Practical wisdom in Risk Society. Methods and practice of interpretive analysis on questions of sustainable development
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Chapter 3
Methodology and methods for TA on sustainable development issues: a conceptual lens

The challenges that the concept of sustainable development poses to policy analysis have inspired research before (see for instance Roe 1998; Hisschemöller et al. 2001). One such research enterprise is the project on Public Participation and Environmental Science and Technology Options (PESTO). The project described a wide variety of experiences with involving the public (“civic engagement”) in several European countries in debates and in policymaking processes on issues of sustainable development. Lack of time and resources and of a theoretical framework by which to interpret the various findings, according to the authors, prevented the formulation of specific inferences for “the practice and improvement of public participation” (Jamison 1998:16).

The challenge of “making the most of analysis” (to paraphrase Lindblom & Woodhouse 1993) in the face of sustainable development issues also inspired the present research. In this chapter, I will develop a conceptual framework by which to organise the description and analysis of the case material. If the PESTO-papers illustrate one thing, it is the indispensability of an analytic framework to serve as a foothold for reflection on the relation between sustainable development and policy analysis. Furthermore, the conceptual lens by which to conduct the case studies offers both a checklist of issues that deserve particular attention and allows for a certain degree of uniformity in presenting the empirical material. This chapter therefore provides an answer to the first research question: Which methodical and practical factors can be considered of relevance for investigating and understanding the relation between a TA project and the processes of policy formulation and/or technological innovation that the TA addresses?

As was discussed in the previous chapter, for all its methodical richness, the TA literature provided an insufficient basis to develop such a framework. Hence I made the decision to take the classical notion of phronēsis as a point of departure. Below, first, I will explore this concept in detail so as to draw inferences about the methodology of analysis to yield practical wisdom. Thereupon, I will discuss methods for TA by which these methodological guidelines may be made operational in analytic projects. For both exercises, I will draw from various bodies of literature: on political judgment and its meaning in modern political science, on policy analytic methods in general and on TA methods in particular. Subsequently, these methodical insights are related to the characteristics and complexities of the sustainable development concept as outlined in chapter 1. In so doing, I will question, as it were, the methods from the perspective of
their use and applicability in analyses to inform political judgment on the subject. This discussion results in an overview of issues that are potentially problematic or that deserve specific attention in conducting a TA on questions of sustainable development.

Phronèsis as a conceptual starting point in contemporary political thought

To Aristotle, *phronèsis* was a virtue. A virtuous man who possesses *phronèsis* links understanding with compassion. He has the ability to understand and tackle practical problems in a specific situation and to do so in the light of “what is good for [him]self and what is good for men in general” (Aristotle [trans. Ross 1976] book VI:5). Furthermore, Aristotle linked this ability with the capacity to understand the meanings intended by others in their communications. Such insight in the situation of others – putting oneself in their shoes, so to speak – bears on the faculty of judgment, as in that case judgment is “guided by shared concern, informed by reciprocal involvement in situations held in common” (Beiner 1983:72-78, 79).

The Aristotelian *phronèsis*, hence, is a personal quality, the trained thinking style of the individual. In contemporary political thought, *phronèsis* is also considered an important qualification of both the policymaker and the policy analyst. The academic curricula in policy analysis and public administration that were set up after World War II were, generally speaking, intended to train students in this *habitus* or thinking style (see for instance Dunn 1994).

In addition, the pragmatists among the ‘policy philosophers’ expected that the capacity to know what is required in a particular situation and to act consistently on that knowledge could also be organised into the political system as such. Torgerson (1995) traced such a phronetic vein in the political sciences, before and beyond the works of Arendt (among others 1968, 1982) that are generally seen as the main source of the concept’s reintroduction to contemporary political thought. “Often with more or less direct reference to the Aristotelian formulation, the concept of political understanding has formed a recurrent point of reference in efforts to draw twentieth-century American political science into the realm of practice,” Torgerson writes (1995:247).

The author identified the concept’s practice-oriented interpretation in the writings of Dewey, Merriam and Lasswell. While Dewey’s focus on public problem solving and on “judgment and reasoned discussion in the context of action” merely bore, according to Torgerson, a resemblance to *phronèsis*, Merriam literally referred to the Aristotelian concept in relation to his idea of “new politics” (Torgerson 1995:231). Merriam perceived “political prudence” as “the conclusions of experience and reflection regarding the problems of politics: wisdom that does not reach the state of science, yet has its own significance” (Merriam 1931:163). Such *phronèsis* could be reached by “a representative group of wise men and women” who have facilities for inquiry at their disposal.

The way in which the phronèsis concept is used and interpreted differs somewhat between the various authors. The quintessence of the notion yet serves as a common denominator in the various interpretations. According to Torgerson, this is “a way of knowing involved in practice, [which] pertains to those domains, characterized by variability and contingency, in which the subject matter itself excludes the possibility of knowledge being fixed with precision, accuracy, and certainty” (1995:248). This interpretation led him to define phronèsis as a “form of political understanding attuned to the complexities of particular contexts” (1995:225).

In Torgerson's definition, one crucial element of Aristotle's practical wisdom is overlooked: the understanding of the particular in relation to a more general grasp “of what it is to be a complete human being, and to live a proper human life” (Beiner 1983:73). It is precisely because of this contextual understanding in the light of a more general notion of 'goodness' that the concept of phronèsis can serve as a conceptual starting point for organising knowledge generating activities to inform political judgment on sustainable development issues.

In search for a methodical elaboration of the phronèsis concept

Recourse to the classic notion of phronèsis is not a sufficient basis to find clues on how to organise phronetic knowledge generation activities in present-day society. Aristotle's phronèsis, after all, befitted the clear-cut context of the polis. There, the relation between 'power' and 'truth' was straightforward: it acquired form and substance in the relation between a ruler and his advisor (Hoppe 1998a). Furthermore, the monopoly on truth and reason in Aristotle's time was attributed to the select company of a few privileged, experienced individuals close to the centre of power (the phronimoi).

Contemporary society presents a situation that is diametrically opposed to that of the city-state in ancient Greece. At present, the locus of formal power is distributed across various levels of political institutions, between which the boundaries are often unclear (such as for instance between the European superstructure and the central governments of the individual EU member states). As the aforementioned concept of subpolitics indicates, moreover, power is also dispersed among actors in formally non-political realms of society such as science, business and non-governmental organisa-
tions. In addition, the legitimacy of producing truth is claimed by a multitude of actors, among them the traditional centres of science and research.

The acknowledgment of the dispersion of power and knowledge as well as of their intertwinment gave cause to the argumentative turn in policy analysis that was briefly discussed in the first chapter. Just like the focus on sustainable development offers a substantial point of departure in the pursuit of a methodical elaboration of the *phronēsis* concept, the argumentative approaches to policy analysis may form a suitable methodical starting point for the present search.

**Argumentative approaches to policy analysis**

A complicating aspect of taking the argumentative view on analysis as a methodical point of departure is that it is considered methodically underdetermined (Torgerson 1995; Hisschemöller & Hoppe 1995-96:nt.1; Mayer 1997). The policy philosophers who gave incentive and body to the argumentative turn have met with considerable criticism for not elaborating their line of argument into concrete methodical prescriptions. With reference to the objective of yielding *phronēsis*, an author such as Jennings merely speaks of the need to set up an “open and undistorted process of collective deliberation” (Jennings 1987:146) that requires a specific combination of intellectual quality and ethical responsibility of the policy analyst. The question as to ‘how’ in a pro-active (rather than descriptive) methodical sense “agreements about how we shall live together” (Forester, cited in Schön & Rein 1994:51) can be reached has been largely left open.

For instance, in 1987, Bobrow and Dryzek provided an overview of the “conceptual lenses” by which “the policy analyst, like any expert, interprets reality (...) [and which] provide guidelines for interpretation, explanation, prediction, and evaluation” (Bobrow & Dryzek 1987:5). In order to deal with the inherently political aspect of analysis, they outlined an alternative approach to analysis. They did so, first, through a “metatheoretical introspection”, taking recourse to the philosophy of inquiry and, second, by stressing that policy analysis is above all a practical activity. To underscore this, they chose to speak of “policy design” rather than of analysis. They refrained, however, from me-

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1 To some, the incompatibility between the polis and the modern forms of governmental organisation and power distribution renders the idea of *phronēsis* inappropriate to current political thought. According to Torgerson, Dewey was of this opinion (Torgerson 1995:233).

2 Bobrow and Dryzek’s now classic overview was written at the dawn of the argumentative turn, itself contributing to the acknowledgement of the political nature of knowledge and of knowledge generating activities: “...[I]n choosing a frame of reference for policy analysis and design we pick not only an agenda for research but also, de facto, an agenda for public policy by making some topics of inquiry more central than others, making some kinds of policy instruments look markedly more attractive than others, and making some social consequences of policymaking more legitimate than others” (1987:8).
thodically detailing an approach to analysis that befits the alternative they outlined. Instead, they referred to the stock of then-available approaches and epistemologies for a practical elaboration of such a policy design, yet admitted that this probably would fall short of providing tools for analysis when it came to complex or controversial policy issues. Such issues, which they identified as being characterised by profound uncertainty and dissensus on values (unstructured political problems, in other words) should be reason and incentive “to advance the foundations of policy design by exploring and developing approaches, with [the] gaps in our current set of tools in mind” (1987:207).

Among the most prominent to pick up, so to speak, on the suggestion made by Bobrow and Dryzek are Schön and Rein. In their 1994 book, they propose what they call a “design rationality” to deal with stubborn policy controversies (Schön & Rein 1994:XVIII). The quintessence of their approach is that they take as a starting point for analysis the “structures of belief, perception and appreciation” on the basis which policy actors choose their policy positions (1994:23). These structures of beliefs, the authors dubbed “frames”. Schön and Rein understand policy controversies as arising from conflicting frames among contending parties. Not only do they descriptively map the various levels of aggregation on which such frames may be formulated. They also present a “frame-reflective approach to policy practice” by which “practitioners” (i.e. – please note – policymakers rather than policy analysts) may come to pragmatic resolutions by “reframing policy dilemmas” (1994:57, 187).

With their empirically informed elaboration of policymaking as design practices, Schön and Rein make a very strong case for “frame reflection”. They convincingly argue that frame awareness among policymakers and their ability to critically reflect on these frames may eventually lead to pragmatic solutions. However, while they start their exposé with reference to the role of mediators in public disputes, they stop short of outlining methodical guidelines for policy analysts to assist present-day policymakers with the necessary frame-reflective efforts. Schön and Rein attach no methodical inferences for analysis to their observations, other than the suggestion that policy researchers could assist policy practitioners in carefully reconstructing the frames that underlie their policy positions. In addition, they plead for an adjusting of the current educational curricula to help future practitioners to become reflective, design-rational inquirers themselves.

Another source for suggestions to analytically deal with intractable policy controversies may be derived from the empirical work that is conducted in keeping with Sabat-

1 Policy design, according to Bobrow and Dryzek, entails three core elements. First, it requires a clarification of values to the point where they can provide clear guidance for developing and weighing policy alternatives. Second, it requires a thorough exploration and understanding of the context in which both the policy and the policy analytic project take place, that is, it should be “sensitive to the context of time and place.” Thirdly, it requires an assessment of the position and perspective of the intended audiences of the analysis, that is, of all “those in a position to further or hinder a policy, or those the policy will ostensibly serve” (Bobrow & Dryzek 1987: 19).
ier's approach to policy research (cf. Sabatier & Jenkins-Smith 1993). Sabatier has coined the term "policy belief system" to refer to the set of normative assumptions and empirical causal theories by which a policy actor perceives a situation and 'frames' (in the words of Schön and Rein) a policy problem.4

The notion of policy belief system strongly resembles Van de Graaf (1988)’s interpretation of the "policy theory" concept. To Van de Graaf, a policy theory is the set of assumptions and theories that policy actors use to formulate problem-solution combinations. Building on Sabatier’s work as well as that of Schön and others (among which Fischer 1995), in later work, this concept was elaborated into the aforementioned analytic tool to analyse the motives and considerations on the basis of which professional actors decide on their line of action, and to track possible changes therein (see chapter 2, figure 2.1). In contrast to Sabatier, Grin and Van de Graaf extended their interpretation of belief system or “interpretive frame” to include non-state (“policy area”) actors as well (Grin & Van de Graaf 1996a, 1996b).

