to such situations, even though not experienced by oneself, is a vital competency for policy analysts. This means that any practitioner, including the policy analyst, will never be 'a detached observer (Wagenaar & Cook, 2003) because 'one's practice rests on one's conduct'. Dunne (1993) rephrases this in: 'how the actor relates to others in the proximate and distal policy environment, and how he or she wants others to see him or her, are inescapable concerns of effective practice'. Actual engagement in policy practice both generates and requires feelings and emotions. Effective policy practice then demands a certain emotional sensitivity from policy analysts and other policy practitioners, in addition to technical and procedural competencies derived from canonical practice (Orr, 1990; Brown & Duguid, 1991). Emotions and feelings are perhaps indicators for emerging non-canoncial practices. We could ask ourselves whether the affective components of effective policy practice are indeed indicators to a need for change and innovation in the public domain? Nussbaum (1990) and Forester (1999) each point to the necessity of combining the cognitive and the affective for providing a practical response or practical reason (*phronesis*). The combination of technical skills (administration, procedures, calculation) with emotional competencies moves policy practice in the domain of deliberation and discourse, pulling it away from the traditional, modernist approach. Wagenaar and Cook (2003) conclude that a deliberative approach to policy practice – in my opinion closely related to the theories on non-canonical practice by Brown and Duguid (1991), Lave and Wenger (1991) and Orr (1990) is inevitable for getting to grips with the new modernity in society and public policy. This inevitability is eloquently indicated by

[§§] Based on Dunne's concept of practice in western philosophy, Wagernaar and Cook point out that policy analysis has become ridden with what they call techne, that is technical reason. They advocate to bring phronesis, practical reason, back into policy analytical practice.

Mayntz (1999): 'in the new modernity of public policy, the analyst works in highly contested situations of policy controversy, where discourses clash. Traditional hierarchic institutions of government see their steering capacity in these situations curtailed, as they have to share power with shifting networks of private and semi-private and transnational organization'. In my view policy practice in the networked society entails more and more entering into non-canonical practice and letting go of canonical routines for problem solving. Wagenaar and Cook address the practice-oriented view on policy analysis as an approach that interactively and deliberately balances problems, people and policies. Policy analysis as 'device for problem solving' is not a question of 'objectification' but a situated product of collective practice: 'problem solving in the practice paradigm is not manipulation of preconceived variables, but more the discovery of preferences, position and identity; it is finding out where one stands in relation to the problem at hand, what we value in this particular situation, who we are in relation to the others who are involved in the issue. Success is not measured in terms of the one best solution, that is in terms of a position on a set of hard, preferably quantitative criteria, but rather (cf. Taylor, 1995a), in terms of transitions' (Wagenaar & Cook, in: Hajer & Wagenaar, 2003), or as I would prefer to say, in terms of change and innovation.

Wagenaar and Cook (2003) advocate that 'what the redefined role of the analyst in the network society amounts to is, above all, a stance. That stance needs to be authentic, critical, participative, reflexive and pragmatic'. In reference to paragraph 3, I interpret this stance as being able to develop serviceable truths, being negotiated among communities of policy actors. The challenge lies not in constructing and implementing cunning policy analytical process for yet another policy plan but in executing such forms of policy analysis that have immediate value for policy practice.

Perhaps policy analysis in our networked society tends to become nothing more than what Levi-Strauss (1966) calls "bricolage", that is 'the ability to make do with whatever is at hand. What *policy analysts* (my italic) need are not the partial, rigid models of the sort directive documentation provides but help to build, pragmatically and collaboratively, comprehensive and robust models that do justice to particular difficulties in which they find themselves'. It is no surprise that 'bricolage' has strong resemblance with William James' pragmatic method. James (1907 / 2003) advocates that 'the pragmatic method in such cases is to try to interpret each notion by tracing its respective practical consequences. What difference would it practically make to any one if this notion rather than that notion were true? If no practical difference whatever can be traced, then the alternatives mean practically the same thing, and all dispute is idle. Whenever a dispute is serious, we ought to be able to show some practical difference that must follow from one side or the other's being right'. This means that policy analysis should be aimed at (ex ante) evaluating the practical consequences of whatever (policy) notions are available, without ending up in an academic discussion on 'what the ideal situation would be'. Instead, assessing the acceptability of 'whatever is available' to conduct policy analysis, is in my view, more productive than endlessly searching for 'the unshakable truths'.

And although Levi-Strauss and James are not commonly associated with deliberations on policy analysis, it is clear that they can contribute to Lasswell's advocacy for a contextualized, problem oriented, diversified and multi-disciplinairy approach to policy analysis.

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