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A transdisciplinary, participatory and action-oriented research approach
- Sounds nice but what do you mean?

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Transdisciplinary, participatory, action-oriented, phronetic, urban sustainable development, and human ecology

Abstract
This paper discusses transdisciplinary, participatory and action-oriented approaches to research on urban sustainable development. Phronetic planning research, as described by Flyvberg (2004), is highlighted as one interesting approach which combines many of the general themes here dealt with. A special section is devoted to discuss quality criteria of transdisciplinary research. The paper is written as a background to a thesis in progress on Malmö and urban sustainable development.

Introduction

It is not always you have the privilege to carefully reflect on the things you are doing. PhD projects seem to be one exception, and I am intent on taking the chance. In my research project I study the premises for urban sustainable development in a modern European context. My case study is Malmö, a small/middle sized city in Southern Sweden, which has branded itself as running in the front line of urban sustainability policies. The state of the art is interesting, but unfortunately also worrying. While the public discourse and policy making on sustainable development – in Malmö and many other cities – seems more and more self-confident, socio-ecological indicators on global sustainability insists on giving us increasingly bad news. While many cities and regions are in the process of branding themselves as 'green' or 'sustainable', their socio-ecological connections to the global level give us another picture. The high-industrial societies of the North are *not* on a track of a sustainable development. Instead, what is happening is that the local and place-based improvements of many urban areas in Europe are increasingly connected to indirect and consumption-based impacts in other parts of the world (cf. Andrén 2009). To be concrete: the cleaner environment experienced in many European cities has its shadow side in an increased exploitation of natural resources, environmental quality and human living conditions in other parts of the world, not least in the industrialising South. The ecological footprints from the consumption and life-styles of the European citizens have *not* become lighter, but are continuously heavy. In this view, the industrial smog of China is the other side of the coin of the 'deindustrialised' environments of for example a city like Malmö.

Urban sustainable development is a complex socio-ecological research field. It demands not only fundamental knowledge in ecology and environmental sciences, but insights from the social sciences and humanities as well. Further, it is a research field that we are confronted with here and now; at the core of the modern society. It is a high-stake social process where people, including myself, are engaged not only as professionals but also as citizens and human beings. The unsustainable development concerns our own lives and it is happening right now. It is a research topic that inevitably challenges you as a researcher: what is my task in the context of urgent socio-ecological problems and demands for change?

To reflect on your research approach is thus not only a privilege – it is absolutely crucial. As pointed at in earlier papers (Andrén 2008a), my intention is to work interdisciplinary paying attention to quantitative as well as qualitative research methods and to be inspired by participatory and action-oriented approaches. I have also argued that as I am working close to the research field, and in contact with actors outside of academia including situating myself as one actor in the local sustainability

debate, I will approach what can be called a *transdisciplinary* quality. Transdisciplinary, participatory and action-oriented … this all sounds so nice. But what do I actually mean? What research approach am I adopting and on what grounds?

This paper will describe the research approach that I am inspired by and intent on learning more about by practice. I will first present the interdisciplinary and transdisciplinary perspective and point to some features that I find relevant for my own approach. Then, I will pay some attention to participatory and action-oriented research, not claiming that I will fully adopt these approaches but that I am inspired by them in my work. As the transdisciplinary approach is quite new and may raise questions and even doubts, I will then spend a moment discussing possible quality criteria for this type of research. Further, I will also present one specific approach that I have found especially interesting, namely the so-called *phronetic planning research* approach (Flyvberg 2004). The 'phronetic approach', as I see it, combines many of the general themes discussed in this paper into one concrete research approach and into some useful methodological recommendations. As a PhD student still in progress of my work, this paper should be seen as part of a learning process which will be manifested as a chapter on research method in the thesis to come. Any comments and suggestions on improvement are therefore welcome.

Interdisciplinarity

There is a broad literature on interdisciplinarity and what I am here intending is not to give a coherent overview, but to choose some aspects interesting for my own research. A lot of effort has been directed to the task of defining the difference between various interdisciplinary approaches. In Andrén (2008b) I summarized this discussion by suggesting that interdisciplinarity is a matter of the level of cooperation and integration between different disciplines. A full-scale interdisciplinary approach would then consist of a fruitfully communicative and cross-learning cooperation and the creation of a new and independent body of knowledge. Not saying that less in rank, other cases of 'weaker' integration, more alike to 'a side by side of disciplines', would instead be called multidisciplinarity (Baumgärtner et al. 2008: 386).

It is important to state that interdisciplinarity is a wide concept and, more over, its general idea not a new one. As Schmidt (2008: 56f) points out, the ambition to integrate knowledge is an old one, in fact, much older than the compartmentalized and disciplinary science. The ancient Greek philosophers as well as later Renaissance and early Enlightenment thinkers were often in search of understanding nature and society as one. As Schmidt puts it: 'Traditionally, the truth was associated with the whole'. Few interdisciplinary approaches of today would probably claim to be able to reach such truth of the whole. This seems to me more of an ideal and an unattainable goal. Instead, and following Schmidt, these approaches are in search of 'a local contextual unity with regard to one object instead of an overall unity throughout the entire world'. They address the 'complexity, totality and unity of one single object' and are often problem-oriented and aimed at the understanding of real-world processes (ibid: 57 with reference to H. Schelsky and U. Hübenthal).