Grin and Van de Graaf’s concepts, as well as those of Sabatier’s, inspired a number of Dutch political scientist to empirically investigate the way in which, and the conditions under which (policy) belief systems may change (see Eberg 1997; Van Est 1999; Van Baren 2001). They, however, did not proceed to systematically reflect on the analytic practices and methods that were involved in the changing practices and perceptions they studied.

More specific methodical suggestions can be found in an entirely different body of literature, namely in that on action-oriented participatory research in the developing world (see for instance Broese 1998). Relatively many recently developed approaches to analysis and action research in that context root in the post-positivist (‘argumentative’) perspective (Scoones & Thompson 1992). This body of literature is seldom re-

4 The notion of policy beliefs Sabatier embeds within the context of an analytical framework he developed for understanding policy dynamics, the Advocacy Coalition Framework (ACF). The framework focuses on the policy subsystem as a unit of analysis, which comprises "those actors from a variety of public and private organizations who are actively concerned with a policy problem or issue" (Sabatier 1987:652). Within such a subsystem, a number of advocacy coalitions can be distinguished as analytic entities, composed of people who, according to Sabatier, "share a particular belief system, i.e. a set of basic values, causal assumptions, and problem perceptions and who show a nontrivial degree of coordinated activity over time" (1987:660).

5 Fischer’s framework for “practical deliberation” presents a method for inquiry and evaluation which incorporates the full range of both the empirical and normative concerns that can be brought to bear on an evaluation (Fischer 1995:17-20). The methodology he outlines serves to side-step the naturalistic error in reasoning, that is, the assumption that a factual observation can serve as the sole basis for a normative statement. Basing his framework on Taylor’s investigation of the logic that underlies the justification of judgments, Fischer distinguishes between two domains of political judgment in evaluation. On the one hand, there is the first-order discourse that questions the decisions that have been made within the context of the existing societal arrangements and valid normative assumptions. On the other hand, there is the second-order discourse in which the legitimacy and acceptability of the existing societal arrangements and the validity of the normative assumptions themselves are put up for discussion. Both discourses are characterised by a normative and empirical level of argumentation, as a result of which Fischer’s evaluation framework is a four-tier construct, encompassing a technical-analytical discourse (which he calls “program verification”, and which involves judgment on program outcomes), a contextual discourse (“situational validation”, involving judgment on objectives), a systems discourse (“societal vindication”, involving judgment on goals) and an ideological discourse (“social choice”, involving judgment on values) (1995:232).
ferred to in mainstream political science (Fischer 2003). Yet, it offers very practical insights in the ways to design and stage argumentative analysis for collectively investigating social problems (cf. Grin & Loeber 1993; Bunders et al. 1996). Interestingly, many approaches that take rural people's indigenous knowledge in the developing world as a point of departure focus on sustainable development and the possible role of technology in such a development (cf. Farrington & Martin 1988, Haverkort et al. 1991, Reijntjes et al. 1992). The setting in which these analytic activities take place, however, deviates from the institutional context of Northern policy practices to such an extent, that these cannot provide an exhaustive source of examples for Western style TA on sustainable development issues.

The desirability of methodically elaborating phronèsis

The methodical underdetermination of the argumentative turn in policy analysis arguably has its reasons. Method and practice of analytic projects are closely intertwined. The argumentative turn in policy analysis explicitly emphasised a focus on practice: “The argumentative view is a deeply practical one. We ask not only what an analysis claims but when it does, to whom, in what language and style, invoking what royalties, and appealing to what threats and dangers” (Fischer & Forester 1993:6). The context-specific character of such a policy analysis prevents any attempt at providing a cookbook-like methodical elaboration from being fruitful (cf. Bobrow & Dryzek 1987:21; Forester 1999:11).

Therefore, many authors on argumentative policy analysis feel that a sheer discussion of methods is not desirable. They resent attempts at analytically ‘stripping’ methods from the power-laden context in which it they are being employed. Analysis of policy controversies and of their underlying (often tacit) frames, Schön and Rein (1994) argue, cannot be the act of a reclusive thinker withdrawn from the reality he analyses. Rather, it is a process of designing and redesigning ‘situat ed’ resolutions through reflection on and in action.

A mere discussion of methods may fail to appreciate the complexity of the practice of conducting an analysis, especially when the analysis concerns contestable policy issues. The practical context of an analytic project is not only likely to affect its outcome and impact but also to affect the project itself. The context enters the analysis, so to speak. Furthermore, the requirement to act on the results of the analysis obviously implies a need to take seriously into account the particularities of the practices of the actors that it seeks to address. Methodical prescriptions therefore may loose their merit, if not their potential effectiveness in a power-laden action context.

From a different angle, this assertion is illustrated by the many ‘how-to-do’ books on interactive analysis, participatory planning, work conferencing and the like that have
seen the light over the past decade (see for instance De Jong & Hickling 1993; Van den Berge et al. 1994; Oelen & Struiksma 1994). These books, which reason ‘to and fro’ between practice and method, inevitably put an emphasis on the first aspect too. The applicability of the resulting ‘how-to-do’ guidelines, that in general are methodologically sparely undergirded, is rather limited as they do not necessarily fit the diversity of other analytic practices.

Proceeding from description to prescription hence may be frowned upon. Too strict a formalisation of rules may result in their application in practices in which they don’t fit. Furthermore, one could argue that rules and methods for phronetic analysis should be developed within an analytic project, so that they can be subjected to the deliberation process themselves in a similar fashion as the project’s contents (cf. Dryzek 1990).

Yet, without serious attempts at codifying methods for (argumentative) policy analysis or (interpretive) TA, efforts to organise analytic projects on, say, questions of sustainable development time and again will be a shot in the dark. The development of the profession requires a systematic reflection on past experiences. A pragmatic solution to this seeming controversy is to discuss methods, given their intertwining with practice, in the light of their underlying methodology, that is, to relate them to their underlying “overall guiding strategies” (Guba & Lincoln 1989:158). This choice is based on the assumption that for an analyst, recourse to a meta-theoretical level may be helpful to provide a foothold for selecting methods under given circumstances.

**Inferences of phronēsis for the methodology of TA**

In order to explore the methodological implications of phronēsis for analysis to yield practical wisdom, we need a more substantive understanding of the concept. To that end, I follow Beiner’s (1983) elaboration. Beiner extensively discusses the notion of political judgment. As was observed in chapter 1, both concepts are not identical, yet the capacity to exercise political judgment may be considered an essential component of phronēsis (Beiner 1983:73).

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6 Beiner’s attempt at systematically analysing political judgment integrates the Kantian and Aristotelian dimensions of judgment and draws on the work of Arendt, Gadamer and Habermas (1983:103). Other explorations of the concept are less comprehensive or focus more on its implications for the policy sciences than on its contents (Ruderman 1997; Torgerson 1995). An exception is Steinberger (1993) who explores the concept exhaustively, taking – like Beiner – Arendt’s interpretation as a starting point. The most critical difference in his interpretation of ‘political judgment’ from that of Beiner is that he, Steinberger, regards political judgment as an “intelligent performance” that involves both insight (“knowing how”) and intellect (“knowing that”) (Steinberger 1993:294). By adopting this position, he reacts against the “common habit,” Steinberger posits, of distinguishing sharply between the capacity for judgment on the one hand, and the intellectual and theoretical ability for reaching a decision on the other. This, however, does not imply, Steinberger adds, that he is of the opinion that “political wisdom is reducible to some sort of rational calculus” (1993:295). With his approach, however, in my opinion, Steinberger more than Beiner emphasises the cognitive aspects of political judgment at the expense of its practical component.
In his view, political judgment is reflective and representative judgment on the interface between the reflective order and the practical order in deciding on a course of action (1983:129-152). It is *reflective* in that it involves judgment – that is the activity of finding “the correct concept with which to apprehend a given instance” – in a situation where a universally valid rule or principle by which to judge the ‘instance’ is lacking. Such a general standard must therefore somehow be produced from out of the particular (1983:129). It is *representative* in that it encompasses in the deliberation the (presupposed) views and standpoints of others in the community which the judgment concerns (1983:75-79). In addition, it involves a deliberation on the interface between the practical and the reflective order as the generation and clarification of the standards for judgment are intended explicitly for guiding *praxis*.⁷

What does this elaboration of the *phronèsis* concept imply for the organisation of TA to inform political judgment? Below I posit three methodological maxims for analysis that can be inferred from this interpretation of political judgment.

**Practical wisdom is context-specific**

*Phronèsis* can be distinguished from rational, objective truth in that it does not compel universal validity. This holds implications for the way in which practical wisdom can be generated and tested. Beiner (1983:107-109) elaborates these implications by referring to Kant’s exposition on ‘reflective’ (as opposed to ‘determinant’) judgment.

According to Kant, there are two ways of approaching reflective judgment: one he associates with the judge in the role of ‘spectator’ and which focuses on the ‘meaning’ of action, requiring the analyst to have qualifications such as disinterestedness and detachment, and one he associates with the role of ‘actor’ and the ‘purpose’ of action. Such a role requires different qualities of the judging actor, such as experience and maturity. Arendt in her conceptualisation of political judgment (1968) adopts the first approach, while the second line of thought is adopted by Gadamer in his search for a conceptualisation of hermeneutic judgment. Beiner argues that a combination of both standpoints is called for: the distance of the former is required to “rescue the actors from the flux of time” (1983:107) while the latter provides the wisdom to understand “the pursuit of human ends (1983:109).

The philosophical argumentation by which Beiner supports his point of view – he invokes the principles of ‘dignity’ and ‘wisdom’ to outline the difference between the

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⁷ As was argued in chapter 1, the considerations regarding *praxis* are of relevance to the topic of (sustainable) technological development as well. In contrast to the “Aristotelian distinction” (Beiner1983:31) between the realm of human (inter)action (*praxis*) and the realm of craft, of making (*technē*), in this book, in line with the actor/network approaches to technological development (see for instance Callon 1986; Pinch & Bijker 1987) technology development is considered a hybrid of the two. Technology is understood as both the resultant of, and boundary condition for human action, that is motivated by considerations that pertain both to *technē* and to *praxis*.**
standpoint of the ‘spectator’ and that of the ‘actor’—may seem rather out of place in a treatise on TA and sustainable development. Yet, the quintessence of the argument is relevant for the present quest. To answer the question ‘what do I need to know in order to come to judgment on the particular situation I encounter’, context-specific knowledge is needed, that is, knowledge that combines both points of view.

In order to understand human action, it does not suffice to take the position of an outsider who, by means of empirical-analytical research methods, observes merely the physical manifestations of acts. For a proper understanding of the actions of others in relation to the facts we observe, one needs to adopt an approach to inquiry by which we can discover the meaning that these acts and facts hold to the actors themselves. Such an approach is hermeneutic. A hermeneutic approach to data collection differs from an empirical-analytical approach in that “[a]ccess to (...) facts is provided by the understanding of meaning, not observation” (Habermas 1971:309), which can be reconstructed on the basis of the interpretation of (written or spoken) texts (Verstehen). Yet, as was observed in the previous chapter, there is more to understanding action than discovering the mere subjective meaning that actors themselves attach to their actions. One cannot ignore the context in which the subjective meaning of an actor is ‘constructed’. A hermeneutic approach does not rule out the need or the legitimacy of empirical questions about what factors influence actors’ actions (Erklären).

In other words, the structuring of a policy problem, that is, the activity of processing information to elaborate the problem situation-as-experienced into a problem-socially-articulated, requires knowledge that results from the spectator’s perspective as well as that from the actor’s perspective. A combination of the two roles, like Beiner suggests, is a fruitful approach to generating knowledge for informing political judgment on issues of sustainable development for which, after all, there is no universally valid rule or principle to judge by.

