Chapter 7
Conclusions and discussion

The initial question underlying this research was a very practical one: how to conceive and instigate the ‘thoughtful, humane and measured changes’ that are called for from the perspective of a sustainable development. In search for answers, two ideas served as an intellectual point of departure. Firstly, it occurred to me that what is desirable and feasible in terms of a sustainable development is basically a matter of political judgment and, secondly, that to exercise such judgment, one is in need of the kind of knowledge that Aristotle has called practical wisdom or phronēsis. An elaboration of that concept led me to consider interpretive TA as a potentially suitable form of analysis to inform political judgment on questions of sustainable development.

Thus, I set out to investigate how and under which conditions an interpretive TA may contribute to making the concept of sustainable development contextual and operational in a specific setting, in such a way that it affects processes of policy formulation and of technological innovation. Three cases of TA were investigated in order to provide an answer to this question. The analytic projects were described both as intellectual performances that analytically dealt with some issue of sustainable development, and as social phenomena that affected (to a greater or lesser extent) the fields of policy making and/or technological development that they addressed. The descriptions included elements of policy tracing, depicting the TA-projects against the background of the processes of policy formulation and technological innovation in which they intended to play a role. The case descriptions contained elements of puzzle solving too, because an attempt was made to establish the role that the projects plausibly played in influencing these processes. In so doing, the empirical material provided insight in a repertoire of analytic practices, the merits of which could be considered in terms of goal achievement in the light of the projects’ own ambitions.

On the basis of the accumulated material, this chapter seeks to provide an answer to the last research question: What can we learn from the various cases about the methods and practice of TA as a way to organise political judgment on issues of sustainable development? To that end, below, the findings from the three cases will be subjected to a cross-case analysis that is framed according to the conceptual lens as developed in chapter 3. Thereupon, lessons will be drawn with regard to methods and practice of TA as a way to organise political judgment on questions of sustainable development. These lessons are not intended to amount to some formal theory on the subject, nor in a recipe book for doing interpretive TA. Instead, the exercise is meant to exploit the power of “the good example” (cf. Flyvbjerg 2001) and thus to provide a basis for reflection on the
relation between interpretive TA and the concept of sustainable development that completes the set of answers to the main research question.

Recapitulation

The research started from the premises that issues of sustainable development have an inherent quality that necessitates a particular approach to knowing what to do next. Such issues combine a focus on both local and global aspects of the ‘good’ of the community, and on aspects concerning the here-and-now as well as the long term. In addition, they imply drastic societal change. Furthermore, the nature of sustainable development problems is such, I argued in chapter 1, that they do not allow for a mere non-committal notion of knowing what to do next, but also require ‘acting upon the world’ to mitigate such problems. The idea was posited that the analytic endeavour to know what ‘will do’ itself might actually contribute to ensuring that that would be done as well. As a result, the interweaving between knowledge and power that is present in every act of ‘speaking truths to powers’ is the more intricate in analytic efforts that themselves seek to intervene in the issues under scrutiny.

Chapter 2 discussed the approach to research adopted in this study. Characteristic of this approach is, first, the effort to combine the insider view (that of the interviewees who participated in the researched projects) with the outsider view (my interpretation as a researcher) to understand the phenomena that are being studied (a combination of Verstehen and Erklären). Secondly, the conception of cause-effect relationships between these and other phenomena were understood as a matter of “mutual simultaneous shaping” (Guba & Lincoln 1989). Thus, the impact of a TA project was conceptualised as those changes in the interpretive frames and actions of relevant actors that can plausibly be related to the project taking place, both on the basis of the views of the involved actors themselves and on the basis of reasoned arguments by the investigating outsider. It may be clear by now that this specific approach to research tallies with the approach to constructivist inquiry that is described in the next chapter.

In chapter 3, a conceptual lens was developed for scrutinising the cases. A discussion of the phronēsis concept resulted in the formulation of three methodological maxims by which to organise an analysis that meets the purpose of informing political judgment and enabling action. I stipulated that the analysis should employ i) a hermeneutic approach to data collection, yet one that does not preclude the use of empirical-analytic methods to assess relevant facts, that ii) it should feature a participatory set up; and iii) that the analytic endeavour should be conducive to learning.

For a further elaboration of these meta-methodical guidelines, I turned to Guba and Lincoln (1989) who have codified a methodical approach that is contingent with these three maxims. Their methodical elaboration, however, is designed for employment in
the context of the evaluation of school curricula. Since sustainable development issues refer to more complex contents and contexts than curricula problems, I reasoned that a scaling up of Guba and Lincoln's approach, by way of a thought experiment, could help reveal the main bottlenecks in employing a hermeneutic and participatory approach to analysis on sustainable development issues. That exercise resulted in the conceptual lens for guiding the empirical research.

The selected cases all three focused on very practical expressions of the broader sustainability theme. The selection of methods in each case was closely intertwined with the particularities of the issue at stake as perceived by the analysts, and of the context in which the issue was found problematic. As a result, the cases shed a light on how the methodological complexities in combination with the issue-specific complexities of sustainable development were dealt with in practice. A comparison between the cases, with a focus on the issues that were identified in the conceptual lens as requiring specific attention, provides a foothold for learning from the experiences.

Three examples of interpretive TA: a cross-case analysis

The TA experiments, described in chapter 4 to 6 respectively, intended to organise an exchange of information on the technical, social and ecological aspects of a specific topic so as to inform political judgment on a question of sustainable development. Although the Phosphate Forum was staged on the eve of the coining of the sustainable development concept, the integral approach to environmental policy making that was heralded in the project was an expression *par excellence* of the new ideas that were encapsulated in the notion. The other two cases explicitly phrased their focal points in terms of a sustainable development. Interestingly, both the NPF project and the Gideon project addressed aspects of the implicit revolution in the dominant approach to agriculture that can be referred to as a process of “chain reversal”. Arguably, this shift in thought (from taking agricultural production as a point of departure to taking the processing and consumption of agricultural products as a starting point for outlining a rational course of action with regard to agricultural production processes) is an expression of the sustainable development notion as well.

All three projects intended to serve the strategic purpose of influencing some specific (either public or private) action and intended to do so by organising the analytic project as a collective inquiry in which stakeholders were actively involved. The stakeholders in each project shared an interest in the problem or (element of) a solution strategy under investigation, yet differed from one another according to their interpretive frames. These differences in interpretive frames were acknowledged within the analytic procedures employed.
Not withstanding these similarities, the TA projects differed from each other with regard to the TA’s intentions, the specific methods employed, the particularities of the issues at stake, and the contexts and institutional setting within which they were staged. As became clear from the empirical chapters, these aspects strongly influenced one another. The characteristics of the issues at stake and their contexts, for instance, profoundly influenced the design and implementation of the TA procedures.

The three cases compared

As regards the projects’ intentions, each TA meant to influence relevant decision making processes in a different way. The Novel Protein Food case was directed at influencing industrial and business circles directly, whereas the Gideon case addressed Parliament. The Phosphate Forum, in contrast, did not target one specific addressee, based as it was on the assumption that, in general, an informal network of opinion leaders with their on-going discussions co-prepared formal policy formulation. In this case, in contrast to the other two, the efforts of the analysts to transfer the project’s findings to the relevant decision making structures were limited.

The differences in intention and ‘transfer route’ related to the differences in the projects’ contexts and the accompanying strategic rationales for initiating an interpretive analysis in the first place. In the case of the Phosphate Forum, the project was commissioned by the industry that was, reluctantly, involved in the eutrophication discussion. The project was considered a strategic endeavour given the controversy. Because the project implied a promise to all parties involved (including the government) to offer a way out of this controversy, it encountered a lot of goodwill. As a result, the analysts did not find much difficulty in identifying interested candidate participants.

In the NPF case, there was no controversy, let alone a problem in the eyes of many. As a result, for the project team, it was harder to find parties willing to commit themselves to the project. On the other hand, in the absence of a problem-as-experienced, the context was little polarised, a situation which contributed positively to the project’s chances on success. The Gideon project, in contrast, could not but hurt almost any party involved: it was staged amidst a highly polarised network of a variety of problem owners. The project put up for discussion not only their problem definitions but also the usual way of dealing with these problems. As a result, the project encountered little enthusiasm and its findings were met with considerable scepticism.

The differences in the respective projects’ rationales reflected not only the differences in context but also in the particularities of the issues at stake. The Gideon project and the Phosphate Forum focused on technologies that could be considered fully mature in terms of their life cycle, whereas the NPF case centred on an artefact at its initial stage of development. Accordingly, the group of problem owners in the latter case was
oblique while in the other two cases potential participants clearly identified themselves as having a stake in the issue under investigation. These characteristics of the issues at stake and their contexts influenced largely the way in which the TAs were designed and conducted.

In spite of the constructivist approach to inquiry that each project at least in intention featured as a common denominator, the three projects in practice differed quite largely in terms of the approach to analysis adopted. In the phosphate case and the Gideon project, the problem definition of the issues at stake were put up for discussion, allowing the analyses to probe into the normative as well as the technical aspects of the topics investigated. In contrast, in the NPF project, the process of problem structuring was given little attention.

The problems that were addressed in the STD-Programme, among them the NPF issue, were structured at programme level (namely as problems of a technological inadequacy, which required the development of technologies that would improve their environmental efficiency by a factor of 20 in the next 50 years). At project level, the focus was on potential solution paths. Since this limitation to the focus of the analysis was not only at odds with the project's own intentions (as outlined in the project documents as well as in its evaluation; cf. Weaver et al. 2000) but also with the adopted methods, time and again, discussions flared up about what topics could legitimately be discussed in the project's context. In hindsight, the project was only moderately interpretive in character.

Although it may seem that in this crucial respect, hence, the NPF project is hardly comparable to the other to cases, it is my contention that this deviance from the rule rather sheds some interesting light on the issue at stake here: the methods of an analytic endeavour in relation to its practical context. The (eventual) adoption of a moderate form of interpretive TA (in spite of the project's intentions) was as strategic a choice as was the adoption of a genuine constructivist approach to inquiry in the phosphate project and the Gideon project. In the latter case, this choice not only made sense from a perspective of the philosophy of science. The methodological stance coincided with strategic considerations about how to organise a break-through in the perceived stalemate situation that the crop protection issue was in. In the case of the phosphate project, a participatory and (arguably) constructivist approach to inquiry was considered strategically useful to rekindle the debate on eutrophication and to thus stimulate the desired change in policy.