The potential gap between the two types of knowledge (and of the knowledge generating activities involved) can be overcome by the mere use of language as a medium.8 It

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8 The combination of roles of the inquirer, operating as spectator and as actor, implies an approach to analysis that involves on the one hand “distanced information gathering” and on the other hand an approach to gaining insight in the subjective meanings that actors attach to their actions. Methodologically this ‘double role’ poses, at least from the perspective of the philosophy of science, an intricate problem, referred to as the ‘Controversy on Explanation and Understanding’ (CEU) (Bij de Weg 1996:337). The controversy centres on the two points of view one can take when looking at what people do. On the one hand, taking the spectator’s point of view, one can explain what people do, focusing on causes and consequences of the actors’ actions. On the other hand, by taking the actor perspective, one can understand what people do, by focusing on the reasons the actors themselves have for acting. This distinction resulted in a ‘controversy’ (Verstehen as opposed to Erklären) as the two approaches were often considered mutually exclusive (Riley and Nelson 1974). However, in practice, in the act of inquiring, the two appear not at all diametrically opposed to one another but, on the contrary, seem complementary. This common sense observation has induced various authors in the field of the philosophy of science and in the social sciences to either ‘bridge’ or ‘undo’ (from a variety of perspectives) the apparent dichotomy between the two. Among these are Apel (cf. Bij de Weg 1996), Winch (1963; cf. Bernstein 1976:63-74) and Giddens (1984). Winch’s (1963) approach, which is based on the so-called linguistic turn in philosophy that was headed by Wittgenstein, offers the most pragmatically evident solution, as it is through language that objectively observable factors and subjective meanings are attached to actions.
is through language that observable factors are related to the subjective meaning attached to actions. On a practical level, therefore, an integrated approach to analysis is plausible, provided that the organisation of the analytic effort allows for an exchange of any information, either gained via empirical-analytic or hermeneutic modes of inquiry.

With regard to the methodology of analysis to inform political judgment, the above elaboration of the context-specificity of practical wisdom suggests the following inference: Analysis that is intended to inform political judgment should adopt a hermeneutic approach to data collection which does not rule out the possibility or legitimacy of employing empirical-analytic methods to assess relevant facts, and which allows for a ‘deliberative mode’ of exchanging the information that results from such an assessment.

Practical wisdom concerns the collective

The ‘double perspective’ required for generating context-specific knowledge self-evidently enables actors to understand the position of others. This, however, does not suffice to meet the prerequisites of phronèsis, which requires more than merely being informed about the viewpoints of others. As observed above, it encompasses the element of compassion, which finds expression in a commitment to understand the situation of ‘the other’ and to let that understanding come to bear on one’s judgment.9

Following Beiner’s interpretation, this commitment goes beyond a mere feeling of being responsible for the collective way of life. It presupposes insight in the standpoints of the members of the community through the ability to comprehend their “utterances”. It does not involve a mere taking notice of their points of view but rather the ability “to experience fellow-feeling or empathy” (1983:75-76). Thus, the “prudent man (...) [is able], not just to judge, but at the same time to judge-with (as among citizens) – judgment guided by shared concern, informed by reciprocal involvement in situations held in common” (1983:79, italics in the original).

For the practice of knowledge generation, this implies that the existence of a plurality of worldviews must be acknowledged and taken seriously in the set-up of an analytic project. Various views ought to be weighed against one another. How can this be achieved? Beiner’s exposition of this aspect of phronèsis is inconclusive. Arendt’s (1968)

9 Schön and Rein’s (1994) account of Kissinger’s views on putting oneself in another person’s shoes may serve to illuminate how a thorough understanding of the position of others may lead to additional, useful insight, but does not necessarily yield phronèsis: “In his practice of international realpolitik, for example, Henry Kissinger has made a great deal of the need to put oneself in the other party’s shoes. For Kissinger, however, reflection on the other person’s way of looking at things mainly serves the purpose of image- or impression management. Kissinger seems to believe that an image manager should try to understand how others think so as to discover the meanings they attach to the manager’s actions, in order to manipulate them more effectively. ... [This] underlines the importance of ‘getting into [your contestants’] heads’ in order to predict the lessons they are likely to draw from your actions, which may, in turn, enable you to design your actions so as to communicate the lessons you want them to draw” (1994:39).
elaboration of what she calls "representative thinking" however offers some practical guidance.

Arendt describes the idea of 'representative thinking' (which she developed on the basis of Kant's maxim 'an der Stelle jedes Anderen denken') as "making present to my mind the standpoints of those who are absent. ... The more people's standpoints I have present in my mind while I am pondering a given issue, and the better I can imagine how I would feel and think if I were in their place, the (...) more valid [will be] my final conclusions, my opinion" (1968:241). As opposed to the solitary nature of thought, in her view, the exercise of representative thinking yields practical wisdom that reaches beyond the actor's own personal sphere of life.

How can the views of others be included in an analysis? For Arendt, all that is needed for representative thinking is the "disinterestedness, the liberation from one's own private interests" (1968:242). This idea of being free of private interests resembles Habermas' ideal of a machtsfreie Diskussion (see chapter 2, this book, nt.2). However, unlike Habermas, Arendt conceives of such dialogue as taking place within one's own mind. The dialogue according to Arendt is conducted with an inner dialogue partner.

Empirical insight in the ability to include and understand various perspectives in (policy) analysis shows that such an understanding of representation has its drawbacks. An exercise of representative thinking can be successful to a certain degree only, due to the limited information processing capacity of an actor (cf. Lindblom 1959; Lindblom & Woodhouse 1993). In the absence of a synoptic rationality, the all-embracing quality required in invoking other people's ideas and standpoints is inevitably restricted. In addition, the required impartiality that Arendt describes is beyond the reach of human thought. Not because of some inherent wickedness on the part of an analyst but, as said, because an actor's thoughts are "framed" within a certain constellation (cf. Schön 1983; Schön & Rein 1994). Such a frame, which comes into being on the basis of professional training, experience and normative considerations, forms an impediment for the breadth of the range of viewpoints that can be taken into consideration.

Instead of a mental experiment with an inner dialogue partner, therefore, it appears useful to perform the analysis by engaging in a social experiment with real actors representing various standpoints. For this reason, a participatory approach to knowledge generation is called for. This argument for adopting a participatory approach to analysis offers a distinct alternative to the sets of arguments in regard to participation that build on the idea of enhancing the democratic ideal.

Concerning the question as to who is to participate, the phronésis concept adds a substantive consideration as well. The aim of generating practical wisdom makes demands on the participants of the analytic project: those who 'judge' must display a thorough practical understanding of the problem, acquired through a continuous and serious involvement in the issue at stake (cf. Fox & Miller 1996). Numerical representa-
tion does not guarantee that the knowledge, which is required for the purpose, is available within the social experiment. The participants must be those actors who in everyday life get their feet wet, so to speak: the people from the shop-floor and the experienced practitioners (who by the way are not necessarily those who are considered 'experts' on the basis of their professional training and status).

As concerns the issue of how actors are to participate, the concept of phronesis furthermore gives some indication to specify the methodological inference of the need to adopt a participatory approach. The aspect of ‘judging-with’ implies equality between participants and analyst, in the sense that all are in a position to have their points of view come to bear on the judgment. It implies that the participants are on an equal footing with the analysts. The relevance of this statement becomes clear when we consider the quintessence of problem-structuring: “... [I]ll-structured problems demand that the analysts take an active part in defining the nature of the problem itself. In actively defining the nature of the problem, analysts must not only impose part of themselves on the problem situation but must also exercise creative judgment and insight” (Dunn 1994:147, italics in the original). The organisation of the participation process hence should be such that participants – in their role of co-analysts and ‘co-judges’ – actually have the opportunity to ‘impose part of themselves’ onto the problem as well as to exercise creative judgment in view of that.

This elaboration of practical wisdom as the capacity to ‘judge together’ suggests the following inference for the methodology of analysis to inform political judgment: Analysis that is intended to inform political judgment should be organised as a participatory process, in which actors representing different perspectives on an issue participate in such a way that their ‘particularities’ and viewpoints are sufficiently acknowledged in the deliberation to bear on the resulting problem definition.

Practical wisdom is oriented on action

A third and last specific characteristic of the phronesis concept is that it entails judgment that is embodied in action. This feature of practical wisdom implies, firstly, that the results of a process of judging are focused on a course of action to be taken. Political judgment is, according to Aristotle, by definition future-oriented, always leading in his view to praxis.10

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10 For Aristotle, this characteristic was decisive in differentiating political judgment from legal judgment; the latter's temporal direction being retrospective rather than prospective. At present, considering the role of jurisdiction in current policymaking processes, this distinction, if at all relevant, can be considered prescriptive rather than descriptive.
Yet, the concept's meaning cannot be understood by referring to the object of the judgment alone – the resulting insight in what to do – but should be considered a quality of the judgment itself. As explained by Beiner: “If I see what the situation requires, but am unable to bring myself to act in a manner befitting my understanding, I possess judgment but not phronésis” (1983:74). The orientation on action hence is, secondly, an intrinsic quality of practical wisdom.

Beiner’s explanation implies that phronésis involves ‘knowledge that enables us to act’ rather than ‘knowledge that informs us about action’. Therefore, a mere participatory mode of analysis does not suffice.” The particularities of each of the participants must come to bear on the analysis, in such a way that the result predicates action by the members of the community. In order to understand the purport of this observation, we have to look more closely into the relation between knowledge (‘understanding’) and action (being ‘able to act befitting that understanding’).

The knowledge on the basis of which an actor decides on what is a rational course of action is described by Schutz (1962) as the stock of knowledge at hand: “all interpretation of this world is based on a stock of previous experiences of it, our own and those handed down to us by our parents or teachers; these experiences in the form of ‘knowledge at hand’ function as a scheme of reference” (1962:7). In Schutz’s view, this stock of knowledge at hand includes not only information about the observable world but also incorporates the beliefs, expectations, rules and biases by which the observer interprets the world. The stock of knowledge, that forms the basis on which an actor chooses between possible courses of action to be taken, is constantly tested, refined and modified through experience.

The link between this concept and the aforementioned notions of “frames” (Schö n 1983; Schön & Rein 1994), “belief system” (Sabatier 1987) or “policy theory” (Van de Graaff 1988) is clear. Whether or not with explicit reference to Schutz, these authors refer to the tacit stock of knowledge that plays a role in choosing between alternative options for action. They vary in their interpretations as to the focus of an actor’s knowledge (e.g. his professional work or his policy views) and to the way in which the subsets

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1 Habermas’ projection of deliberation as ‘ideal speech,’ for instance, in which actors are supposed to participate on an equal basis, appears unfit for the purpose of generating practical wisdom. ‘Ideal speech’ is a form of communication that is by definition “removed from contexts of experience and action” (1976:107) for the purpose of seeking truth. According to Habermas, there are no restrictions at all on the scope of the discussion, provided that the only goal is to ferret out the truth, “that no force except that of the better argument is exercised; and that, as a result, all motives except that of the cooperative search for truth are excluded” (1976:108). Such a kind of discussion hence by definition ignores the particularities of the situations in which each of the participants operates (access to resources, power relations etcetera). It can therefore not result in phronetic knowledge to ‘guide the actions’ of actors within a particular context.

2 The phrase ‘tacit knowledge’ has been coined by Polanyi and refers to what he quite simply defined as that which “we know more than we can tell” (1967, p.4). The adjective ‘tacit’ is appropriately used in the context of “stock of knowledge” (Schutz) or “frame of meaning” (Schön) as an actor generally does not self-consciously formulate the way in which he typifies the world (Bernstein 1976:147).
of elements that constitute the ‘stock’ may be analytically distinguished and categorised.

While Schutz analysed the tacit knowledge that plays a role in every-day social interactions (such as greeting, or standing in a crowded elevator), Schön (1983) described the tacit knowledge involved in problem setting and resolving. In his writings, he focused on the “practitioner” seeking to solve a problem within the context of his or her professional field. He observed how these professionals go about defining problems and formulating solutions in cases which they consider unique and which are characterised by complexity and uncertainty. He concluded that an actor “frames” the problem he encounters in a certain way, making use of the normative assumptions and empirical theories that pertain to his professional training and that result from experience, and in so doing sets out a strategy for solving it. In response to the signals he receives while working on the solution (listening to the situation that “talks back” as Schön put it) he thereupon, time and again, adjusts both the solution strategy and the initial way he framed the problem.

Hence, the activity of framing as described by Schön strongly resembles the notion of problem structuring (Van de Graaf & Hoppe 1989; Dunn 1994; Hisschemöller & Hoppe 1995-96). “‘Framing’ is (...) a way of selecting, organizing, interpreting and making sense of complex reality so as to provide guideposts for knowing, analyzing, persuading and acting” (Rein 1986:2). The iterative reflective process of inquiry that constitutes the structuring process, which Schön described as “reflection-in-action” (1983:54), may give way to “frame analysis”, that is, to a critical reflection on the approach the actor adopts to the framing exercise itself. This occurs when a practitioner becomes aware of his frames and of possible alternative ways to frame the same problem (1983:310). In that case, the actor engages in “reflection-on-action”, which Schön also refers to as “second-order reflection” (1983:282) in comparison with the ‘first order’ reflection involved in reflection-in-action.

Reflection-in and on-action is perhaps the most apt description of the process that was initially described loosely as ‘rethinking our ways’ and that in the previous chapter was defined, following Sabatier’s conceptualisation, as ‘learning’.” The learning concept was practically elaborated there with reference to Grin and van de Graaf’s aforementioned analytical structure of an actor’s interpretive frame (figure 2.1). Now, the link between knowledge, learning and action may be clearer. Interestingly, Grin and Van de Graaf use the Dutch word handelingstheorie (action theory) to describe the amalgamation of varieties of arguments by which an actor tries to make sense of a problematic.

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1) In this book, I use the word ‘learning’ rather than reflection-in/on-action, simply because the former is a verb. Furthermore, learning is a more neutrally used term in the policy sciences literature than the verb “framing” which is closely associated with the specific approach to dealing with policy problems as developed by Schön cum suis (cf. Schön & Rein 1994).
situation. More than any of its English equivalents ("interpretive frame", "frame of meaning"), the Dutch word captures the action-orientation that is inherent to it.

Now too, the relevance of the learning concept may be explored more fully. In everyday life, people constantly engage in first order learning processes. Observation and experience provide a continual flow of information through which an actor can come to reflect on his or her goals and actions, and on the way in which these goals and actions relate to one another in relation to the context in which s/he operates. Such reflection may induce changes in the tacit stock of knowledge that actors bring to bear on the problem solving activities in their professional work. This type of learning (first order learning, also referred to as "single loop learning", Argyris & Schön 1974) generally results in incremental changes in a person’s problem-solving strategies. The fundamental notions on the basis of which he goes about things remain intact.

Actions that may induce and stimulate a sustainable development arguably require the occurrence of second order ("double loop") learning as well. For the drastic changes that the concept implies, a critical reflection on the fundamental values and background theories is in place (cf. Fischer & Hajer 1999). Second-order learning may result in major changes in an actor's strategic choices, objectives and preferences. This kind of "frame reflection" however is unlikely to occur spontaneously.

The degree of self-reflection that is implied in second-order learning is hard to achieve of one's own accord. In the absence of any impetus to reflect fundamentally on the basic assumptions underlying the present state of affairs, the embedded rules are – often implicitly – factored out of the discussion. A constant questioning of these assumptions interferes with daily routine and would render a working process highly inefficient. Furthermore, in daily professional practice, such reflection is discouraged by the "defensive routines" (Argyris 1990) that a person often subconsciously adopts to avoid confrontations with discussion partners (such as co-workers), the threat of losing face and the feelings of unease that accompany such confrontations. Such uneasiness may also be experienced when someone is confronted with information that does not match his understanding of a situation, such as information on the unforeseen effects of his actions. A common response in such a situation is to avoid the unwelcome information. It is either ignored or dismissed as unimportant or untrue, unless others explicitly direct the person's attention to "what he has worked to avoid seeing" (Schön 1983:283).

Second-order learning, in other words, may occur when a person is no longer able to "wall off" dissonant information or when one deliberately wishes to reflect on one's professional practice. A setting in which defence mechanisms are dismantled and one is stimulated by others to take into consideration new and possibly counter-intuitive information may therefore encourage and accelerate the learning event. Such a setting
can be created in the context of an analytic endeavour that is shaped as a social experiment.

The elaboration of the relation between knowledge generation, learning and action implies a further refinement of the methodological maxims that can be formulated on the basis of the phronēsis concept. It allows for a distinction between participatory forms of analysis that are not conducive to learning and those that are. For the purpose of generating practical wisdom, i.e. of knowledge that may give guidance to action and that enables actors to act, the latter forms of participatory analysis are called for: Analysis that is intended to inform political judgment should be organised in such a way that it may induce learning on the part of the participants as a result of the exchange of information i) on the problem situation, ii) on the way in which others define the problem and iii) on the particularities of the contexts in which these others operate, so as to make possible a reflection on their own interpretive frames, and to enable participants to act in line with these new insights.

With the formulation of this methodological maxim, the ‘action-oriented’ quality of the phronēsis concept is not fully covered. As was observed in the previous chapter, an actor’s ability to redirect his/her course of action in the light of newly acquired insights critically depends on his or her resources, on the availability of (internal or external) incentives to do so and on the room for manoeuvring (in terms of structure) that an individual experiences.

An analytic project may yield insights in the possible relevant external incentives as well as in possibilities for changing the room for manoeuvring that is required to trigger further dynamics towards envisioned ends. The analysis may result, for instance, in an understanding of the conditions that restrict or enable policymakers to act, by yielding information on deadlines and strategic opportunities that pose restrictions to the activity of the cognitive aspect of policy design. The implications of the concept of phronēsis for processes of policy analysis hence go beyond a mere favouring of the learning potential. It also involves allowing for the generation of insights in precisely the constraints and opportunities that may co-determine the actions of relevant actors.

14 The distinction is a refinement of the observation that interaction (such as in participatory analytic projects) is a prerequisite for developing knowledge that is useful for the “world of action” (Wildavsky 1979:27-28, 35; Lindblom & Cohen 1979). To Wildavsky, interaction as such implied a process of policy-relevant social learning (1979:404). Later authors, who empirically elaborated this idea, showed that Wildavsky’s view was too simplistic and that a differentiation between modes of interaction was imperative (Forester 1985; cf. Torgerson 1995:244; Hoppe 1998b:25).
From methodology to method: phronetic TA as constructivist inquiry

The three general directives for organising knowledge generating activities that yield *phronēsis* are obviously closely interrelated: a participatory set-up of an analytic endeavour is likely to be closely bound up with a hermeneutic approach to inquiry. However, the two features are not reducible to one another, if only for the various rationales for adopting a participatory approach to analysis that are conceivable. To put the three methodological maxims into practice in a way that satisfies all subtleties, appropriate methods and organisational measurements have to be selected contextually.

"Fourth generation evaluation"

A comprehensive elaboration of possible methodical implications is provided by Guba and Lincoln (1981; 1989). These authors developed what they call a “constructivist” approach to inquiry for the purpose of evaluation in their academic discipline: the educational sciences. With their “fourth generation evaluation” approach, they intended to provide a coherent set of inquiry methods by which the basic axiom in any hermeneutic approach to knowledge creation can be put into practice: the acknowledgement that reality – even though it may exist independently of human observers – can only be known through the eyes of the beholder.

The intention of a constructivist inquiry process is to clarify and reconstruct the various views and perceptions of the stakeholders on the problem under scrutiny (the “evaluand”) as well as the assumptions that underpin these. The ultimate aim is to develop “joint constructions” that reflect an optimum level of consensus on the problem at hand, on the elements that it is composed of and on possible strategies for its reduction (Guba & Lincoln 1989:149, 151-155, 177-179).

Crucial to the constructivist approach to social analysis (i.e. to analysis that deals with multiple, socially constructed realities) in their view is the non-existence (or rather: the non-acknowledgment) of the ontology - epistemology distinction that characterises the conventional (neo-positivist) inquiry paradigm. As Guba and Lincoln argue, the

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1^It is beyond the scope of the present discussion to elaborate the differences and nuances between the various strands in the philosophy of science (phenomenology, historical-hermeneutics and the sociology of knowledge) that underlie the interpretation of ‘constructivism’ as portrayed here.

2^Guba and Lincoln dubbed their approach “fourth generation evaluation” so as to distinguish it from three approaches to evaluation that successively dominated the educational science: a generation of “measurement” that focused on goal achievement, a generation of “description” that intended to assess the strength and weaknesses of formulated objectives, and a generation of “judgment” in which the evaluator intended to reach judgments on the evaluated issues. All three generations were based on the neo-positivist inquiry paradigm whereas Guba and Lincoln’s fourth generation has its roots in the “constructivist paradigm” (1989:21-31, 79-116).

3^Guba and Lincoln use the word “paradigm” consciously as they make a sharp distinction between adherence to the conventional “basic belief system” (that is, the basic axioms of the positivist understanding of science) and “constructivist beliefs”. According to the authors, the two belief systems are not accommodatable. The depiction of these basic belief systems as mutually exclusive rekindled the fire of the subjectivist - objectivist
“inquirer and the inquired-into are interlocked in such a way that the findings of an investigation are the literal creation of the inquiry process” (1989:84; italics in the original). Truth therefore is a negotiated quality (1989:104). This position has far-reaching implications for the methods by which we can know about phenomena in the world.

A constructivist inquiry takes the “claims, concerns and issues” of actors who have a stake in the evaluand as the basis for identifying what information is to be collected and analysed (1989:40-42). Such a “responsive focusing” (i.e. taking the stakeholders’ viewpoints as the “organisational foci” of the analysis) in fourth generation evaluation is combined with a “hermeneutic dialectic” process of data gathering and analysis. In practice, this implies that the analyst solicits the claims, concerns and issues of a discussion partner in an open conversation, thereby consciously trying not to let his or her own preoccupations predetermine the answers. On the basis of the information provided by the interviewee (who provides his or her “emic view”), the analyst reconstructs the way the stakeholder perceives the issue under investigation (which results in the analyst’s “etic view”\(^3\)). That view, the analyst thereupon feeds back to the interviewee for comments. This process is hermeneutic, according to Guba and Lincoln, “because it is interpretive in character” and dialectic because “it represents a comparison and contrast of divergent views with a view to achieving a higher-level synthesis of them all” (1989:149).

In a fourth generation evaluation, the inquiry process, in other words, is not organised according to the viewpoints of the analyst (or the client commissioning the analysis) but instead according to the “meaningful constructions” that actors form to ‘make sense’ of the situation in which they find themselves” (1989:8). The criteria by which the gathered information is selected and assessed are not determined by the analyst beforehand either, but are formulated by the various participants themselves in the course of the analytic project. The gathering and assessing of information are two sides of the same coin.

debate in the United States (cf. Guba 1990). Not only protagonists of neo-positivist approaches strongly opposed to the attack on the paradigm in which they were socialised in their professional training and work. Adherents to the “alternative” approaches to inquiry not all were taken with the attempt to define these as contrasting to neo-positivism. These feel that interpretive approaches should be judged in their own right, and that, moreover, they entail many similarities with positivism (e.g. Linder, personal communication, 14-3-96).

\(^3\) The phrases “emic” and “etic” were first coined by the linguist Kenneth Pike in 1954 (Language in Relation to a Unified Theory of the Structure of Human Behavior, 2nd ed., 1967, The Hague: Mouton) to express the distinction between a speech act as analysed in the speaker’s own internal cultural logic (the emic interpretation; a word derived from the Greek ‘phanemic’), and the description or explanation of that speech act in the light of the outsider analyst’s logic, that is, the etic interpretation (based on the Greek ‘phonetic’). In the 1960s, the emic/etic concept was introduced to the field of social anthropology by the cultural materialist Marvin Harris, and thereupon became applied in various scientific disciplines in widely divergent meanings. In spite of an extensive and authoritative debate on the concept between Pike and Harris, who each hold diametrically opposed views on its conceptualisation (T. Headland, K. Pike & M. Harris (eds.) 1990 Émics and Êtics: The Insider/Outsider Debate, London: Sage), it is most commonly used, often without reference to its spiritual fathers, to indicate the distinction between an “insider” versus an “outsider” view, as is the case with Guba and Lincoln’s use of the concepts.
By submitting the information that is gathered in preceding interviews and group discussions to other actors for comments, new constructions of the various items are made, and missing pieces of information can be identified. Moreover, in this way, Guba and Lincoln posit, there is a constant check on the analyst’s interpretation of the issue at stake. According to the authors, the analytic project can be considered successful when all participants (including the analyst) gain insight in the issue under scrutiny (that is, if they become “better informed”) and if they acquire a more accurate understanding of the issue, thus becoming “more sophisticated” (1989:67).

Guba and Lincoln emphasise that constructivist inquiry does not take the shape of a linear process, in which research tasks are performed in a fixed, pre-determined order of succession. The inquiry is organised as an interactive and iterative process – as is the sub-process of going through the hermeneutic circle – that allows for a re-enactment, time and again, of the various elements in the analytic project as found necessary by the analyst and the other participants. For the sake of clarity, however, Guba and Lincoln depict the “flow” of fourth generation evaluation as a twelve step process (see box 3.1).