In the case of the NPF-project, the aspired approach to inquiry in which "all stakeholders" could bring forward their claims and concerns and the analysts would play a "neutral role" (Weaver et al. 2000: 135) did not hold - and did not make much sense, strategically - in the context in which the project was conducted. At the time of its installation, the STD Programme was highly innovative in the light of the then-current
policy. Not only did it formulate a challenging problem definition (the ‘factor 20’ argument) and an innovative approach to outlining solutions (by means of “backcasting”), it also sought to “bring about fundamental changes in innovative practices” (2000:18). While so aspiring, the STD Programme was embedded, administratively and practically, in a context in which environmental management and technological innovation were looked upon as two separate realms of policymaking. It was on the level of its projects, such as the NPF project, that the tension between aspirations and institutional arrangement came to the fore. In the NPF case, this resulted in the strategic choice to limit the range of stakeholders’ claims and concerns that were seriously accommodated within the project’s set-up.

Several inferences may be drawn from this initial comparison between the cases. First of all, it is obvious that the institutional setting in which a project is to be staged, as well as the particularities of the issue on which it will focus, largely co-determine the chances that a constructivist approach to analysis may be successfully adopted. Furthermore, a sophisticated methodological underpinning of an interpretive TA effort is no guarantee that in practice, its intentions may be fulfilled. These observations underscore the relevance of ensuring, as a starting condition, that all responsible parties have a shared understanding about the (im)possibilities of employing a constructivist methodology in relation to the project’s objectives, project management and impression management.

These observations add to Grin et al.’s (1997:21) assertion that in the case of generating knowledge on ill-structured policy problems, an interpretive (“interactive”) approach to TA is called for. The findings from the cases investigated here suggest that in addition to an assessment of the type of problem at hand, also an assessment of the problem’s context is called for. A similar conclusion is drawn by In’t Veld and Verhey (2000), who propagate a “coupling” of knowledge production and policy formulation (particularly in cases of ill-structured policy problems) via interactive processes of inquiry that results in “negotiated knowledge” in a way that is reminiscent of the constructivist approach to inquiry described in this book. In contrast to Grin et al., the latter authors not only consider the typology of policy problems an indication to adopt a specific approach to analysis, but also the particularities of the “policy arena” (In’t Veld & Verhey 2000:140) to impel a specific kind of knowledge production. They are, however, little specific about the way in which to assess these particularities. On the basis of the three cases described here, no clear-cut typology of the perceptiveness of contexts to constructivist inquiry can be given either. Yet, some suggestions may be given (see below under ‘lessons’). The findings on the Phosphate project, where in a preliminary research the substantive aspects of the issue were investigated together with possible
procedural aspects, for instance seem to suggest a promising possibility for making such an assessment.

The comparison between the three cases suggests that the projects differ from one another to such an extent, that they form a rich source of information on how to analytically deal with sustainable development issues. Yet, they have in common a sufficiently broad methodical basis to justify a further elaboration on the basis of these experiences of the methodical and practical complexities that were outlined in chapter 3.

The organisational focus in analysis

In chapter 3, the element of “responsive focusing” was found to be quintessential to constructivist inquiry. Such an organising principle, it was argued, might be on a tense footing with the requirement of adopting a long term perspective in an analysis on questions of a sustainable development. After all, such issues may involve problems and solutions that participants may as yet have given little thought, let alone formulated claims or concerns about. This may require an extra effort of the analyst, as in that case, a mere facilitating role as envisioned in constructivist inquiry may not suffice.

Of all three cases, the Phosphate case shed the least light on this topic. Although the solution strategies to the eutrophication problem that were discussed in the Phosphate Forum at that time were considered trend-breaking (an integral approach to water management), much in line with the Zeitgeist of the early 1980s, the Forum did not seek to formulate options for an “improved future” that differed radically from the then-current understanding of water management and pollution control. Together with the fact that the approached stakeholders saw themselves as problem owners indeed, arguably, this may explain to a large extent why the Phosphate project team managed to put into practice many of the methodical guidelines that in this book are considered quintessential for interpretive TA, among them the element of responsive focusing. The analysts had a mediating role between the various participants, facilitating an exchange of information as well as learning processes among them. Their own input (in the form of recurrent reconstructions of the systems analytic model) was time and again checked and balanced by the input of the other participants. Although formally the research bureau that conducted the analysis intellectually owned the output, the results de facto were the collective product of the entire circle of participants that co-shaped the Forum.

Unlike the Phosphate project, the other two projects explicitly focused on long-term, radical solutions. In these cases, the role of the analysts was significantly different. In contrast to the observations in retrospective self-assessments (Weaver et al., 2000; Grin, 1998 respectively), my research findings indicate that in the NPF project as well
as in the Gideon project, the analyst team put a much more visible mark on the projects' results and outcome than the teams themselves considered desirable.

In spite of remarks concerning the "neutral role" of the analyst in the STD's own evaluation of the project, to the initiators of the NPF project, this was a pre-contemplated choice. They did not expect the participants in the TA to formulate a long term view, nor did they consider that necessary. The notion of "backcasting" served to match the long-term view defined at programme level with the "claims, concerns and issues" of the participants at project level. Although its spiritual fathers did not cast it in these terms, the backcasting concept (which entails a systematic scrutiny of the question 'what should be done now in order to make the long term view come true') appears a highly useful concept for bridging the possible tension between a constructivist approach to inquiry and a long term focus in an analysis. In the NPF case, however, it did play that role to some extent only. The options for action to be done 'now' were formulated in close consultation with merely a part of the stakeholder groups. The "claims and concerns" of other stakeholders that were solicited via the so-called stakeholder analyses and the TvC-procedure (the NPF project's consumer's research) were not systematically included in the discussions.

In contrast to the NPF case, the analysts of the Gideon project meant the project to indeed give a voice to all stakeholders involved in the issue at stake. Furthermore, unlike the NPF initiators, the Gideon analyst team expected the project's participants themselves to formulate a long term view on crop protection practices. Much to the team's surprise, this appeared possible only by making use of specific creativity-enhancing technique; the "claims, concerns and issues" as solicited during earlier interviewing rounds did not include or address visions of the future. The eventually developed long term views and the options for action that were formulated earlier in the project were integrated by the project team so as to result in future visions and coherent strategies to realise these. This exercise was in fact similar to the backcasting approach adopted in the NPF project.

Hence, the case material suggests that a responsive focusing does not rule out the possibility of a focus on a long term horizon and a global perspective, yet that specific creativity stimulating techniques may be required. Most specifically, it seems to suggest that the concept of backcasting is a promising option to bring the two types of foci in line with one another. As long as the long term views are developed as a "joint construction" of all involved and/or are put up for scrutiny within the hermeneutic inquiry process, the potential imbalance of power (that may be involved in explicitly aspiring a long term orientation in the solicited claims and concerns or in the backcasting exercise) between the analysts on the one hand and the participants on the other can be avoided.
Employing qualitative and quantitative research methods within one analytic design

All three projects focused on highly complex technological issues and in all three, to a greater or lesser extent, empirical-analytic research methods were employed. In chapter 3, questions were raised regarding the possibility of integrating these in an interpretive analytic process. In addition, the willingness of participants to put up for discussion what many may be considered 'hard facts' was identified as a potential bottleneck.

All three cases shed a light on how such an accommodation of research approaches can be organised in practice. The most telling example is the phosphate project, which subject was considered a scientific problem *par excellence*. Discussions on eutrophication focused on the relevance of the various empirical-analytic studies about the matter, and on the relative weight of the accumulated facts. The construction of a system dynamics simulation model in the Phosphate Forum project beffitted the scientific, technical character of the debate. It provided an opportunity to relate the various technical aspects of the complex issue to one another in a structured way. More importantly, the model construction effort turned out a steppingstone for putting up for discussion the normative assumptions underlying the participants' technical assertions. It allowed for a hermeneutic-dialectic approach to data collection that included and built on findings from empirical-analytic research. Since the causal diagrams were conceived of as explanations of “mental models”, the resulting representation was a “joint construction,” that is, a shared understanding of the eutrophication issue as perceived by the Forum participants.

In the NPF-project, the numerical elaboration of the NPF-options and the resulting “portfolio” with a description of environmentally friendly and economically feasible non-meat protein foods served an entirely different purpose than the system dynamics model of the eutrophication issue in the Phosphate case. The model building exercise in the latter case was instrumental for sorting out the “claims, concerns and issues” of the participants, to use Guba and Lincoln's (1989) phrase. In contrast, in the NPF project, the NPF selection process was an end in itself. Moreover, the numerical elaboration was considered useful by the project team for strategic reasons. Notably in the first phases of the project, the team considered a sound quantitative elaboration as evidence of the analysis' credibility. With time, it became obvious to the team that the quantitative data did not perform the role the analysts had hoped (especially when all careful calculation efforts resulted in a “reduction factor” of the environmental burden of NPFs that was far below the envisioned “factor 20”), the emphasis gradually shifted to a more descriptive approach in which a numerical presentation of the findings was merely “illustrative”.

Interestingly, in the TvC-procedure, which was organised in a more hermeneutic-dialectic manner than the other NPF research activities, the technical findings on NPF
options that were presented often served as a stepping stone for elaborating normative issues. The procedure focused originally on the mental models that technologists and other relevant actors have of the "consumer of the future". The specific project-related questions that were formulated by the project team focused, in turn, on the consumers' aspects of the potential NPF products that the technologists envisaged. The combination of the two types of questions in the practice of the TvC-procedure (which included three "interactive sessions" with a wide variety of stakeholders) time and again gave cause to a discussion about the desirability as well as the feasibility of NPFs and other normative issues. While considered an end in itself by the project team, to most of the participants in the interactive sessions, the sketching of the NPF-portfolio rather was a timely occasion for deliberating the issue from a much wider perspective. The correspondence with the phosphate case in this respect is clear.

In the Gideon project, an entirely different approach was adopted. While the subject of the analysis was considered by many a mere technical topic, the project chose to focus solely on a qualitative mode of data collection. Possibly, the sheer discrepancy between the usual way of discussing the crop protection issue (with "truck loads of empirical data", according to a participant) and the approach adopted in the Gideon project (with the interactive sessions that another participant typified as "those borage gatherings") contributed to the tepid reception the project received. The four case studies that were conducted by CLM at the end of the project were appreciated best by players in the crop protection arena, as they did not only provided information that was "relevant and really new", according to a discussion partner, but also spoke a familiar language.