*Fourth generation evaluation to inform political judgment?*

Guba and Lincoln’s approach to inquiry provides a practical way of dealing with the political nature of knowledge. The question whose knowledge counts is settled in a negotiation process in which all those who have a stake in the issue under scrutiny participate. Depicted in these terms, the switch from the first three generations of evaluation as described by the authors to the fourth alternative approach bears a strong resemblance to the argumentative turn in policy analysis.

In my view, Guba and Lincoln’s fourth generation evaluation (henceforward referred to as a constructivist approach to inquiry) forms a suitable methodical starting point for further outlining the conceptual lens by which the empirical cases in this research can be investigated. To my knowledge, Guba and Lincoln’s approach provides the most detailed methodical elaboration available of an inquiry that takes seriously the power aspects involved in knowledge generation. Moreover, since Guba and Lincoln complemented their practical work on responsive evaluation (1981) with a scientific-philosophical underpinning (1989), they enable readers to adopt their methodical suggestions to other settings than the educational context for which these were originally designed.
<table>
<thead>
<tr>
<th>step</th>
<th>activity</th>
<th>explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Contracting</td>
<td>Initiating a contract with the client or sponsor commissioning the evaluation</td>
</tr>
<tr>
<td>2.</td>
<td>Organising the evaluation</td>
<td>Practical preparatory activities such as selecting and training a team of evaluators, making entrée arrangements and logistical arrangements. Assessing local political factors.</td>
</tr>
<tr>
<td>3.</td>
<td>Identifying stakeholders</td>
<td>Identifying &quot;agents&quot; (those persons involved in producing, using, or implementing the evaluan); &quot;beneficiaries&quot; (those persons who profit in some way from the evaluan) and &quot;victims&quot; (those persons who are negatively affected by the evaluan). Continued search for additional audiences.</td>
</tr>
<tr>
<td>4.</td>
<td>Developing within-group joint constructions</td>
<td>Iteratively ‘going through’ the hermeneutic/dialectic circle in order to shape emerging joint constructions, thereby focussing on claims, concerns and issues of individual participants. Organising ‘feed back’ to check credibility of resulting construction.</td>
</tr>
<tr>
<td>5.</td>
<td>Enlarging joint stakeholder constructions through new information / increased sophistication</td>
<td>Testing and enlarging within-group constructions by introducing new or additional information (documents and records; observations; professional literature) and by enabling group members (possibly by exposing participants in a “circle” to material from parallel circles) to achieve higher levels of sophistication in dealing with such information.</td>
</tr>
<tr>
<td>6.</td>
<td>Sorting out resolved claims, concerns and issues</td>
<td>Identifying those items on which consensus has been reached; to be set aside as case report components.</td>
</tr>
<tr>
<td>7.</td>
<td>Prioritising unresolved items</td>
<td>Formulating (again through going through a hermeneutic circle) the criteria by which to prioritise items for further discussion, simultaneously organising a check on the process’ and decisions’ credibility.</td>
</tr>
<tr>
<td>8.</td>
<td>Collecting information / adding sophistication</td>
<td>Collection of relevant information bearing on unresolved claims, concerns and issues from other stakeholder circles or elsewhere.</td>
</tr>
<tr>
<td>9.</td>
<td>Preparing an agenda for negotiation</td>
<td>Defining and elucidating unresolved items in terms of the stakeholding group(s) that surface it. Providing training for participants to master additional skills or gain sophistication for dealing with the items. Testing the agenda to determine its acceptability as a basis for negotiation.</td>
</tr>
<tr>
<td>10.</td>
<td>Carrying out the negotiation</td>
<td>Composition of a circle of participants who represent the various diverging viewpoints. Deliberation on the previously unresolved items among participants with the analyst acting as mediator and facilitator. Ratification of emerging constructions by the represented stakeholder groups. Still unresolved items form the basis for an agenda for further action.</td>
</tr>
<tr>
<td>11.</td>
<td>Reporting</td>
<td>Presentation of the results in the shape of case study report, including information about the findings and about the way in which these results were achieved. The report, via ‘thick description,’ enables the reader to understand how the constructors made sense of the discussed items, and why, thus providing the report’s audience with a ‘vicarious experience.’</td>
</tr>
<tr>
<td>12.</td>
<td>Recycling</td>
<td>Re-enactment of necessary analytic activities</td>
</tr>
</tbody>
</table>

Box 3.1. Source: Guba & Lincoln 1989:184-227
Furthermore, Guba and Lincoln’s approach to inquiry in my eyes provides a practical elaboration of the three methodological maxims that were formulated above on the basis of the *phronēsis* concept.  

Firstly, constructivist inquiry suits the intention of phronetic knowledge generation to provide insight in the way actors makes sense of the specific unique situations they find themselves in. The inquiry process intently and inevitably amounts to context-specific knowledge. Secondly, the analytic activity is organised as a participatory process, in which actors take part that represent different perspectives. The stipulations that Guba and Lincoln make regarding the power-balance between the various participants and the evaluator, and the qualifications they attach to the latter’s role (including a “moral obligation” (1989:203) to enable actors to take part in the evaluation process) are intended to ensure that the particularities and viewpoints of the participants are seriously acknowledged in the analytic project. Thirdly, because of the hermeneutic *dialectic* circle that constitutes the quintessence of the analysis, the inquiry process facilitates mutual understanding and the possibility for participants to engage in learning processes.

‘Learning’ with Guba and Lincoln is captured in their projection of actors “reconsider[ing] their [prevailing] constructions” (1989:147). The exposure to other “constructions” within the context of the evaluation may enlarge the amount of knowledge on the issue under scrutiny and/or may induce an “increase in the constructor’s level of sophistication in order to appreciate/understand/apply it” (1989:147). Furthermore, the orientation on action in constructivist inquiry speaks from the criteria by which to measure an inquiry process’ success. To Guba and Lincoln, a constructivist inquiry is successful if all parties achieved new levels of information and sophistication and were “empowered” to act on that information (1989:149, 249). Because the outcome of the inquiry process is jointly negotiated, the action is “owned” by the participants, as the authors put it, as a result of which Guba and Lincoln expect participants to carry out the consequences “more willingly” (1989:250).

A subsequent question is whether Guba and Lincoln’s constructivist approach to inquiry is applicable to the field of policy analysis in general and to TA on questions of...
sustainable development in particular. Various considerations are of relevance in answering this question, among which Guba and Lincoln's own assessment of the issue.

In an article on policy analysis, Guba posited that policy analysis is inherently value-laden and that therefore, "it makes little sense to utilize [in that area of investigation] an inquiry paradigm that is putatively value-free" (1985:13, 15). In a subsequent paper, Lincoln and Guba (1986) asserted that evaluation and policy analysis both are examples of disciplined inquiry that are conducted in a political context and that address a multifaceted audience. Yet, in spite of the "proactive posture" (Guba & Lincoln 1989:131) that the authors ascribe to a constructivist approach to inquiry, they refrained from systematically applying their guidelines for constructivist inquiry to a policy analytic setting.

It is my contention that the aforementioned 'match' between Guba and Lincoln's approach to inquiry and phronetic knowledge generation to inform political judgment legitimises such an exercise. The acknowledgement that policy formulation is (or rather: should be) a process of problem structuring impels the use of policy analytic methods by which a problem finding exercise can be conducted. Constructivist inquiry suits that purpose. Moreover, to the extent that policy formulation is seen as a process of "forward and backward mapping" (Elmore 1985), the "act of evaluation" in terms of Guba and Lincoln with its problem-finding focus and pro-active stance can be considered a specific form of generating "knowledge in [that is, for the purpose of] the policymaking process" (Lasswell 1971:1-2).

The conclusion that a constructivist approach to inquiry can serve the purpose of policy analysis impelled Dutch policy scientists Grin and Van de Graaf (1996a) to invoke Guba and Lincoln's work in their theorising on policy formulation and on what they call "interpretive TA". Below, I refer to their writings as a stepping stone for a further discussion of the methodical implications of employing a constructivist approach to inquiry in the field of policy analysis and in particular in TA on issues of sustainable development.

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20 Please note that this research project is not the first to apply Guba and Lincoln's notions to the context of policy analysis. Other such examples include Reuzel 2001 (on the issue of paediatric cochlear implantation) and Abma 1996 (on employment aspects in convalescent homes).

21 Unfamiliar with the policy science literature on this aspect (Lincoln, personal communication, 20-3-1996), Guba and Lincoln do not link the activity of (ex ante) policy analysis to that of (ex post) evaluation. Yet, in an early paper on policy analysis, Guba (1984) distinguished between "policy-in-intention" (understanding policy as the statements about goals, rules and ends), "policy-in-implementation" (conceptualising policy as the behaviours and activities that are displayed in the process of implementing policies) and "policy-in-experience" (the policy understood in terms of the way its is experienced by the client / target group; Guba 1984:65). Data collection for inquiry on the latter, according to the author, will involve assessing "client constructions" through interviews, observation and other "unobtrusive" inquiry techniques (1984:69). Analysis to serve policymaking as defined in terms of its intentions and goals would involve data collection by conducting need assessments, resource assessments and investigating the opinions of experts by means of interviews, documentary analyses, hearings, questionnaire studies and statistical data analyses (1984:66). With this interpretation, Guba critically commented on the failure of policy analysts to acknowledge that "the particular definition assumed by the policy analyst [of what 'a policy' is] determines the kinds of policy questions that are asked" (1984:63).
**Interpretive TA**

Grin and Van de Graaf referred to Guba and Lincoln’s constructivist inquiry in their elaboration of Technology Assessment (1996b; cf. Grin & Hoppe 1995; Grin et al. 1997). This elaboration builds on the concept of “feasibility testing”. Feasibility testing (as initially outlined by Hoppe et al. 1987) is the process of gaining insight in the way in which, and the conditions under which target group members will respond to policy instruments. It urges policymakers to question in a systematic fashion their assumptions about target group behaviour in general, and about the anticipated response to specific policy instruments in particular. In order to generate the required insight, policymakers are suggested to look at the policy design from the perspective of the target group members (*terugdenken*, backward mapping).

Grin and Van de Graaf broadened the concept of feasibility testing in two respects. They suggested that not only the attitudes of target groups but also the behaviour of other actors in the policy process must be taken into account. Moreover, feasibility testing should not merely concern an elaboration of the possible reactions to a policy instrument, but rather should involve an understanding of the interpretive frame of specific target groups (Grin & Van de Graaf 1996b:92). Thus informed, policy actors may select more accurately the policy instruments that suit the situation of specific target (sub-)groups. In addition, the learning processes that are part of the feasibility testing exercise between policy actors and policy area actors may cause the latter to adjust their behavioural intentions according to the objectives of the policymaker. This too could contribute to the efficacy of policy programmes.

Grin and Van de Graaf elaborated the feasibility testing concept with the objective to “realize optimal opportunities for attaining the development of technologies in line with social needs and political demands” (1996b:73). This perspective triggered them to link up their views on “feasibility testing as learning” with the TA-concept. They posited that in order to induce learning, a TA should take the shape of a constructivist analysis (1996b:95). Elsewhere, Grin and Hoppe (1995) called TAs that are characterised by an underlying constructivist methodology “as given by Guba and Lincoln” (1995:109-110) interpretive TA.\(^{22}\)

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\(^{22}\) Grin and Hoppe defined the notion of “interpretive TA” in the context of a comparative framework that they developed for classifying types of participatory TA in terms of their objectives and the power-balance and relationships between the involved parties (Grin & Hoppe 1995). Such a classification system is useful for systematising the many new forms of participatory TA for the purpose of evaluation. The experience with the international comparative evaluation of participatory TA (EUROpTA; see chapter 2, this book, nt 7) showed that it is worthwhile to categorise cases of TA in these terms so as to make possible an informed comparison between method and impact. Notably the tendency in the EUROpTA project (Klüver et al. 2000; Joss & Bellucci 2002) to overlook the fundamental differences in purpose and method between what is called by Grin and Hoppe “citizen-, consumer- and/or user-focused TA” and “interpretive TA” detracts from the quality of the project’s conclusions on method.
An interpretive TA is a type of analysis in which the TA-analyst functions as a “spider in the web” of information flows between a variety of actors involved in the design, production, distribution and (future) use of technological innovations, and those who are in some way or another affected by it: technologists, corporate managers, public policymakers, et cetera. Such an analytic project is participatory in character. The problem definitions and proposed solutions that it yields are “joint construction that makes sense to all parties” (1995:110). The intention of the TA-analyst is to create an atmosphere that is conducive to learning on the part of the participants. The purpose of the analytic project is to “create shared frames of reference that are translated into arguments and advice put forward in public forums of [public decision makers] and [corporate managers]” (1995:102).

Henceforward I will use the phrase ‘interpretive TA’ to indicate the kind of analytic projects that convey the methodological characteristics of constructivist inquiry and that, hence, in principle (according to the above argumentation) are capable of yielding practical wisdom. Below, I will discuss the possibilities and potential bottlenecks, pitfalls and intricacies of applying a constructivist approach to inquiry in TA projects that focus on questions of sustainable development.

Application of constructivist inquiry to analysis on sustainable development issues

Application of the constructivist approach to inquiry in analytic projects on sustainable development issues involves, evidently, a scaling up so to speak of the approach as presented by Guba and Lincoln. The two areas of inquiry (educational curriculum reviews vs. sustainable development issues) differ, firstly, with respect to the scope of the changes that are discussed in the analytic projects. The level of complexity of the changes that are involved in investigating possibilities for instigating a sustainable development exceeds that of curricula evaluation. Secondly, the fields of application differ from one another in terms of scale. The power-aspects involved in reviewing school curricula, regardless of the complexity of their contexts, are of an entirely different nature than those involved in political judgment on sustainable development issues.

Applying a constructivist approach to inquiry on issues of sustainable development with the intent to inform political judgment, in other words, requires its adaptation to fit challenges in terms of contents (addressing long-term changes, system innovation, et cetera) and of power relations (addressing complex contexts in which the rules of the game may be unclear and may change over time).
Contents-related issues

The changes involved in the review of school curricula are relatively minor compared to the changes that are presupposed by the concept of sustainable development. The latter changes may not only concern the issue under scrutiny itself (e.g. energy sources for automobility) but also its wider context (e.g. the road infrastructure and car maintenance training courses) in which the issue is embedded. Likewise, the changes may not only involve the way in which the participants in an analytic project perceive the issue at hand, but also the institutions in which they professionally operate. These aspects challenge constructivist inquiry in several ways.

‘Claims, concerns and issues’ or the ‘long now’ as organisational focus in analysis

There is a potential tension between the constructivist organisational principle of responsive focusing (taking the participants’ claims, concerns and issues as a starting point in organising the analysis) and the requirements of discussing sustainable development. The latter may involve fundamental, non-incremental changes compared to the present situation that require a long-term perspective and a focus that transcends the immediately conceivable.

While there may be farsighted individuals who take the long view in formulating their claims or concerns, an analysis that is based of responsive focusing may not reach beyond the here and now and the immediate future. After all, if the stakeholders, either separately or jointly, were capable of formulating a long-term solution and act on that view, the inquiry would not be necessary in the first place.

Far-sightedness as a sole selection criterion would impinge on the constructivist principle of involving “those who have a stake in the evaluand” and may result in too limited a view on the problem-solution combinations that are discussed in the inquiry process. Alternatively, methods and techniques in the analytic project may be used that are designed to lure participants away from the constraints of their every day professional context and inspire them to adopt a long view (see for instance Mambrey et al. 1995; Van de Kerkhof et al. 2002). On the basis of empirical research, Leeuwis and Remmers (1999) stipulate that “[I]t would (...) be a mistake to conclude that interaction with stakeholders would be less useful for the development of such visionary horizons ...” (Leeuwis & Remmers 1999:272). It may, however, complicate the analyst’s role.

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" The phrase 'the long now' is borrowed from The Long Now Foundation that seeks to foster creativity with regard to environmental responsibility in the long run. To that end, it has, among other things, initiated the construction of a 10,000 Year Clock (a 1999 prototype of which has been on public display at the Science Museum in London, England). The clock (which "ticks once a year, bongs once a century, and [of which] the cuckoo comes out every millennium" according to co-founder D. Hillis) is intended to "encourage the long view" and reframe the time-horizon in thought on technology, politics and business: "Ideally, it would do for thinking about time what the photographs of Earth from space have done for thinking about the environment" (http://www.longnow.org/about/about.htm; cf. Brand 2000).
In Guba and Lincoln’s portrayal of constructivist analysis, the analyst’s contribution to what is being discussed is limited. While s/he brings along personal experience with content matters as well as creativity and intuition in combining the information of others in the process of making a joint construction, the participants direct the analysis in terms of contents. This position of the analysts is not by definition compromised by the use of creativity-enhancing techniques, yet it might be if the results of the analytic project in his or her eyes are not sufficiently visionary.

It is an interesting empirical question how in an interpretive TA on sustainable development issues the ‘long now’ is put on the agenda, and how the balance is kept between the long-term perspective and the claims, concerns and issues of participants that concern the present.

Accommodation: combining qualitative and quantitative research methods

Another potential bottleneck in conducting a constructivist inquiry on sustainable development issues is the assessment of empirical-analytic research data. The constructivist approach to inquiry as described by Guba and Lincoln does not preclude the use of quantitative research approaches to elaborate (parts of) the issue at stake. Provided that their employment is embedded within an overall research strategy that is rooted in the constructivist paradigm, both qualitative and quantitative methods can be used (1989:42). The single exception to this “accommodation” in their eyes is the use of quantitative causally inferential statistics, because the causal linkages that are implied by such statistics are “contrary to the position on causality that phenomenologically oriented and constructivist inquiry takes” (1989:259).

Such a stance may cause an inquiry process on questions of sustainable development to run into difficulty. This concept pre-eminently gives cause to debates that are traditionally fuelled with findings of empirical-analytic assessments of cause-effect relations. The question is how such analytic results are put up for discussion in the context of a constructivist inquiry.

A first challenge is a one of translation. As Fischer (1991) asserted in relation to participatory risk assessment, the difficulty is “to find ways to ... comprehensively and meaningfully integrate technical and social data” (1991:122). Various techniques for integrating a diversity of data are conceivable, such as modelling or scenario writing. It is an empirical question how such model building or scenario writing can be organised in the context of making the hermeneutic dialectic circle so that its result is a joint construction of a variety of actors.

Secondly, the challenge is one of generating commitment among the participants to put up for discussion what many may consider hard facts. Actors who are trained in professional skills that have their roots in the positivist research paradigm, such as molecular biology or civil engineering, may be hesitant to call into question established
facts from their own disciplinary field. Such hesitance may reduce the participants’ willingness to accept other perspectives on an issue as equally legitimate. The case research may shed a light on how in the context of constructivist inquiry qualitative and quantitative methods and data can be “accommodated”.

**Interaction and learning**

The two topics that are discussed above both relate to tenacity of the constructions of reality that people hold. According to Guba and Lincoln, constructions are “self-sustaining and self-renewing” and by their very nature are able to “wall off” contravening evidence (1989:145). This depiction is comparable with the ability of individuals to shield themselves from unwelcome information, as was discussed above. The question hence is how in an analytic project the conditions can be created under which the defence mechanisms against unwelcome information may be dismantled and participants are induced to consider information that is inconsistent with their views. The literature suggests (Grin & Van de Graaf 1996a; Forester 1999) that mutual trust and a non-threatening atmosphere render a participatory analytic project (or “deliberative practice” in Forester’s words) conducive to learning. Furthermore, and perhaps contradictory, one may expect that an analytic project is potentially conducive to learning if it entailed a breach of routine in the eyes of its participants.

Either as a way to invoke feelings of trust or of useful estrangement from the familiar, the physical conditions under which (a particular activity of) the inquiry process takes place may be of relevance. Guba and Lincoln mention the “natural setting” as the obvious locus of constructivist inquiry as “[c]ontexts give life to and are given life by the constructions that are held by the people in them” (1989:174-175). While Guba and Lincoln discuss this “entry condition” to contrast the setting of constructivist inquiry to that of the controlled conditions (laboratory, quasi-experimental research design) of neo-positivist analysis, Grin et al. take their suggestion quite literally, arguing that “[i]t is better to visit farmers on their own premises than to interview them in an office at a university. Appropriate choices of location increase the chance that respondents will provide a reliable picture of what they would think and do in practice” (1997:37). Arguably, in contrast, the interaction between varieties of actors may be set in a situation that inspires participants to take a step back from their day-to-day activities and circumstances in order to reflect on these. The empirical material may provide insights in the way in which, and the conditions under which learning was induced in the context of the researched cases of interpretive TA.


*Power-related issues*

The vast differences between the areas of application of constructivist inquiry as described by Guba and Lincoln (school curricula reviews) and as discussed here, also raise some pungent questions about the aspect of power in constructivist inquiry. The mechanisms through which a constructivist analysis in a classroom situation may have an impact on the school curricula (for instance, via agreement among participants in advance to comply with the outcome) is incomparable to the relation between a TA and (political or board room) decision-making. Power-related aspects challenge constructivist inquiry on questions of sustainable development in several ways.

**Selection of participants**

The aspect of participant selection is arguably the most delicate and complicated in conducting an interpretive TA that is intended to generate wisdom to serve the common good. The universe of potential stakeholders in that case obviously is infinitely larger than that of school reform discussions. This observation renders Guba and Lincoln's straightforward criterion to identify potential participants out of place: to these authors, any "persons or groups that are put at some risk by the evaluation, that is, persons or groups that hold a stake" principally qualify for participation (1989:40, 201). Given the broad WEDC definition of sustainable development, those who hold a stake in sustainable development include actors in different parts of the world and unborn, future generations. Therefore, more differentiated selection criteria are called for.

In addition, the suggested method by which to identify candidate participants is arguably insufficiently sophisticated for the purpose in question. Guba and Lincoln suggest a snow-ball method: "At the beginning, the client [who commissions the analysis] may be solicited for nominations... Every respondent involved in the study may be asked to review a list of stakeholders identified at that point and to suggest others" (1989:202). Other strategies may be pursued in addition, Guba and Lincoln state, such as the placing of advertisements. The search for new discussion partners is continued throughout the entire analytic project. According to Guba and Lincoln, the selection of participants finds its closure when no 'new' opinions or points of view can be detected.

Inevitably, on issues of sustainable development, at any time, additional viewpoints may be found that are complementary to the ones that are already included in the interpretive TA. The participatory set-up of a TA project may therefore become a powerhouse in itself. Since the constructivist ideal of involving the viewpoints of all actors who hold a stake in the topic under investigation is unattainable, and given the fact that the selection of participants inevitably influences the contents of the analysis, a specific set of actors may serve to legitimise specific decision-making on issues that, had they
been present, other actors may consider unjustified. As Fischer observed: "The outcome [of a participatory analysis] is thus (...) a form of cooptation ratified in the name of participatory consensus. The issue, then, is less with the deliberatory techniques than with the legitimacy of the underlying balance of power" (1991:127).

How can the selection of participants for their "relative power" be avoided, as Guba and Lincoln insist should be the case (1989:203), or the exclusion of groups of potential participants for their lack of knowledge or "sophistication"? A first suggestion follows from the concept of representative thinking. The concept's practical pendant in terms of participant selection is offered by the notion of "purposive sampling" that Guba and Lincoln invoke to elaborate their suggestions on participant selection (1989:178). This criterion of "maximum variation" implies that the group of participants should be composed in such a way, that it provides the broadest scope of information. A second suggestion can be derived from another stipulation regarding phronēsis. As observed above, those who 'judge' should possess a thorough practical understanding of the problem, which they have acquired through a continuous and serious involvement in the issue at stake. This criterion tallies with the one of the four "warrants for discourse" that Fox and Miller outline to rule the process of "discursive will formation" (Fox & Miller 1996, p.126-7). These authors posit that "one's proximity to the situation" may guarantee that a participant provides a substantive contribution to the discussion.

The other three warrants that Fox and Miller formulate (sincerity, "situation-regarding intentionality" - i.e. "the capacity to discuss matters from a standpoint that is at a higher level of generalization than the standpoint of the atomistic, utility-maximizing individual" (1996:123) - and "willing attention") refer to the quality of the participant rather than to that of his contribution. These qualifications of the individual in practice can hardly serve as selection criteria, as also Fox and Miller admit, as long as "[n]o one stands outside the door to collect warrants or signatures to loyalty-to-the-discourse oaths" (1996:126). Interestingly, in contrast to the broad public deliberation processes that Fox and Miller address, such a door policy can be implemented in the case of issue-focused, small-scale analytic projects (for instance on questions of a sustainable development) that are being discussed here. Regarding the qualities of individual participants, Grin et al. (1997), for instance, suggest to select candidates that are willing and able to make a creative and innovative contribution, and are open to the contributions of others, and to "avoid people who get easily wrapped up in strategic games raging in the real world [i.e. as opposed to the confines of the analytic project]" (1997:57-58).