The Phosphate Forum can be considered a text book case of how empirical-analytic data may play a role in a hermeneutic-dialectic approach to data collection. It is a matter of speculation whether such an approach might have been useful in the case of the Gideon project, if only to bridge the gap between the methodology adopted in the project and the neo-positivist paradigm that dominated the crop protection field. Like the Phosphate case, the NPF project's TvC-procedure showed that, in principle, the use of empirical-analytic research findings within the context of an interpretive TA is possible. On the basis of this material, it may be concluded that a comprehensive and meaningful integration of data of various origins is possible as long as the data that result from empirical-analytic research are put up for discussion within the context of the overall analytic process, just like any other item put forward by the participants. To be sure, any research undertaken within the framework of the overall analysis has an effect on its proceedings only in so far as the participants attribute meaning to it. Furthermore, the employment of empirical-analytic research methods may thus also serve the strategic goal of translating the intentions of the interpretive analytic effort to participants who are not familiar with a hermeneutic-dialectic approach to research.
Interaction and learning

It is clear that the participation of stakeholders in the TA projects investigated here was not intended as a contribution to furthering the democratic ideal per se. The decision to include various perspectives in the respective analytic efforts served to ensure the development of a sound notion of what to do next, regarding the issue under scrutiny. Even though the phrase was not used in the various projects themselves, participation hence served the goal of improving the quality of political judgment on these issues. Furthermore, in all three cases, it was considered a strategic move in order to ensure that the outcome of the analysis were to be acted upon. In chapter 3, the relation between knowing what to do and action in line with that knowledge was discussed in terms of learning. Learning was described as difficult to achieve, because of the tenacity of the constructions that people hold of their realities, their ability to “wall off” contravening evidence (Schön 1983), the occurrence of peer pressure to stick by earlier conceived ideas (Janis 1972) and of defensive routines (Argyris 1990). The question was raised in which way, and under which conditions learning was induced in the context of the researched cases.

In all three cases, instances of learning were identified at the aggregation level at which the respective projects intended to produce an effect. Although the concept of learning was not used as such, the initiators of the Phosphate Forum expected the particular methodical design of the project to induce relevant parties to reconsider their thoughts on the matter of eutrophication. The empirical evidence showed that indeed the policy actors redefined their problem perception and reformulated solution strategies. In chapter 4, the contrast between the Phosphate Forum and another platform on eutrophication for consultation between the detergent industry and the central government (the OFR) was considered an indication that a mere exchange of information does not suffice to induce learning.

Furthermore, the Forum and the OFR were contrasted to identify the aspects that made the former project conducive to learning. Among these aspects were the involvement of a wide variety of actors who represented diverse perspectives on the issue, the way the discussions were organised (on the basis of collectively constructing a system dynamics model) and the specific role that the analysts adopted. The model construction exercise contributed to the explication of the tacit stock of knowledge that actors brought to bear on their understanding of the problem. It was used to transform the implicit theories or views of the participants into causal models that allowed for an explication of implicit assumptions. Thus, the model-under-construction provided a check on inconsistencies, both in an individual’s assumptions and desiderata and in the joint result of the collective process of information gathering and integration. Furthermore, the model forced the participants to take into serious consideration facts and
interpretations that at first glance were not in keeping with their point of view. During the course of the analytic process, the model thus served as a kind of "boundary object" between the varieties of participants. The analyst sought to help the participants, who held different interpretive frames, to understand one another, and to fill in the blanks in the then-available knowledge on the issue of eutrophication.

The experiences in the NPF-case underscore the importance of the analysts' role in this respect. In this case too, the desired effect amounted to the occurrence of learning between, first, the participating research teams and second, between these researchers and the project team on the one hand and several third parties among which the food producers involved, on the other hand. In this project, too, it was found that the bringing together of actors with a variety of views did not suffice to induce learning. Here, the contrast between the earlier stage and the later stages of the project showed which additional measures were required to bring about the desired effect.

The initially employed intermediary activities by the project team, which made use of fact sheets ("interactions sheets") and three-monthly plenary meetings to facilitate an exchange of information, did not result in the kind of interaction and communication between the involved research groups that was hoped for. More frequent and less formal meetings at a later stage proved far more conducive to learning, especially since the project team by that time came to play an entirely different role in enabling a proper communication between the researchers. During these later meetings, the team adopted the role of mediator rather than of an intermediary, and of facilitator rather than process controller.

The experiences indicate that in order to stimulate learning, a mere exchange of information (either through face-to-face contacts or via interaction sheets) does not suffice. The analyst (team) has to play an active role in ensuring that the participants are seduced to explicate tacit assumptions and that they are confronted with those of others that may not be in keeping with their understanding of the issue at stake. The analytic endeavours thus appear to be instrumental in helping the participants, in Schön's words, to notice what they "worked to avoid seeing" (1983:283). The case material suggests, moreover, that mutual trust and a non-threatening atmosphere are an equally relevant condition for learning. This observation is in keeping with insights in the literature on the subject (cf. Fox & Miller 1996; Grin et al. 1997). The findings, furthermore, indicate (not surprisingly) that a frequent, repeated interaction between groups of actors (including the analysts) is contributory to the creation of such an atmosphere,

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1 Here, the interpretation of the concept of "boundary objects" as a means to allow for communication and for the translation of ideas between a varieties of actors is stretched beyond its original meaning. In its original meaning, a boundary object (Star & Griesemer 1989) is an artefact that is on the one hand sufficiently flexible in order to meet varying local needs and contextual constraints of the various parties that are bound to use (produce, distribute, et cetera) it, yet that is on the other hand sufficiently robust to represent a joint identity and that allows for an exchange of information between diverse parties and for joint action.
as is the attitude of the analyst team. This contradicts Forester’s (1999) suggestion that one-off down-to-earth situations, such as having tea together, suffice to constitute the conditions that are favourable to inducing learning.

As concerns the composition of the participant group, the findings strongly argue against Sabatier and Jenkins-Smith’s stipulation (1993; cf. Sabatier 1987, 1995; Jenkins-Smith 1988) that policy-oriented learning is facilitated when a forum is dominated by “professional norms”, i.e. when the participants have a common, professional basis for assessing analytical claims. A professional forum typically represents one arena in which an issue is debated. The alternative to such a forum, which Sabatier and Jenkins-Smith call “open” forums, typically include participants who lack such a shared basis. Jenkins-Smith argues that in such open forums in which participants with differing backgrounds are brought together, analytical conflict will seldom be resolved and that forum discussions rather lead to the use of the analysis in defence of preconceived policy positions (Jenkins-Smith 1988:204). Notably the findings from the Phosphate case show that the openness of a forum and the width of the range of views being expressed there, in contrast, increase the possibilities to induce learning, provided that the analyst team plays a mediating role that facilitates the explication of tacit assumptions.

Selection of participants

In chapter 3, various authors were quoted to cover a wide range of possible criteria for selecting candidates for participation in constructivist and “deliberative” analyses. Since the universe of potential stakeholders to discuss issues of sustainable development is unlimited, it was posited that Guba and Lincoln’s geographically based criteria do not suffice. Their reference to the notion of “purposive sampling” appeared a more useful and adequate meta-criterion to comply with the prerequisites of the phronetic maxim of representative thinking. Purposive sampling is a strategy to ensure a maximum variation in the views that are being consulted to provide the broadest scope of information in the analysis. This strategy was consciously adopted in two of the researched cases (the Phosphate Forum and the Gideon project). Moreover, as a common trait in all three cases, the notion of “proximity to the issue under scrutiny” was understood to enable inclusion of the widest range of actors possible, in line with the perception of the problem situation. Furthermore, the question was raised whether personal traits of the individual discussion partners were included in the definite selection of participants, and how, practically speaking, candidates were identified in the first place.

The three cases provided a varied picture of the selection procedures adopted. The preliminary research in the phosphate case served as a basis for outlining the potential candidate group: all actors who were professionally involved with any of the known
sources of plant nutrients in Dutch surface waters. Practically, an initial interviewee, who was identified for his extensive knowledge on the issue and relative low-profile position, was asked to suggest potentially relevant sparring partners, including "honoured opponents". These in turn were asked for additional names. As the analytic process gained fame and media attention, 'new' participants to the process also volunteered. The system dynamics model of the eutrophication issue, constructed in the analytic process, helped the analysts to determine whom to approach in order to complement the purposive sampling exercise.

In the Gideon project, a substantive line of reasoning largely determined the universe of potential participants: the project team posited that actors from the entire chain of crop production should be involved in a debate on the future of crop protection (ranging from farmers and auxiliary industries to consumers) in order to break open the stalemate situation that dominated the debate on crop protection. A further selection was based on strategic considerations. In order to steer clear from the power games that dominated the field and to allow the analysis to reach beyond a repetition of well-known arguments, the front men in the on-going debate, that is, the renowned negotiators who dominated the discourse on crop protection, were ruled out as potential participants.

Because of the practical approach to recruiting candidates via the networks of farmer representative organisations, and due to processes of self-selection (various candidates did not consider themselves sufficiently knowledgeable to participate), eventually some (close) links between individually participating farmers and growers and the formal representative organisations could not entirely be avoided. The extent to which this influenced the contents of the analysis is difficult to establish. The case material suggests that it did so to some extent in a manner that was not appreciated by all involved.

The issue is of relevance from the perspective of finding a balance between the aspects of design (knowing what to do next) and instigation (enabling action in line with the preferred design) that is involved in phronèsis. In his account of constructivist inquiry, Reuzel (2001:118) argues that denying representatives access to the interactive process may prove counterproductive in terms of the process' outcome (preventing the analysis from providing insight into the strategic games that are being played) and its impact (an interactive analysis might be less useful, if important players are excluded from participation). Grin et al. (1997), in contrast, posit that excluding dominant players or the 'old boys' that usually dominate a discussion serves to avoid imbalances in power and, in addition, give a chance to new and original thought as input in the discussion on which the analytic process focuses. This approach was adopted, at least in intention, in the Gideon project.
The material from the three projects described here is inconclusive as to the value of either point of view. In the Gideon project, the involvement of the relatively fresh blood in the discussions proved a fruitful choice given the strategic games that were being played in relation to the crop protection issue, and the stalemate situation in which that had resulted. The project did not seek to clarify the dead lock situation but instead tried to look beyond the status-quo and to formulate new options for change. In the Phosphate case and the NPF project, however, special care was taken to attract people with an outstanding name in the field to render the project a certain authority, which worked well in these cases. That this strategy worked well in these cases may be due to the fact that in neither case, the issue was debated in a polarised atmosphere (see above).