It is interesting to see on which grounds the participants were selected in the cases that are discussed in the subsequent chapters, and whether and how characteristics such as these made a difference to the outcome of the analytic endeavour. Another issue of interest is the question how these participants were identified, practically
speaking, and until which stage in the inquiry process additional views were accommodated.

The role of the analyst – keeping a power balance within the analytic project

Constructivist analysis as described by Guba and Lincoln makes some considerable demands on the analyst ("evaluator"), both with regard to the analysis' contents and process management.

As concerns the first aspect, the authors describe the analyst's role as one of collaborator rather than controller in the inquiry process (1989:260). According to Guba and Lincoln, "[t]he stakeholders teach the evaluator – and one another – about their constructions, and the evaluator assists in communicating those constructions from one individual and one group to another. Evaluators help each group clarify its own construction, while at the same time learning from it yet another view of which account must be taken" (1989:254).

This projection of the analyst's role reflects the various roles that are ascribed to policy analysts in the argumentative view on policy analysis. These range from the analyst operating as a "translator" (Yanow, personal communication on the occasion of the symposium on theory, policy and society, Leyden, the Netherlands, June 24, 1999) who makes the views and "indigenous" knowledge of one actor accessible to another, to the analyst as a "facilitator" (Fischer 1995) who's task it is to help participants to better understand (public policy) problems and their own views on those problems.

The role of the analyst as listener, learner and translator is complicated by the requirements of sustainable development issues as a topic of inquiry. The aforementioned need to focus on long term objectives and possibilities for drastic change may require a more active stance on the part of the analyst. If that is the case, the content-related aspect of a participatory TA may affect the way the analytic project is managed. As regards process management, the analyst's task is to build an atmosphere of trust and to ensure a power-balance between the participating actors. In addition, a balance of power between the participants and the analyst himself must be kept. This latter requirement is quintessential for a proper conduct of constructivist analysis. In constructivist inquiry, the analyst is supposed to be a party among peers. S/he operates on an equal footing with the participants. In Guba and Lincoln's depiction of constructivist inquiry, "[t]he evaluator has no special license, elite status, or superior power, nor is he or she warranted in exerting any special control. Whatever emerges from the group must come as the result of their deliberation and decision" (1989:42, 220-221).

This stipulation is of major significance. In a constructivist inquiry, quality is guaranteed by the very way in which the process of data collection and processing is organised. Only if the analysis were conducted along the methodological lines of making a hermeneutic dialectic circle, its outcome could be considered "fair" (i.e. genuinely rep-
resenting the views of its participants) and “confirmable” (i.e., the results “are rooted in contexts and persons apart from the evaluator and are not simply figments of the evaluator’s imagination”; 1989:243). In other words, the hermeneutic process provides its own quality control. To enlighten this crucial element in constructivist inquiry, it is worth quoting Guba and Lincoln at length:

Data inputs are analysed immediately .... They may be ‘fed back’ for comment, elaboration, correction, revision, expansion, or whatever to the very respondents who provided them only a moment ago. But those data inputs will also surely be incorporated into the emerging joint, collaborative reconstruction that emerges as the process continues. The opportunities for errors to go undetected and/or unchallenged are very small in such a process. ... Further, the possibility that the so-called biases or prejudices of the evaluator can shape the results is virtually zero, provided only that the evaluation is conducted in accordance with hermeneutic dialectic principles. ... So long as the evaluator’s constructions (...) are laid on the table along with all the others and are made to withstand the same barrage of challenge, criticism, and counterexample as any others, there is no basis for according them any special influence, for better or for worse (Guba and Lincoln 1989:244).

As Aristotle already pointed out, by contrasting the judgment by the solitary expert with the phronesis exercised in the common deliberation of the “many”, each of the deliberators as a single person (expert) may not be of a good quality while, “when they all come together, it is possible that they may surpass – collectively and as a body, although not individually - the quality of the few best” (cited in Beiner 1983:90). Obviously, the advantage of collective judgment may be lost as a result of group pressure or of unbalanced, high-handed action on the part of the analyst (team).

It is an empirical question whether and how such an in-built correction mechanism in the practice of TA projects can ensure that the outcome presents a fair and confirmable reflection of the participants’ views.

Knowing what to do and getting it done: from analysis to decision-making

The purpose of constructivist inquiry “is some form of action and/or decision-making. (...) [N]o fourth generation evaluation is complete without action being prompted on the part of the participants” (Guba & Lincoln 1989:249). This stipulation corresponds with the assertion that an analytic endeavour that is intended to yield phronesis should generate knowledge that enables actors to act. From the perspective of sustainable development, this is an important qualification of the resulting knowledge on what to do next. It implies that the analytic effort itself may be an incentive to instigate the envisioned changes, and thus may be part and parcel of the solution strategy to resolve the problems that it addresses.
As was discussed in chapter 1, action may be stimulated by an analytic project when it results in what Grin and Van de Graaf have called a "congruency of meaning": "Actors attribute congruent meanings to an artifact if they perceive the artifact's properties in such a way that the artifact has a sensible meaning to all of them" (1996b:304). If an artefact or other (policy) objective makes sense in their eyes as a potential solution to a problem they experience, varieties of actors may, regardless of the differences between them in terms of worldviews, values and even in their way of framing the problem at hand, join in the effort to (co-)produce it. This effect is referred to as 'alignment' in the actor/network literature on technology dynamics.

However, in contrast to Guba and Lincoln's account of inquiry for curricula review, in the case of sustainable development issues, action not only has to be prompted on the part of the participants. While political judgment may be well served with temporary, issue-focused, small-scale analytic activities, sustainable development as such requires a transfer of the analytic results from the context of the project to decision-making processes in various loci in the real world. An interpretive TA on sustainable development issues therefore should also manage to induce non-participants to take its results seriously and to act accordingly.

The task of contributing to actual change in the world outside the project context adds to the role of the analyst as change agent. S/he may have to operate strategically to incite impact beyond the project's immediate reach. Some authors argue that an analysis should be designed specifically in order to persuade its audience, for instance by using in the presentation of its results "a complex blend of factual statements, interpretations, opinions, and evaluations" (Majone 1989:63). Other such strategies include the selection of prestigious actors, or the picking of a reputable analyst. It is an empirical question, first, which strategies can contribute to influencing relevant decision-making in policy processes and techno-economic networks, and second, how such strategic considerations affect the selection and use of methods and possibly interfere with constructivist principles.

A strategy that certainly does not impinge on the constructivist methodological premises is to induce non-participants to learn "vicariously" (Guba & Lincoln 1989:181, 223-224). To enable others to engage in learning processes that are analogous to those that the participants engaged in, in the presentation of the project's outcome, not only the findings but also the assumptions that underlie these should be conveyed to the reader. The authors recommend the case study report, which makes use of "thick description" to portray the project's results, as the most suitable means to sort this effect: "The report cannot simply be about the evaluand and its context, but must enable readers to see how the constructors make sense of it, and why" (1989:223; italics in the original). It is an empirical question whether and how processes of learning that may take
place in the carefully created “participatory rituals” and an atmosphere of trust can be transposed to the outside world in which these conditions do not exist.

Secondly, an analyst (team) may help third parties to align their actions to a project’s outcome. To that end, the analyst may actively bring the findings to the attention of various parties. For instance, the results may inform policy actors on the selection of policy instruments (Van de Graaf & Grin 1999a). Furthermore, actions can be undertaken to obviate difficulties that (participating or non-participating) actors experience in putting into practice newly acquired insights. As observed above, phronetic knowledge includes insight in the conditions of the participants’ situation (availability of resources) and contexts that may limit their room for manoeuvring (current institutional arrangements, rules and conventions and so on). The project may help coordinate the attuning of actions of a number of parties to one another to diminish such limiting conditions (from the idea that what appears a given limiting condition to the one party, is the outcome of purposeful action of another). In addition, structural change may be stimulated as a result of learning processes. That is the case if acting individuals come to hold changed perceptions about which structures are to be taken into account in designing their line of action. In either case, the project may serve as the proverbial pebble in the pond in setting in motion processes of change.

It is an empirical question whether and how a congruency of meaning is realised in the researched cases of interpretive TA, and to which extent and how the project’s findings are transferred to the practices of relevant professionals and policy actors.

Interdependencies between contents and power-aspects: the context ‘talks back’

From the above discussion, it is clear that contents and power-related issues in a participatory, constructivist inquiry are closely interrelated. Both aspects interfere with one another within the confines of the project itself. In addition, the interactions between the project and its context amount to an interplay between the two.

Next to the transfer of a project’s results to the politicised context on which it was intended to exert influence, the exchange of information in the opposite direction is of relevance as well. The complexities of the outside world that provided the incentive to organise an interpretive TA enter, so to speak, the analytic process itself. This contextual back talk, to paraphrase Schön (1983), with its associate intertwining of contents and power-aspects, is likely to influence the dynamics in the analytic project and its outcome. As a result, practical considerations may compete with and influence the analyst’s methodical decisions.
The issue of closure

A first obvious way in which the outside world enters the analytic endeavour is through the inputs of its participants. In a constructivist inquiry process, the intertwining of contents (which is based on the claims, concerns and issues of the participants) and the power-laden question of who gets to be included is evident.

In Guba and Lincoln's account of constructivist inquiry, the closure of the analytic process does not seem particularly complex: "Fourth generation evaluation is focused via the claims, concerns and issues of stakeholders, and there are no holds barred with respect to what claims, concerns, and issues are eligible for inclusion" (1989:200). Furthermore, the interdependence between defining the focus of the analytic process and the selection of participants is not considered problematic, unless inclusion of all potentially involved actors runs into the limits of practicality. In that case, Guba and Lincoln suggest, candidate participants will have to be selected on the basis of their "relative stake" in the issue under investigation.

Such a straightforward way out obviously is not available when discussing issues that concern the common good. In order to keep the analysis focused on the problem situation that was its raison d'être in the first place, the range of the issues that can be legitimately put up for discussion in the context of the project at some point will have find a closure (Van de Graaf & Grin 1999b). Given the principle of responsive focusing, reaching a closure in an analysis on an issue of sustainable development is problematic.

Grin et al. (1997) suggest a pragmatic solution for obviating the chicken-and-egg problem of problem structuring and participant selection. In principle, the authors argue, two paths can be followed: one that begins with a participative (sic!) closure, and one that begins with a substantive closure (1997:39). In the first case, the TA analyst intends to involve specific actors at any price, in the latter case, the main concern of the TA is determinant for the number and type of actors to be included, restricting participation to a certain extent. The authors add that an interdependence between the selection of actors and of issues also can be observed in spite of active interference by the TA-analyst: "[a] commonly occurring mechanism that easily leads to implicit modification of the [substantive] closure has to do with the availability of the people who want to participate" (1997:39). In the case studies, the matter of when and how the rules of closure were set (and by whom) will be considered empirically.

Safeguarding a project's integrity

The analysis' responsive focus may cause another intricacy in relation to a project's power-related aspects. The interaction between the project and its real world context potentially may disrupt the power balance within it, either among the participants or between these and the analyst (team).
Guba and Lincoln suggest the drawing up of a written contract to prevent any one party (including the analyst or the commissioning institute) from putting one's stamp exclusively on the project’s outcome. In addition to matters of a practical nature such as budgets and logistics, the contract may include stipulations regarding the familiarity of all involved with the nature and practice of constructivist methodology. Agreement to such a contract entails the acceptance of not knowing in advance what the outcome of the project might be. Because of the organising principle of constructivist inquiry (responsive focusing), the process evolves as an “emergent design” (1989:179). It may be a rather anxious experience for a commissioning party, Guba and Lincoln expect, to initiate (or financially support) a “process with unpredictable outcomes” (1989:255).

Even if the conditions for conducting an interpretive TA at the outset of the project are well taken care of, the analytic project in subsequent phases is at risk of becoming side-tracked by unsolicited inputs from outside. The dynamics in the context of the project may cause participants to review their initial commitment to the analytic project, the participants may loose their organisation’s initial backing and support or may be pressured into negotiating rather than discussing certain issues, the client may exert pressure upon the analyst when the analytic project does not yield the expected results, et cetera. In all such instances, the project’s integrity, as defined in terms of its constructivist principles, is compromised. It is an empirical question how in the face of contextual ‘back talk’ an analyst (team) is able to safeguard a project’s integrity as defined in terms of the aforementioned criteria of fairness and confirmability.

Researching cases of interpretive TA on sustainable development issues

The above exposé provides insights in the methodical and practical factors that can be considered of relevance when investigating the relation between a TA project and the processes of policy formulation and/or technological innovation that it seeks to address. It helps to direct the investigation of the empirical cases that will be described in the subsequent chapters.

The case studies intend to provide an answer to the second set of research questions as outlined in chapter 2. The questions ask after the relation between method and practice of the respective analytic endeavours on the one hand, and their impact on the other, given the dynamics in their contexts:

- Which processes of policy formulation and/or technological development did the TA-project address? What were the project’s objectives and intentions, and how were these ambitions pursued methodically and practically? What were the project’s outcome and results?
- To which extent did the TA-project have an impact in terms of learning; to which extent did it have an impact in terms of action?
- Which methodical and practical factors, as well as which contextual factors affected the relation between the TA project and its impact?

A TA-project as the object of research

The TA projects under scrutiny are conceived of as events that for a period of time unite a variety of actors in discussing and analysing an artefact and/or technological procedure in the light of economic, social and ecological considerations. The actors are conceived of as intentionally acting individuals representing organisations, and their actions as being guided by their interpretive frames and enabled or constrained by their respective resources and limitations. This understanding of an analytic project as the object of research can be graphically depicted as follows.

As was mentioned in the previous chapter, I choose to take the TA-projects under investigation as the starting point for data collection (without implying any inferences about their relative importance in relation to the chain of events in either public policymaking or innovation processes that took place at the time of their staging). In figure 3.1, a TA project is depicted as a process of deliberately organised interactions among a variety of actors across space and time. This depiction of a TA-project within its context serves as a heuristic model that offers guidance to the empirical exploration. The model is not, in any way, intended as an explanatory framework. It does, however, capture the dynamic character of both the TA-project and its context, by presenting the ‘space’ axis and the ‘time’ axis as interconnected through the activities of actors.

Each project is likely to encompass a stage of preparation before the actual analytic process starts off. The latter moment is designated as \( t_1 \), since the moment that the preparations commence may not easily be pinpointed in time (\( t_0 \)). At this stage, the intentions of the project, its initial problem definition and the expected results are be-
ing formulated. The end of the analytic project is marked \( t_f \), and is recognisable by the formulation of an end-conclusion and/or the production of an end-document of some kind. The impact of the analytic project theoretically may continue for an indefinite period of time. Therefore, also in this respect, a clear caesura in time cannot be clearly marked \( (t_f) \). The conclusion of the analyst (team)'s activities for transferring a project's outcome to its context presents a natural boundary to chronicle the entire process.

The analytic project is depicted as being staged in a context that comprises both a policy network and an innovation network.\(^1\) Such networks observably exist or come into being ‘around’ a technology (cf. Callon et al. 1992) and/or a policy issue (cf. Sabatier & Jenkins-Smith 1993). The distinction between the two types of networks is largely analytic as they inevitably partly overlap, both in terms of actors and of interactions. Still, a distinction between the two is useful since either context is characterised by a specific set of rules and traditions (i.e. structures such as professional training, notions of ‘good professionalism’, reward systems and so on). Therefore, the relation between both contexts of a TA project is best understood as one of a “seemingly seamless web” (Van Est 1999:19, 190).\(^2\)

Not only projects evolve over time, also the conditions under which they are staged change. The dynamics in the policy process and/or the innovation process on which a TA project focuses, result from and co-determine the actions of the relevant actors that together constitute both networks. Their room for manoeuvring and their recourses depend largely on contextual factors. I use Sabatier’s account of the parameters that bear on processes of policy change in order to systematise relevant factors.

Sabatier (1987, p.655) distinguishes between “relatively stable parameters” and more dynamic events. The former category concerns parameters that remain relatively unchanged for over several decades, and include, in addition to the particularities of the issue at stake (“the basic attributes of a problem area or good”), i) the distribution of natural resources; ii) fundamental cultural values and social structure, and iii) the basic constitutional structure (legal norms and rules). Dynamic events that affect the oppor-

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\(^1\) A techno-economic network Callon et al. define as “a coordinated set of heterogeneous actors – public laboratories, technical research centres, industrial firms, financial organization, users, and public authorities – which participate collectively in the development and diffusion of innovations, and via numerous interactions organize the relationships between scientifico-technical research and the marketplace” (1992:22). While Callon et al. mention public authorities as an integral element of the network in which technological innovation takes place, in the further elaboration of the concept, they predominantly focus on scientific, technical and market actors (the three major ‘poles’ of the network, in the jargon of Callon et al.) It may be clear that here, the policy actor is given explicit attention in the descriptions of the networks in the present research, as are relevant other actors such as NGOs and not-for-profit organisations (not mentioned by Callon et al.).

\(^2\) The word ‘seamless’ in this context was initially used in the social sciences literature by Pressman and Wildavsky in relation to policy implementation (1984 [1973]). Thereupon, it has been adopted by many network theorists with regard to the context in which technological innovation takes place. Van Est (1999) adds the adjective “seemingly” as he objects to the connotation that is inherent to the word ‘seamless’ of a strong interdependence between the various aspects of technological innovation. With such a connotation, he explains, “it no longer makes sense to make analytic distinctions between technical, social, economic and political aspects. ... Sweeping all aspects of innovation into a big heap carries the danger of disregarding the political character of innovation” (1999:18-19).
tunities and constraints of actors are, according to Sabatier, those happenings that "are susceptible to significant fluctuations over the course of a few years and thus serve as major stimuli for policy change" (Sabatier & Jenkins-Smith 1993:20). Such events include changes in the socio-economic situation, changes in government, and (policy) decisions of actors outside the policy network and innovation network under scrutiny that affect these. A crucial characteristic of such events is that they take place beyond the reach, and outside the sphere of influence of the actors who are the focal point in the research. The actors are left no choice but to respond to the events (and to anticipate them) as adequately as possible (Sabatier 1987:657).

The relation between the various elements in this depiction of the object of research (method and practice of an analytic project, its impact and the dynamics in its contexts) can be elaborated on the basis of the above overview of relevant literature.

A checklist of potentially relevant issues to guide the case descriptions

The above makes clear that, studying the empirical material, the following aspects deserve specific attention:

Concerning methods

- **Organisational focus**: To which extent did the 'claims, concerns and issues' of participants serve as the organisational foci of the analysis? How was a long-term perspective introduced in the analysis; how was it related to the claims, concerns and issues of participants? What was the analyst's role in luring participants away from the constraints of their every day professional context in order to adopt a creative long-term view; which methods and techniques were used to that end?

- **Accommodation of qualitative and quantitative methods and data**: To which extent and how were (data from) empirical-analytic research activities introduced and incorporated in the analytic project? To which extent were these activities (and their results) part of the deliberation process?

- **Participant selection**: Who selected the participating stakeholding groups, and in which way? On which grounds were participants selected? Did specific qualities such as creativity and innovativeness of the individual participants play a role in the final selection of candidates, and in which way did this affect the project's outcome?

- **Closure**: Until which stage in the inquiry process were additional views accommodated in the analysis and how was a cut-off point reached? Was the issue of closure given explicit attention by the TA-analyst and the client that commissioned the analytic project? If not, how did that affect the analytic project, its
outcome and impact? When and how were the rules of closure set, and by whom? How were these attended to during the analytic project? How did that affect the analytic project, its outcome and impact?

Concerning practice

- **Institutional conditions**: Under which institutional conditions did the analytic project take place? What status did the client commissioning the project have in the eyes of relevant actors, in terms of its legitimacy vis-à-vis the topic of investigation and relative power? What was the analyst (team)’s relation to the client commissioning the inquiry process; what support in terms of means and power did the analyst (team) receive? To which extent, and in which way were the method(ological) aspects of the analytic project discussed and agreed upon in advance between analysts, client and participants? To which extent, how and why were initially set conditions changed during the course of events in the analytic project?

- **Conditions for learning**: Whether and how did the analyst (team) consciously attempt to induce learning on the part of the participants? To which extent was the analytic project explicitly aimed at inducing a congruency of meaning between participants with different interpretive frames? To which extent and how were participants invited to critically reflect on their own and others’ interpretive frame? To which extent and how did the analyst (team) manage to create an atmosphere of trust, so as to stimulate discussion on highly contested issues in a non-defensive way?

- **Power balance**: By which mechanisms did the analyst (team) attempt to keep a balance between (the inputs of) the various participants? Did the analyst (team) succeed in keeping such a balance? By which mechanisms was a balance kept between the inputs of the analyst (team) on the one hand, and those of the participants on the other? To which extent were participants enabled to correct or amend the results?

- **Safeguarding the project’s integrity**: Was there, in the course of the analytic project and/or at the end, pressure from the client or other non-participants to adjust the findings to their views? To which extent and how did the analyst (team) manage to safeguard the project’s course of events, outcome and results from such outside pressure?

Concerning the relation between methods, practice and impact

The methods that are being employed and the project’s practical organisation may contribute to the occurrence of learning and/or of changes in action. In addition, the activi-
ties that the analyst (team) undertakes to transfer a project’s outcome to the practices of relevant actors may play a role in the occurrence of such impact.

The relevant actions and exchanges of information between a project and its context may not be restricted to the onset and the final stage of the TA. In the course of analysis, actors (participants or non-participants alike) may come to change their views on the issue under scrutiny, either or not in relation to the TA that is taking place. Furthermore, over time, a TA project’s influence may spread beyond the audiences that it intended to address. It is therefore not possible to systematically investigate all processes of (vicarious) learning that may have occurred in connection with, and possibly as a consequence of, the researched cases of interpretive TA. Therefore, in the empirical research, the occurrence of learning is analysed at the aggregation level at which the TA intended to contribute. If, for instance, the prime addressees of a TA project were Parliament and other public decision makers, my analysis focuses on learning at the level of policy formulation. In the case that non-state actors, such as technologists or managers of research institutes were the prime addressee, learning on their part is analysed.

Insight in the dynamics in the analytic project’s context and in its impact (understood as the occurrence of learning that reflects the project’s intentions as well as actual behavioural change of actors in that line) provides a basis for appreciating the methodical and practical specifics of the TA projects. Furthermore, at any given time, other factors in the project’s context may have positively or negatively affected the investigated dynamics. In order to understand the relation between methods, practice and impact, therefore, one requires information on the following topics:

- **Particularities of the issue at stake and its context:** In which way did the particularities of the topic of the TA-project (for instance, the stage of technical development) affect the selection and employment of analytic methods? In which way and to which extent did the context’s ‘back talk’ affect the selection of analytic methods?

- **Particularities of the participatory process:** In which way and how did the particularities of the participatory process (the willingness and ability of participants to relate to the methods employed, the ability of participants to grasp technical information, the strategic aspects of the project, the interactions between analysis and context etc.) affect the project’s contents?

- **The analyst’s role in relation to the institutional conditions:** How did the tasks and obligations of the analyst (team), defined from a methodological and a practical perspective, reinforce or oppose one another in the management of the project? To which extent were strategic considerations with respect to participant selection and choice of analyst (reputation, relative power) given priority over contents-related considerations? Did the analyst (team) or the project’s cli-
ent consider such strategic considerations at odds with concerns for the contents of the analysis?

- **Dissemination of the project's findings**: Did the analyst or the project's client employ specific activities to bring the project's results and outcome to the attention of its audiences? If so, which? Did the analyst or the project's client explicitly intend to stimulate vicarious learning? If so, in which way?

- **Insight in external incentives for action**: To which extent did the TA result in insight in the incentives that may trigger policy actors or non-state actors to undertake action towards the project's envisioned goals? To which extent and in which way were these insights used in developing strategic activities to focus the attention on the TA project, its outcome and results?

- **Methods and practice vs. impact, given contextual factors**: Which methodical or practical aspects of the project relate to the changes in the interpretive frames and/or action of actors in the processes of public policymaking and technological innovation on which the project reflected? To which extent and in which way did these contribute to a realisation of the objectives and intentions with which the TA was set up?

These checklists help to focus the case descriptions in such a way, that they provide a basis for answering the third and final research question in this study. This question will be addressed in chapter 7.