An evident conclusion from these experiences is that it is not sensible to formulate a general rule about in- or exclusion of representatives of stakeholder organisations to be applicable in all cases. Rather, the choice to either in- or exclude formal representatives from stakeholder organisations depends on the motives to stage an interpretive TA in the first place, on the particularities of the context in which it is being staged and the parties that are its envisaged addressees. The quintessence is that a fruitful alternation is established between the acts of designing and instigating (which does not necessarily imply involvement of the same persons, as Reuzel seems to suggest).

Of particular interest in this perspective is another finding that came to the fore from the case material. In spite of the Gideon project team’s efforts to keep a balance of power within the analytic effort, it turned out that the dynamics of power could not be fully controlled. Participants brought with them memories of earlier interactions with some of the attendants, expectations about future meetings with these and other actors, as well as their ideas about the institutional setting that dominated the issue under scrutiny. These memories and ideas influenced their attitude and utterances in the collective analytic activity. A similar situation was found in the NPF project (both in the plenary sessions of the various researchers and in the TvC-procedure) where participants found it hard to shed preconceived ideas about the relative status of their colleagues and of the types of knowledge each possessed. Organising and maintaining the desired analytical space, hence, requires a management of power that reaches well beyond the formal status of potential participants, and that may lie well beyond the analysts’ capacity to control the process.

A further point of interest was whether in the researched cases the personal traits of the individual participants formed an additional selection criterion. In the Gideon case, indeed, participants in the two “interactive sessions” (the future oriented workshop and the working conference) were chosen for their expected creative qualities together with their (informal) expertise on the subject of crop protection. In the NPF case, (formal) expertise on the subject of meat analogues and their development was a first and fore-
most selection criterion. There are no data on whether the individual qualities also played a role in the selection of participants in the Phosphate Forum. Yet, more than in the other two cases, in this case, potential discussion partners were asked for a commitment to the process of deliberation and to the constructivist rules by which it was organised.

In all, it may be concluded that in the case of interpretive TA, the recruitment of participants is a conscious and well-controlled activity of the project team. It may apply a detailed set of criteria to identify participants even on the basis of individual characteristics. When it comes to the subtle dynamics of power in interpersonal relationships, the team’s capacity to control the situation is stretched beyond its limits. On a more practical level, that is the case too when there is little enthusiasm among potential candidates to actually participate. There may be competition of other forums and platforms to discuss the issue (as was the case with the Gideon project). Actors (for instance environmental organisations - cf. the NPF project or Members of Parliament; cf. the Gideon project) may be reluctant to commit themselves to an analytic project of which they might not endorse the results. In none of the three projects, this latter aspect was given much thought. In general, the material seems to indicate that the more progressive the problem-solution combinations that are potentially taken into consideration in an interpretive TA, the more difficult it is to put into practice methodical considerations regarding the selection of participants.

*A project’s institutional setting and the role of the analyst; safeguarding a project’s integrity*

In chapter 3, the maintenance of a power balance within an analytic project was considered closely bound up with the role that the analyst can and will adopt. It was argued that in a constructivist inquiry, the position of the analyst team in the process of data collection and processing is of crucial importance. Depending on the team’s adherence to the methodological constructivist maxims, a project’s outcome may be considered “fair” (*i.e.* genuinely representing the views of its participants) and “confirmable” (*i.e.*, the results “are rooted in contexts and persons apart from the evaluator” (Guba & Lincoln 1989:243). If these maxims are put into practice to the full, it was argued, the analytic process provides its own quality control.

On the basis of the initial comparison between the three projects discussed here, in this chapter, the conclusion was drawn that the extent to which methodological aspirations and considerations could be put into practice, and the room for manoeuvring for the analyst team, largely depends on the institutional arrangement within which a project is staged. Hence, the answer to the question raised in chapter 3 (whether and how the 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) arguably
depends largely on the project’s institutional setting (in addition to project team’s perceptions of its own role and tasks).

The NPF experience indeed clearly shows that a project’s institutional embedding may strongly influence its methodical elaboration. As was discussed above, the institutional characteristics of the STD-Programme that was deeply embedded within the existing departmental administrative regimes held a tight rein on the analyst team. The traditional administrative rules presented a badly fitting jacket for a programme that not only aspired to develop novel ways of making the sustainable development concept contextual, but that also aspired to develop new rules of the game to do so. As a result, the project found itself in a trying situation. It had to rely on market forces for instigating the desired sustainable development, yet it lacked the back up of the usual means of more established governmental organisations (which derive their authority and legitimisation from their institutional position and reputation, from the legal framework and so on) to trigger commitment and co-operation from market parties.

In other words, while from a bystander’s perspective the STD organisation operated on arms-length distance from the central government, at the same time it was administratively tightly wrapped-up in the formal governmental organisation. This was reflected in the project and detracted from the project team’s possibilities to pursue a constructivist approach to analysis. Firstly, the demands on the TA design that followed from the ambition to be creative and radically innovative were at odds with the administrative criteria for standard project management. Secondly, as a result of the requirement to comply with the Ministry of Economics’ criteria for financial support, the market parties involved became more dominant discussion partners than any of the other stakeholders involved.

In addition to these institutional constraints, the predominant focus on market parties was also the result of a positive choice made by the project team. The team members were of the opinion that a sustainable technological development was not the government’s exclusive responsibility. Instead, it was argued, market parties had to take a lead in integrating ecological and economic considerations in their business practices. The neo-liberal ideology about the role of the market in defending the public good and the project team’s perception of its own role and tasks (ensuring that “NPF development gets of the ground”; De Kuijer, personal communication, October 1996) mutually reinforced each other and caused the project to drift away from the methodological prescriptions on the basis of which it was set up, impinging on the project’s “fairness” in constructivist terms.

\footnote{Consider, for instance, the tension between the felt need to organise additional meetings at the later project’s stages to allow for a more intensive exchange of information and budget constraints, or the ‘bad timing’ of the project’s formal go/no-go decisions. The creative process was intersected by formal occasions for reflection and judgment that, since they were planned in advance, from the process’ perspective came at untimely moments.}
In contrast, the independent research bureau (FAE) that was responsible for the Phosphate Forum provided the analysts with the freedom to themselves set the meta-rules for conducting the analysis. Furthermore, the analysts’ perception of the project’s strategic interest matched the methodological approach that was adopted. The project team found itself in a position to proceed without constraints from any one of the potential participants, including the project’s commissioner, the detergent industry. The obligation the analysts in the NPF-case faced to realise pre-set goals in this case was absent. On the basis of these conditions, the analysts not only saw it as their task to ensure equal access to the analytic process to all stakeholders, but also were in a position to make that happen.

The Gideon project was commissioned by an equally independent, yet much more formalised organisation (the Rathenau Institute). The team that conducted the TA consisted of researchers who each operated from within their own institutional embedding. While the analyst of the FAE bureau were free to themselves set the rules of the game, in the Gideon project the analysts were called to give account for each of the steps they took, both by the commissioning institute and by the advisory board that supervised the project. As observed above, in this case, the poor receipt of the adopted methodology by the advisory board and the struggle of the Rathenau Institute with accepting its full consequences put a strain on the analysts’ room for manoeuvring. Yet, because the institutional arrangement was such that the advisory board did not have a decisive say in the course of events, the project team was free to a large extent to pursue its own (methodical) aspirations. Only by the time the results were wrapped up, the views of both commissioning institute and advisory board significantly came to dominate the process, eventually detracting from the “confirmability” of the project’s outcome.

It is clear that in addition to the methodological and strategic considerations that underlie an interpretive TA, its institutional setting and the analysts’ perception of their role and tasks determine the way in which it is practically given shape. An obvious conclusion is that if indeed government, industry or any other party is seriously interested in setting up an analytic project to inform political judgment on sustainable development issues, it must make a conscious effort to attune the project’s institutional setting to its methodological requirements. This assertion implies an agenda for designing and organising future efforts to produce knowledge and instigate change from the perspective of a sustainable development. In this chapter’s final section, the consequences of these inferences for future research and practice will be discussed.
A project's closure

Closely interwoven with the selection of participants is the issue of a project's (substantive) closure. The criteria that are applied in a project to decide which topics may be legitimately put up for discussion within the project's confines has, in principle, a similar influence on a project's "fairness" and is equally dependent on the project's institutional arrangement and the analysts' perceptions of their role and task. In chapter 3, the relation between the two issues is described as a chicken-and-egg situation: which comes first, the selection of the topics on which the project will focus, or the selection of stakeholders that are to participate? A more urgent question from the perspective of a project's "fairness" is whether and when the participants are being informed about the closure criteria.

In the phosphate project, the problem of closure vs. participant selection was solved in a chicken-and-egg way. The system borders of the eutrophication model-under-construction issue were used as the basis for determining both who could participate and which topics could be included in the discussion. Anyone who could meaningfully contribute to the discussion about topics that fell within these borders was welcome as a project participant (provided that he or she supported the adopted research approach). At the same time, the contours of the system were themselves constructed interactively. Thus, the decision which issues were legitimately taken into considerations and whose claims and concerns were taken into counted was also a product of the participants' efforts and ruling. Since all new inputs during the inquiry were related to the model, in a seemingly natural way, the outer boundaries of the deliberation process were set.

Such a clear-cut demarcation line was not available in the Gideon case. Yet, the substantive closure was discussed extensively between the project team and the Rathenau Institute at the beginning of the project. Thereafter, care was taken to communicate the rules of closure to the prospective participants. A well-set closure was considered instrumental in preventing the analysis from drifting away from the topic of sustainable crop protection, while at the same time allowing the participants sufficient room to put forward their claims, concerns and issues. Because the analyst team was not supposed to play a leading, decisive role concerning the course of the analytic process (in line with the project's constructivist methodological principles), the rules of closure had to "keep the frogs from jumping the fence" (Grin, personal communication, October 19, 1999).

Furthermore, the rules of closure were chosen to provide some direction to the discussions. The rules were based on the meta-problem as defined by Parliament and read: on the long run, the Dutch agricultural sector should provide employment opportunities to farmers as independent entrepreneurs while it should also comply with the demands of sustainable development as elaborated in the Dutch Environmental Policy
plan of 1989 and its successors. The challenge on which the project focused was thus formulated in one breath in the hope to inspire creativity.

In hindsight, most of participants interviewed for the case study do not recall any discussion about the closure issue and were not aware of the meaning or importance of such a topic. Yet, it is striking that none had experienced any frustration or concern about whether or not his or her input was taken seriously. Apparently, the aspect of closure was dealt with in an effective way.

As may be clear from the above discussions on the NPF project, that was not the case there. The meta-problem (the current lack of a sustainable development is a matter of a technological inadequacy) was translated (implicitly) on project level as: a sustainable food production requires the development of environmentally sound food technology to, in this case, develop novel protein foods. This problem definition, moreover, assumed that the want for meat is motivated by a want for proteins. As a result, the project was set up to explicitly focus on the technical challenge of improving protein processing procedures, setting the rules of closure, hence, quite narrowly.

Interestingly, yet not surprisingly, as a consequence, the participating representatives of societal organisations in hindsight classified the NPF project as a “typical” technology-focused TA. The technologists involved in contrast praised its “unusual” comprehensive approach to the subject and viewed the study as “society-oriented”. Still, they too ran into the limits implied by the narrowly set rules of closure. As described in chapter 6, only with the greatest difficulty, they managed to get the environmental aspects of the production of vegetable protein sources included in the analysis.

Because the rules of closure were not explicated beforehand nor communicated to prospective participants, more than the Gideon project, the NPF case illustrates the function of a well-set closure in an interpretive analytic effort on sustainable development issues. Time and again, input (by technologists, by the consumer researchers, by the TvC-participants) were barred from the analytic process without a proper explanation (hence the remark: “It were discussions that one simply could not win”). This invoked quite some frustration and irritation among a large number of participants (De Vriend, personal communication, August 13, 1996). Furthermore, it detracted from the project’s potential for stimulating creativity that was triggered by the formulation of the meta-problem in terms of a ‘factor 20’ environmental gain.

Several conclusions can be drawn from the collected experiences. First of all, it is clear that the concept of closure (Grin et al. 1997; cf. Van de Graaf & Grin 1999b) is a relevant addition to Guba and Lincoln’s (1989) methodical guidelines for constructivist inquiry. It provides a foothold for dealing with the potential tension between the responsive focus of the analysis (taking the participants’ “claims, concerns and issues” as a starting point for deliberation) and the need to focus on a specific topic from a long-term perspective, with an appreciation for the well-being of the community at large. On
a practical note, secondly, it is a tool to consciously decide on (and explicate) the issue of selecting participants in relation to delimitating the scope and range of discussion topics.

As concerns the concept's role with respect to a project's contents, thirdly, the empirical material shows that a well-set closure may be contributory to stimulating processes of learning. The way the closure functioned in the Phosphate Forum is a case in point. There, the closure was set in a fashion that fitted the methodical approach, to such an extent, that it led to a break-through of the existing views on what the issue was all about. It was this inspirational function of setting the rules of closure, that was also aspired in the Gideon project. The NPF project provides an example of the opposite. There, the closure was narrowly set, for the sake of manageability and because of the project's objective to 'convince by illustration'. This arguably perfectly legitimate choice from the perspective of project management did, clearly, reduce the project's opportunities for stimulating creativity and learning that could be desirable from the perspective of process management. In any case, it is clear that non-transparency regarding the status of claims (or rather, the claimants) in an interpretive TA may lead to confusion and disappointment.

Knowing what to do next and getting it done: the transfer from analysis to decision making

The decision to either focus on inducing processes of learning or on conviction is closely intertwined with a project team's (or the commissioning organisation's) perception of how a project stands the best chances to influence the processes of policy formulation and technological innovation it means to address. In chapter 3, these two strategies for transferring a project's findings to the real world were discussed along side one another. Grin and Van de Graaf's concept of developing a "congruency of meaning" (199b) was invoked as a way to capitalize on learning processes in relation to instigating the desired action. Majone's (1989) suggestions on project strategies were mentioned as a way to enhance a project's persuasive qualities. Furthermore, the notion of "vicarious learning" (enabling others to engage in learning processes that are analogous to those that a project's participants engaged in; Guba & Lincoln 1989) was presented as a mode of transferring a project's outcome. Finally, a project's contribution to attuning the actions of a number of parties to one another was described as a way to make it serve as the proverbial pebble in the pond in setting in motion processes of change.

The issue of transferring a project's results to decision making contexts is not only relevant from the perspective of knowledge utilisation in relation to project design (cf. Knott & Wildavsky 1980; Weiss 1977, 1980). The relation between knowing and doing was also identified as a crucial aspect of practical wisdom and constituted one of the reasons why the *phronēsis* concept is so relevant from the perspective of aspiring a sus-
tainable development. In fact, following Hoppe (1983), *phronēsis* was understood as being characterised by an alternation between design (implying deliberation, creativity and contemplation) and instigation (implying processes of will formation, of making alliances, *et cetera*).

From the empirical material collected, it becomes clear that the extent to which a transfer of results from the one (design) to the other (instigation) is called for in the case of an interpretive TA, depends on its co-ordinates in terms of space – the relative closeness between the analytic process and relevant realm(s) of decision making – and time – the interval between knowledge production and (formal) decision making. A relative closeness is realised, for instance, when the individuals who will actually make the formal decision on the subject involved (Members of Parliament, members of a management board of some industry or firm) themselves participate in the analytic process.

In the projects described in this book, such a closeness was neither realised (NPF) nor aspired (Gideon). Even when hoped for (NPF), it was acknowledged that decision making is a fragmented procedure involving many of a company's echelons with each a different perspective on the focus and future of the firm. One of the participating firms, Unilever, for instance, was represented in the project mainly via its corporate research institute. The interpretive frame of the technologists and managers there differed largely from that of the company's division managers. The latter generally did not share, I was informed, the formers' view that "If we do not live in a sustainable world, in the long run, the company is not viable either" (Trommelen, personal communication, September 16, 1996; cf. Vermeulen 1999). Hence, also in that case, a transfer of project findings and of plans based on these was required.

In the Gideon project, not only the dominant players from the crop protection arena were barred from the actual analytic process; also Members of Parliament did not participate. Instead, specific transfer activities were designed (and timed) to sort the maximum effect in regard to influencing parliamentary debate. Interestingly, the most successful channel for transferring the project's outcome, however, turned out to be the representatives of (knowledge) institutes who participated in the analysis and who were involved in the preparation of further policy plans on the issue.

A similar observation can be made on the basis of the phosphate case material. In contrast to the Gideon project, in that case, policymakers were among the participants in the Forum. An additional number, who had not participated in the project, attended the final symposium. There, among the speakers, was the top-ranking civil servant at the Ministry of the Environment who appeared to endorse one of the project's main conclusions, namely that the detergent industry's contribution to the eutrophication problem is not so significant as to justify a sole focus in policy measures on this source of 'phosphate pollution'. While this insight did not at all affect the eventual decision
making process on the issue (a later Minister insisted on banning tri-phosphate from washing powders and cut a deal with industry, bargaining in the shadow of the law), most views that were collected and formulated in the Phosphate Forum eventually transpired in a review of the original eutrophication policy. Here too, the impact occurred as a consequence of learning processes on the part of policymakers that, as is argued in chapter 4, may have been accelerated and intensified by the Forum project.

An equally interesting finding is that, in none of the cases, the outcomes’ elaboration into detail contributed to their success in terms of impact. In the phosphate project, for instance, the findings were translated into a computer simulation model (“Little Holland”), on the basis of which six policy scenarios were outlined. These scenarios were explicitly meant to facilitate policymaking on the eutrophication issue, as they showed the foreseen consequences of various potential policy options. These scenarios were, however, never used.

Similarly, the technical findings from the NPF-project concerning combinations of protein source and processing technique, which were painstakingly elaborated into exact detail, were never adopted. Rather, the general idea of NPF development was picked up and elaborated in further research activities. Likewise, the detailed policy options that were outlined in the Gideon project to bridge the discrepancy between the envisioned sustainable crop protection practices and the then-current practice were not integrally adopted.

The three cases justify the conclusion that, irrespective of any further impact, an elaboration of a project’s findings into a detailed blueprint for action is not a useful tool for attaining a TA’s objectives (a conclusion that tallies with the findings from previous research on knowledge utilization; cf. Weiss 1977; 1980). The exercise to detail specific notions or ideas, however, may be a useful means to organise a discussion or learning process, as was the case in the Phosphate Forum. If the process of elaborating findings into quantitative detail hampers the exploitation of the deliberation’s full potential (in terms of inducing learning or stimulating creativity) as was the case in the NPF-project, a more generic presentation of the outcome may be more useful.

The NPF-project, in turn, suggests a very effective alternative procedure for transferring a project’s findings too. The project seems to have profited largely from the intensive and carefully designed “follow-up care” activities that the project team undertook. These activities were considered an integral part of the project. They entailed, among other things, personal visits to a wide variety of potential “implementers” in order to discuss the project and its findings from the perspective of the sparring partners’ previously solicited ideas and interests. The empirical evidence shows that (non-)participants indeed were willing to consider action in line with the project’s outcome, in those cases where the options for actions as suggested in the NPF project made sense from their particular point of view (see, for instance, the case of the potato derivatives producer
Avebe that was stimulated by the project to take seriously previously developed plans for the processing of grass). These cases indicate that the occurrence of a “congruency of meaning”, rather than sheer “persuasion”, contributed to the desired effect.

The learning effects were not intentionally transferred to non-participants. In none of the three cases, the idea of “vicarious learning” (Guba and Lincoln 1989) was put into practice. The Gideon project’s team considered the option seriously. However, in the discussions on the style and contents of the final report, this idea was rejected. Hence, the empirical material does not shed a light on this theoretically promising idea for transferring the results from an interpretive analytic inquiry to a wider audience.¹

A general conclusion may be that inducing learning on the part of a project’s participants is an interpretive TA’s most important strategy to sort the effect in terms of instigating change. In all three cases, the developments (however subtle) that were described as plausibly co-inspired by the respective projects were mostly related to the changes in the thoughts and actions of the project’s actual participants or, via these, to their immediate professional surroundings. This observation implies that the possible tension between successfully creating the conditions for learning on the one hand, and for transferring a project’s findings on the other, suggested by the findings on the phosphate case, in fact does not exist. The conditions under which learning may be induced (the creation of an atmosphere of trust in which a well-informed exchange of information can take place; see above) may indeed be absent in the real world context. Still, because the pebble-in-the-pond effect is mostly based on the learning processes on the part of the participants, one might as well try to maximize on that. Such a strategy would also reduce the chances of impinging on a project’s integrity (in terms of the fairness and confirmability criteria) for the sake of enlarging its convincing power.

Given the need for transferring a project’s results form the realm of contemplation to the realm of decision making, Guba and Lincoln’s (1989) assumption that the same methodological principles that contribute to an open and “fair” inquiry process will also facilitate and stimulate action by “empowered” participants is, however, too simplistic a depiction of the issue. The three cases show that strategic and methodological considerations need to be carefully attuned to one another, for instance by formulating precise rules of closure. The accumulated insights from the cases offer a basis for drawing lessons to that extent.

¹One Member of Parliament spontaneously remarked (discussing the project in hindsight with me, a.l.) that the text probably would have won in convincing power if a description of the project’s method and rationale had been included. In that way, she said, the information might have provided a clear picture of the findings’ origins and background, and of how during the project’s course of events people had come to change their views. In contrast to the project team, however, the commissioning institute expected a business-like presentation of the results to appeal to its audience most strongly.
Organising an interpretive TA: lessons for the future

Learning from practice is a useful but it precarious undertaking. The cases from which the lessons are drawn may be entirely different in many respects from the future practices they intend to inform. Furthermore, some may argue that the empirical material that is collected here may not even involve “best” practices. It is my contention, however, that any project that is as ambitious as the ones that were described in the previous chapters is open to criticism. An eye for what went wrong is particularly useful for drawing inferences about how to operate more successfully on a next occasion.

The collected material justifies the overall conclusion that interpretive analytic projects on sustainable development issues require a well-chosen combination of methods and institutional arrangements that allow an analyst to cleverly deal with the particularities of the issue at stake and with the dynamics of its context. Below, lessons are formulated about the way in which to set up and conduct an interpretive TA, considering its strategic rationale, its method and its institutional setting. They are based on the assumption that sustainable development issues possess inherent qualities that necessitate a particular involvement of state and non-state actors in finding practical knowledge about what to do next. They start from the idea that power is deeply embedded in practices of knowledge generation. Participation of a variety of actors in the analytic endeavour is, moreover, not considered an aim in itself; it is considered a function of the project’s ambition to yield phronēsis. Lastly, it is assumed that a sustainable development requires a break-through of traditional demarcation lines between the public sphere and the private sphere and the way in which responsibility for defending the public good is organised. Interpretive TA projects are considered nodal points in a network of public and private actors. Via such a project, recurrent interactions between professional actors can be organised to ensure that they may come to look in different ways at the problems they address in their daily practice. Furthermore, a TA project can be instrumental in enabling these actors to put newly acquired insights actually into practice as well.

Interpretive TA as a strategic intervention: starting conditions

Of initial concern are the conditions under which the staging of an interpretive TA makes a sensible choice. According to Grin’s et al. (1997) classification of problem types, the type of problems at stake in the case of a sustainable development issue (“ill-structured”) in any case justifies the organisation of an interpretive (“interactive”) TA. Yet, the case material that is collected here suggests that not only the characteristics of the problem at stake but also of the context in which the issue is disputed are relevant variables to take into consideration.
Before initiating an interpretive TA, it is sensible to conduct a preliminary study, not only to investigate the problems at stake and the different ways in which these are being defined by relevant actors (the drafting of a social map). The study should also provide a clear view on:

- the particularities of the issue's institutional embedding: Which is the knowledge arena in which the issue is being discussed (what is considered relevant knowledge; under which conditions is a truth claim considered legitimate)? What kind of product (type of knowledge; design of a project's results) in principle may fall in fertile ground in this arena?

- the particularities of the network in which the issue is a topic for discussion: What could be a motive for relevant parties to engage in an interpretive TA? Is there some internal commitment among relevant parties to actually partake? Under which conditions may parties (whose participation is considered relevant from the TA initiators point of view) who do not (yet) consider themselves as problem owner be motivated to participate?

- the particularities of the issue at stake: Is there a technological artefact that may serve as focal point or boundary object? May a discussion of its characteristics or design serve as an organisational principle for structuring the discussion and learning process?

These suggestions entail a specification and elaboration of Guba and Lincoln's notion of the "[practical preparatory activities such as selecting and training a team of evaluators, making entrée arrangements and logistical arrangements" (see chapter 3, box 3.1). The above lessons are drawn from the combined experiences with the Phosphate Forum and the NPF project, in each of which a preliminary investigation was done into the characteristics of the network. The Gideon project's preliminary study merely focused on the contents of the problem involved. Perhaps an investigation as intended here could have helped to reduce the mismatch between project and context as much as possible without putting at risk the project's methodological integrity. The preliminary study in the Phosphate case provides a positive example of the way in which such an investigation that precedes the actual project may itself provide an impulse to prepare a network for the staging of an interpretive TA, as well as an assessment of the commitment and willingness of actors to participate. The NPF case shows how an early investigation of the issue at stake may shed a light on the contours of a project's output that may render it relevant in the eyes of potential sparring partners (allowing for the development of a congruency of meaning on the issues discussed). Furthermore, of relevance appear:

The composition and capacities of the analyst team: Before the actual start of an interpretive TA, it is advisable a) to ensure that the members of the analyst team all are equally familiar with the quintessence of the constructivist methodology that is adopted in the TA project. If not, some training and discussion sessions should precede the actual analytic activities; and b) to ensure that (some of) the team's members are sufficiently familiar with the issue under scrutiny. In order to present a credible discussion partner to the discussants in the TA project, it is imperative that knowledgeable team members are involved and play a visible role in the project.

The experience with the Gideon project shows that (in that case) the advantages of being an outsider to the knowledge arena that a project means to address to (so as to shed a fresh light on some issue without having one's own institutional position influencing
the project’s power balance) are counterweighted by the disadvantages of lacking sufficient credibility to be taken seriously as a discussion partner. Of further relevance is:

The commitment of the party that is commissioning the interpretive TA: Preceding the TA project, it is advisable to make sure that the commissioning party is familiar with the methodical approach that is being adopted in the project and that it is at ease with the managerial and organisational implications of that approach (requiring process management rather than project management). In case the adopted approach is at odds with the strategic intentions that underlie the commissioning party’s choice to set up a TA project in the first place, the project’s consequences have to be discussed thoroughly before the actual analytic endeavour commences. In case no clear commitment can be reached, the project should be called off.

Guba and Lincoln’s (1989) notion of “Initiating a contract with the client or sponsor commissioning” (see chapter 3, box 3.1) arguably requires further specification. As the examples of the Gideon project and the NPF project show, a paper construct is not enough. The commitment required, in writing and in practice, is not to defend the project against ill-will (that is, against the intentional violation of a project’s methodological principles) but rather against any unfavourable consequences that follow from unforeseen misunderstandings between the commissioning party and the project team. The experience with the Gideon project showed that the implications of the adopted methodology (which was seemingly clear to all involved at the outset of the project), such as the limited possibility to manage the course of events, only came to full light once the project was on its way. This may suggest that it is wise to put the issue on the agenda for discussion in a project’s preparatory stage.

**Interpretive TA as an analytic design: methodical conditions**

The sensitivity of the knowledge arena to the prospective outcome of the project, the commitment of the commissioning party and the capability of the analyst team may be considered a condition-sine-qua-non to the initiation of an interpretive TA. The extent to which the fulfilment of these conditions is open for improvement may hold implications for the project’s design, the selection of the methods to be used and its organisational embedding.

The following lessons focus on the design of an interpretive TA on sustainable development issues:

**Identification and selection of participants: Selection of participants for an interpretive TA on an issue that concerns a question of sustainable development is best based on a combined understanding of “purposive sampling” (ensuring the broadest scope of ideas and information possible) and “strategic sampling” (ensuring that parties that may play a role in the transfer and ‘enactment’ of the project’s findings are included). To both ends, the findings from the preliminary study concerning an issue’s social map and concerning the perspectives on the issue at stake may serve as a practical starting point for identifying the first discussion partners. Additional discussants can be found through application of the snow-balling method.**
It was clear that Guba and Lincoln's (1989) suggestions to identify "stakeholders" needed elaboration and specification. In chapter 3, their suggestion of "purposive sampling" to ensure maximum variation in the presented perspectives was considered appropriate to fit the requirements for phronetic analysis ("representative thinking"). The case experiences show that a) such a notion still requires a substantive elaboration in order to serve as a point of departure. This may be informed by the preliminary study, provided that this investigation is set up on the basis of a very broad understanding of the issue at stake. Fox and Miller's (1996) concept of "proximity to the situation" at stake, which was considered of possible additional value, may be useful, provided that this does not limit the project's focus to the traditional (as opposed to the envisioned innovative) understanding of the problem of unsustainability. After all, 'sustainable' solutions may require a novel way of looking at given problems, extending the problem's contours to an unexpected width. The NPF experience illustrates how too narrow an understanding of 'proximity to the problem situation' may limit a project's focus at the expense of innovation and creativity.

On the basis of the three described cases, hopes for transferring a project's outcome to non-participating audiences in order to sort concrete effects must be modest. The findings show that most impact is generated through the actions and learning processes in which the actual participants of a project engage. Therefore, it arguably pays to ensure the participation of intended audiences. This implies, also, that it is worth trying to get Members of Parliament to actually take part in an analytic project that intends to inform policy formulation in addition to other policy (advising) actors. In order to find a proper balance (from the perspective of phronesis), however, it is of crucial importance not to limit the range of potential participants to potential 'implementers'. As the NPF case showed, that seriously limits the think tank function of a project:

Recruitment of participants: Prospective TA initiators should be aware that the more progressive and innovative the problem orientation in an interpretive TA is, the more difficult it is to put into practice the methodical considerations regarding participant selection. Practical solutions to non-response should be considered in advance so as not to make the project suffer from imbalances in input or power as a result of ad hoc solutions.

The contrast between the Phosphate case on the one hand and the NPF project and the Gideon project on the other with regard to the ease with which actors were found willing to participate indicates that the more an issue is recognised as a problem from a short term perspective, the easier it is to find a sufficiently wide ranging spectrum of actors willing to participate. The findings from the NPF case and the Gideon case indicate that because of strategic reasons (the fear of providing a green reputation to a solution strategy that in the end is not endorsed) and of practical reasons (limited capacity) environmental organisations in practice are the most difficult to engage. In addition to
various general ideas on relevant stakeholder groups, individual traits of prospective participants may serve as selection criteria too:

Characteristics of the (individual) participants: The choice to either in- or exclude formal representatives of stakeholder organisations depends on the motives to stage an interpretive TA, and of the personal capacities in terms of an individual's flexibility, capacity to listen and willingness to engage in a dialogue with an open mind.

The potential tension between the (short term) motives on the basis of which participants may be willing to take part in the project, and its (long term) rationale may require specific additional (methodical and/or practical) efforts:

A project's organisational focus: A responsive focus (taking the "claims, concerns and issues" of participants as the starting point for focusing the analytic endeavour) does not preclude the possibility to address problem situations from a long term and/or a global perspective. Creativity enhancing techniques can provide a useful contribution to the inquiry process without compromising its integrity and "fairness" as long as its findings are put up for discussion in the deliberative process along with any other input. "Backcasting" from the thus envisioned future images to the lived experience of the participants' here-and-now allows for a matching of the two types of organisational focus in a way that also contributes to the transfer of the project's finding to potential 'implementers'.

As was posited in chapter 3, the analysis' focus on the participants "claims, concerns and issues" as proposed by Guba and Lincoln (1989) is in keeping with the practical requirements of contextualizing the concept of sustainable development. The Gideon project, more than the Phosphate project (which had a relatively incremental focus) and the NPF project (in which the issue of adopting a long term perspective was dealt with outside and preceding the analytic process), provided evidence that such a focus indeed may hamper the inclusion of radical, long-term changes and non-incremental solution strategies. The use of specific discussion techniques provided a practical solution. The STD-Programme's concept of backcasting appears a valuable practical option to bridge the gap between the long-term perspective and the contextual, short-term perspectives from which most participants will perceive their own problem situation. On that basis, the long-term perspective can be translated back into a series of specific, short term activities to which relevant actors can relate. In order to instigate change as well as to yield wisdom, the case material suggests that:

Inducing learning is the TA's main focus: From the perspective of inducing genuinely new insights in what a sustainable development may involve and of instigating change in that direction, an interpretive TA's first and dominant concern is with creating the conditions under which learning may occur. The TA project is a site for discursive (re)construction of meaning rather than for extending the usual politics of interest into the realm of knowledge production.

Although Guba and Lincoln's (1989) focus on going through the hermeneutic-dialectic circle definitely entails, as they point out recurrently, an element of learning ("gaining sophistication"), the focus of their approach is on shaping a "joint construction" (or on
a list of items on which the participants "agree to disagree"). In the described projects, such joint constructions were the computer simulation model "Little Holland," the portfolio describing NPF options and the accompanying R&D agenda, and the two scenarios for sustainable crop protection practices respectively. While the focus was on the development of these constructions, the findings indicate that the extent to which the participants engaged in processes of learning was the most conducive to generating impacts. It turned out that not all participants learned to the same extent and, more particularly, that they did not learn the same things (for instance, they did not all adopt the developed 'joint construction' integrally). Rather, if learning took place, it was in the form of developing a "congruency of meaning" with their co-participants' understanding of the joint construction (Grin & Van de Graaf 1996b) and with their perception of their own problem situation. Therefore, the conditions under which learning may take place must be carefully created:

Creating the conditions for learning: Learning is likely to occur when the project enables a wide variety of participants who hold different views on the subject under investigation to exchange information on the problem issue, but also about their tacit assumptions and worldview that underlie their issue-related utterances. The analyst team should play an active role in ensuring that the participants feel sufficiently at ease with one another to let go of defensive routines and to take seriously into consideration unwelcome or counterintuitive information.

The findings from the three cases (notably the differences between the Phosphate Forum on the one hand and the Gideon project on the other, as well as between the earlier and later stages of the NFP project) indicate that (not surprisingly) a frequent, repeated interaction between a group of actors (including the analysts) is contributory to the creation of such an atmosphere, as is the attitude of the analyst team. The role of the facilitating analysts appears of crucial importance, we learn from all three cases. They have to understand how the various actors perceive the issue at stake and what the power relations are between them. They also have to be familiar with aspects of group dynamics. Their attitude and performance during interviews and interactive sessions is strongly determinant for the way in which participants experience the project and, thus, for the creation of the conditions under which learning may occur. At the same time, the analysts have to maintain a balance of power among the participants, including the analysts themselves:

Bridging the gap (in knowledge and power) between various participants: The analysts have a task in actively translating the points of view from one (group of) participant(s) to the next, thus ensuring that each is able to fully participate and appreciate the others' input. The use of empirical-analytic research data and/or techniques may well serve the purpose of bridging any gaps between the participants, provided that the data are put up for discussion in the argumentative analytic process just like any other input, so as to allow for thorough scrutiny, including discussion on the (possibly implicit) normative aspects of such data and inquiry.
Guba and Lincoln’s (1989) and others’ suggestion (cf. Jennings’ (1987) “undistorted process”) that keeping a balance of power is quintessential for a qualitatively “fair” and “integer” argumentative process, in practice appears difficult to make operational. This is not necessarily due to some kind of wickedness on the part of the participants (as, for instance, could be the case if they would bluntly refuse to hear other people out or take their suggestions seriously), but rather results from the necessary and indeed actively solicited context-specificity of the participants’ inputs. In practice, it was found, participants bring to the project meetings not only their ideas and beliefs, but also memories of previous engagements with the other project participants. Even if these could be left at the door, they would consciously have to be brought back in, as only in that way, the project may yield context-specific, practical knowledge. This puts heavy demands on the capacities of the analyst team: it requires subtlety and sensitivity for those signals that remain unspoken, to ensure that these dynamics do not determine the project’s process and outcome. The Gideon case showed that all kinds of power relations and asymmetries between discussion partners may determine a discourse, yet may remain invisible and unnoticed. Careful selection of participants, taking into account subtleties such as the relative authority of individuals, may help prevent such dynamics from happening on too wide a scale:

**Keeping a balance of power:** The TA analysts should at least try to avoid imbalances of power between the project’s participants. This implies that the analysts not only take into consideration formal (that is, institutionalised) power relations but also the more subtle nuances in authority that are created during interactions in the TA or preceding the project.

As concerns the combining of various types of data and research approaches: the findings from the Phosphate case show that a comprehensive and meaningful integration of data of various origin is possible, as long as the data that result from empirical-analytic research are put up for discussion within the context of the overall deliberative process. Specifically in the case of discussing sustainable development issues to which there are (more or less apparent) technical aspects attached, the use of such combined research and discussion techniques provides an interesting specification to Guba and Lincoln’s (1989) suggestion to “test and enlarging within-group constructions”. The use of the system dynamics model in the Phosphate Forum and the elaboration into detailed case studies of the “system oriented prevention” scenario in the Gideon project enabled group members to achieve “higher levels of sophistication” (1989:149). As was observed in both the Phosphate case and the NPF / TvC project, the deliberations on the technical aspects of the issue at stake inevitably resulted in an explication of the issue’s political nature.

The NPF / TvC case material showed that the relative “openness” of a project in terms of the range of views that are allowed to be put forward (i.e. a widely set closure)
increases the possibilities to induce learning. The criteria by which a cutting-off point for discussion is reached must be carefully pondered and explicad:

Criteria for reaching "closure": The TA analysts and project’s initiator should make clear, both to themselves and the prospective participants, by which criteria the legitimacy of input in the collective inquiry process is decided upon. These criteria themselves can be subject to deliberation, yet by some point are binding to all participants.

Grinn et al.’s (1997) concept of closure was found a valuable addition to render Guba and Lincoln’s (1989) methodical guidelines for inquiry suitable for adoption to cases of interpretive analysis on issues that do not themselves appear to have a natural boundary (geographically, in terms of stakeholders, in terms of possible forms of problem structuring and so on). In practice, the closure in the researched cases was set in the preliminary research and planning activities, with the exception of the Phosphate Forum. There, the closure was elicited as a kind of by-product of the deliberative process. It was found that, possibly because of this integration of closure criteria with the analytic process as such, in that case the least frustration was discernible concerning the legitimacy of utterances. The rules of closure provide an instrument to ensure the aforementioned balance of power between the participants on the one hand and the analyst team on the other.

Guba and Lincoln’s (1989) suggestion of enabling “vicarious experience” was not put into practice in the three researched cases. What did become clear on the basis of the research findings, however, was that the notion of a “communicable design” as proposed in the NPF project only contributed to a project’s impacts to the extent to which it helped potential implementers to make sense of the project’s outcome in the light of their own interpretive frame. Rather than through a “thick case description” as suggested by Guba and Lincoln, in the NPF case, this kind of vicarious experience was either achieved spontaneously (as in the case of Avebe for instance), or as a result of the mediating activities of the project team in the project’s final stage, between the project’s findings on the one hand, and the specific problem situation of the prospective implementers on the other. All three cases showed that a detailed elaboration of the findings into a blueprint for action is not a useful tool for reaching a TA’s objectives concerning transfer and adoption of ideas and options for action:

Dissemination of a project’s findings: The transfer of a project’s outcome to non-participating audiences is difficult to accomplish. Rather than through investing (in time and energy) in a detailed elaboration of the project’s outcome, it pays to include a specific trajectory of “follow-up care” as a regular, integral part of the interpretive TA.

Safeguarding a project’s integrity: The TA analysts should make sure that a project’s integrity is not lost in the wrapping up of its findings or the activities to transfer these to non-participating audiences. The extent to which an analyst (team) is able to do so is largely dependent upon commitment of the commissioning party as ensured in the project’s preparatory phase, on its success in keeping a balance in power and knowledge between the participants including the analysts themselves (see the aforemen-
tioned methodical conditions), as well as on the institutional conditions under which the analysis is set up.

**Interpretive TA as an organisational challenge: institutional conditions**

The case material showed that the institutional conditions under which a TA project is initiated and staged are of equal relevance as the methodological considerations and strategic focus that underlie the project's practical, methodical choices. Lessons can be drawn from the material concerning the creation of favourable institutional conditions.

An interpretive TA's emergent design and orientation on process: In order to make possible the generation of practical knowledge that entails a genuine break-away from the trodden (unsustainable) paths, a project not only has to be designed according to the above methodical conditions, it should also be allowed and enabled to be implemented along these lines. This implies that the project should not be assessed by its financiers and/or initiators on the basis of pre-set goals and a detailed planning in advance, but rather that it is given sufficient room to follow up on suggestions for the next 'move' as is put forward during the inquiry process on the basis of previous developments and findings.

This also involves the way the achievements of the analyst team are assessed:

Appreciation of the analyst team's achievements: The analysts that design and implement an interpretive TA on sustainable development issues cannot be held accountable to the achievement of objectives concerning a project's contents that are formulated at the project's outset. Assessment criteria rather should be process-related (is the process' continuation ensured; does it comply with the conditions for constructivist inquiry) and only ex post product-related (are we happy with the results; is there a better quality of information exchange; are the involved actors more sophisticated; are we better equipped to deal with the issue at stake and/or with unforeseen side-effects). The roles of process facilitator and of project administrator should be dispersed among different members of the project team; care should be taken that the two roles in practice do not clash, violating the atmosphere of trust and creativity that is aspired within the project's confines.

Of a more fundamental nature even are the implications for the institutional arrangement as such, in which the project is staged:

Cultivation of a TA's potential clash with its institutional context: Sustainable development issues require a 'novel' way of structuring the problem and formulating solution strategies. Non-conformity is a *conditio sine qua non* of *phronésis* to deal with the risk society; this has to be acknowledged and accounted for in the project's institutional embedding. Furthermore, the analyst team must make sure that along the way, (implicit) attempts by actors from within the project's context to 'pull back' the project into the accepted ways of operation can be repulsed.

The aforementioned methodical and strategic conditions may render an interpretive TA project in principle a suitable occasion and site to foster the generation of the aspired practical knowledge to make the sustainable development concept operational and contextual. To the extent to which the project succeeds in achieving non-conformity with traditional, existing ideas and institutions, it runs the risk of clashing with the embedded practices it wishes to change. The case material showed that the institutional liberty that the Phosphate Forum's initiators and analysts experienced allowed them to them-
selves set the rules of the game and to explore the outer boundaries of the then-current perception of environmental problems. In contrast, even though independent, both the temporary STD-Programme (responsible for the NPF project) and the Rathenau institute (responsible for the Gideon project) found it hard to consequently explore the adopted innovative approach to inquiry and to defend its activities in view of criticism that was inspired by conformity to existing practices and accepted ideas. Part of this difficulty was caused by the involved organisations' own perception of what is acceptable and what not, which was, in spite of progressive aspirations, partly cast in traditional terms.

Suggestions for further research

This book started with the observation that policy problems, which are experienced when a sustainable development is aspired, pose additional challenges to policy analysis to those that traditionally plague the production of knowledge in policymaking. The accommodation of conflicting values and facts that, of old, characterise attempts at structuring ill-structured problems is complicated by the necessity to envisage entirely novel 'problem-solution combinations' that concern society at large, while they simultaneously should be grafted upon a practical understanding of the specificities of local circumstances. The novelty aspect is such that policies on sustainable development issues involve the orchestrating of system innovations, defined as clusters of interdependent and interrelated technological, structural as well as cultural changes. Such an encompassing innovation, hence, involves not only a change in relevant actors' actions and in the embedded ("tacit") knowledge on the basis of which they choose their line of action, but also of the contexts in which they act. This adds to the well-known policy implementation problems. More so than ever, it requires policy analysis to provide a thorough insight in the way different actors perceive a problem and in the conditions under which they may consider the adoption of alternative lines of action. Furthermore, it has to acknowledge the differences in norms, values and beliefs by which actors perceive a situation and that co-determine the way in which they may be incited to cooperate in a desirable way. How the profession of policy analysis may deal with these challenges was considered an empirical question in this book, to be answered on the basis of three detailed descriptions of problem-analysing practices.

The empirical research showed that in addition to the methodical aspects, organisational aspects are of equal relevance for the analysis' outcome and impact. It was found that, briefly put, phronetic analysis involves three dimensions: i) the methodical conditions to ensure an informed exchange of views on the problem situation at hand between a variety of actors, as well as on the norms, values, and overarching theories that underlie these views, ii) the institutional conditions under which the analytic endeav-
our is staged to ensure the methodical conditions may be fulfilled, and iii) the strategic
c onsiderations from which the endeavour is initiated, which involves the identification
of the knowledge arena(s) the analysis is to address and the actors in power whom are
the analysis’ addressees.

With these conclusions, the empirical findings not only provide material to further
the interpretive or argumentative tradition in policy analysis and Technology Assess-
ment as the book set out to do. They also suggest the discipline of policy analysis to
address questions that are traditionally considered the field of political theory. As the
cases pre-eminently show, the distinction between analysis and decision making that
long was considered imperative for ensuring the primacy of politics, even if desirable,
is no longer tenable. Lindblom, for instance, emphatically underscored the need to
carefully distinguish between the act of knowledge generation and the realm of deci-
sion making “...[T]here is a place for knowledge, on the one hand, and for commitment
or choice, on the other, in the making of public policy. The two aspects ought not to be
confused; and professional inquiry [i.e. analysis] should not confuse the two” (1991:312).
These ought not to be confused, Lindblom argues, even when it is acknowledged that
the policy process requires “partisan analysis.”

However, the empirical material shows that even in those cases that are intended to
‘speak truth to power’ in the traditional sense of policy analysis (i.e. the Phosphate Fo-
rum and the Gideon project that both considered Parliament as their main addressee),
the analyses’ impact was felt via different routes than through the formal political
institutions.

First of all, the participants in the interpretive analytic endeavour themselves were
being “transformed” by the very event, to use Jennings’ phrase (1987), causing the
analysis to have an impact on social reality via their very existence. Since the particip-
ants are a sample of those actors that in general construct the various discourses on
the policy issue at stake that create and legitimate public policy on that issue, they also
themselves ‘create’ within the context of the analytic practice, the reality which is sub-
ject to that policy. After all, as Fox and Miller put it, “humans who seek to know social
reality are themselves the carriers of it” (1996:85).

Furthermore, more specifically, the TA may become a power factor itself. Its mere
taking place may influence the strategic games that are being played in regard to some
political issues, as was illustrated by the way the Gideon project was invoked to support
a call for ministerial co-funding of some particular initiative. Because the constructivis-
t idea of involving all viewpoints is unattainable, the selection of participants inevitably
influences the way in which the analysis is used and conceived as an instrument to
exercise power. Through their partaking, a set of actors may serve to legitimise specific
decision making on issues that others, had they had been present, might have consid-
ered unjustified.
Thus, the mere staging of an interpretive TA transforms the listener and strengthens the ability of some to act in their interests. Therefore, methodical choices in conducting an interpretive TA on sustainable development issues not only are intertwined with the practicalities of organising a participatory analysis. They are also closely bound up with the ethical dimension of generating practical wisdom. This aspect is the more pungent when, as was the case in the NPF project, the initiators do not intend to impact society via the route of parliamentarian ratification. The occurrence of subpolitics implies that the ‘power’ that an analytic practice intends to inform not necessarily lies with the traditional addressee of policy analysis.

With the disappearance of the formal (yet not de facto) distinction between knowledge generation and decision making, Lindblom’s classic rhetoric question to the discipline of policy analysis, “whom to serve?” (Lindblom and Woodhouse 1993) needs to be replaced by the ethically even more complicated question ‘whom to address?’ The polis itself has become discursive. This holds consequences for the legitimacy of an interpretive analysis’ outcomes and the policy interventions that are (partly) based on these.

The cases seem to suggest that there are two (interrelated and complementary) ways to constitute legitimacy as an alternative to relying on formal political institutions. First, there are the methodological warrants that may contribute to a project’s legitimacy and that of its findings. As the phosphate case illustrated, repeatedly “working through an argumentation circle” (Grin et al., 1997:40) may be a quality control in itself. The other two cases, however, clearly showed the pitfalls of this claim. Differences among participants concerning adequate (technical) knowledge, the subtle differences in power that may help one party to put one’s stamp exclusively on the project’s findings and outcome, and the complicated relation between initiator and analyst team in wrapping up the project’s findings may keep this proposition from being anything more than an ideal. Strategic considerations, it was found, impinged on the project’s integrity.

The second route of warranting an analytic project’s legitimacy is via its institutional embedding. The Phosphate case provided an example in the negative of how a fair judgment that was collectively endorsed by a forum of well-informed actors who held a stake in the issue was overruled by a political actor outside the forum who held constitutional power. This ruling impinged on the trust as well as the credibility of the actors involved in the discursive process on the issue at stake and reduced their willingness to act in line with the actor’s ruling (see, for instance, the water authorities’ extremely slow implementation of the policy that was thus outlined). Hence, in addition to the identified institutional conditions to guarantee a fair and effective interpretive TA, on a meta-level, beyond the immediate project setting, institutional warrants to ensure the prudent reception of arguably legitimate political judgments are being called for as well.
These two lines of reasoning set an agenda for further research on the complex interface between policy analysis and political theory. If, because of its methodological characteristics, an analytic endeavour may provide a prime site for creating trust and granting legitimacy, how then can a prudent reception of its outcome be warranted institutionally? Likewise, how can methodical and institutional warrants be designed to scrutinise and critically assess the outcome of an interpretive analytic project so as to prevent the Habermasian pitfall of having to accept a project’s findings ‘simply because it is the outcome’?

Acknowledging the essence of phronèsis, most probably there is more than one right answer to these questions. What constitutes a legitimate and effective argumentative analytic practice requires further reflection on reflexivity. The ambition of a sustainable development in the present ‘post-modern times’ necessitates the rethinking of the institutional embedding of the political itself. I hope that the discussion on this highly complex topic that is currently conducted in the field of the policy sciences under such headings as the ‘dislocation of politics’ and ‘the shift from government to governance’ may profit from empirical research such as this.

Epilogue

Since the first drafts of the research design that was to result in a book on ‘the possible contribution of TA to inspire a sustainable development’, and the moment this final section was written, a considerable time has lapsed. One may hope that such a time span may contribute to the depth and quality of the author’s reflection on the case material, more or less like the ripening of good wine. Yet, taking a practical look at the matter, it is also likely that, with the passing of time, insights become obsolete and the adopted vocabulary goes out of fashion. With hindsight, I think both possibilities have occurred to some extent.

My more recent research into the programmes of the Dutch Initiative for Sustainable Development (NIDO), as well as my involvement with post-academic courses on facilitating sustainable technology development, have provided me with the opportunity to study practices of what I called “processes of interpretive TA on issues of sustainable development” at the outset of this research, and which are now commonly referred to as “transition management”. The practical perspective that prevails in these activities helped me to reconsider previous drafts of this book. Furthermore, it also placed me in a prime position to notice that, indeed, the book’s language has been replaced to some extent by new concepts and jargon.

Still, the projects regarding transition management that I am fortunate to study at close quarters at present, also convince me that the inferences drawn here are still relevant. Empirical findings on ‘analytically dealing with sustainable development issues’
may not only contribute to the reflection on transition management projects from a practical perspective, but may also contribute to the more theoretically oriented literature on what is now-a-days often called “deliberative” policy analysis (Hajer & Wagenaar 2003). Not surprisingly, recent discussions on argumentative policy analysis also invoke the *phronēsis* concept as a starting point for reflection on the warrants for legitimate and effective “deliberation” (Wagenaar & Cook 2003; Fischer 2003). In these discussions, repeatedly, a call is made to investigate interactive policy practices empirically (Hajer 2002). I hope that this book may contribute to the more theoretically oriented discussions from an empirical perspective. Likewise, I hope, it may serve to illustrate that it is possible to draw lessons from unique cases to inform and improve projects dealing with similar problems, even if they are staged in entirely different contexts.