There is thus not *one* interdisciplinarity but according to Schmidt 'stronger' and 'weaker' positions concerning their striving for integration and unification. There is also a variety of approaches when making a distinction between interdisciplinarity in ontology, epistemology, methodology or, what can be called, problem-framing and problem-perception, the latter concerning the starting points, the goals and the motives of the research activities (ibid: 59f). Following the classification of Schmidt, I find myself belonging to a 'weaker' interdisciplinary approach and where the main focus is on interdisciplinarity in problem-framing and methodology. My ambition is less to find one united knowledge but to address contemporary and complex societal problems in a creative way. Sustainable development belongs to those fields, many would agree, that can not properly be dealt with by one disciplinary perspective. This is because, to once again refer to Schmidt, disciplinary reduction is 'undercomplex' and thus can not cope with these kinds of problems which are 'too new, complex, wicked, hybrid, or too risky' (ibid: 58). And – I would stress – sensitive in its high economic, social and political stakes.

Transdisciplinarity

> The world has problems, but
> universities have departments
> G.D. Brewer[1]

What then characterise the transdisciplinary approach (TD) in contrast to the interdisciplinary one? A majority would probably agree they have many basic features in common. However, while the opinions diverge,[2] what may be seen as distinguishing the transdisciplinary approach is an ambition to go *beyond* interdisciplinarity and to challenge the borders of 'traditional' science. While acknowledging fruitful and creative interdisciplinary ways of working, it takes one step further and transcends the borders of 'disciplinarity' as such. According to Hirsch Hadorn et al. (2008: 30) the basic motivation behind applying a transdisciplinary approach lies in the art of the research problem:

> There is a need for TR [transdisciplinary research] when knowledge about a societally relevant problem field is uncertain, when the concrete nature of problems is disputed, and when there is a great deal at stake for those concerned by problems and involved in dealing with them. TR deals with problem fields in such a way that it can: a) grasp the complexity of problems, b) take into account the diversity of life-world and scientific perceptions of problems, c) link abstract and case specific knowledge, and d) constitute knowledge and practices that promote what is perceived to be the common good.

The transdisciplinary approach is thus interdisciplinary in the sense of drawing upon bodies of knowledge from a variety of academic disciplines, but also *trans*-disciplinary in its ambition of openness to, and integration with, knowledge domains from sectors and stakeholders outside of academia (Pohl et al. 2008: 414). Further, according to the quote above, it is proposed that the ultimate goal of the TD approach is to 'constitute knowledge and practices that promote what is perceived as the common good'. A radical position and, as anyone can see, a difficult one, as this immediately imply normative, ethical and political judgements. Is the researcher to make these judgements, and if so, on what grounds? Is he or she then doing *research*? To some this perhaps makes the TD approach look fuzzy and dubious. I would on the contrary say that this is precisely what makes it seem so relevant for sustainable development research. Considering a research field that is far off from being neutral, objective or non-political. How do we go about doing good research – research that will matter? Let's return to this, later on.

TD research is often, but not always, concerned with real-world and real-people's problems, contexts where the 'normal' problem-framing of disciplinary science does not always seem to fit. As Schmidt puts it, one can say that what characterise the TD researcher, then, is to have 'problems with the problems' (Schmidt 2008: 65). While still too young to define the overall TD movement, Hirsh Hadorn et al. (2008: 20) mean that the transdisciplinary orientations in contemporary society is a reaction against the dissociation of scientific knowledge and 'the most recent step in reshaping the conception of science and the distinctions between science and the life-world'. Following below, I will now in more detail describe some features of the TD approach that I find relevant for my own work.

Integration – no small task

To start with, a far-reaching ambition of integration is an important feature of the TD approach. And it is integration not only in the trans-*disciplinary* aspect, but in the sense of a brave, open-minded and all-inclusive handling of the many different perspectives that is always inherent in a real-world research problem.

[1] From Hirsch Hadorn et al. 2008: 4.
[2] For example, there are definitions of transdisciplinarity that is identical with what I here call interdisciplinarity. See e.g. Christens and Perkins (2008: 216) with reference to D. Stokols et al.

Integration of perspectives and knowledge domains

One metaphor of how to view integration is by the concept of 'consilience' as 'a leaping together' of knowledge (Costanza 2009). However, this should not be interpreted as the search for a reductionist and intrinsic unity of scientific knowledge, for example, that the natural as well as the social reality ultimately is reducible to the laws of physics (ibid: 358f). Instead, what the interdisciplinary researcher should look for is more of 'a balanced and pluralistic kind of 'leaping together'' which has the ability of analyzing as well as synthesizing: 'Analysis and synthesis, reductionism and wholism, are as inseparable as breathing out and breathing in', Costanza argues: 'It is no wonder that our current approach to science is so dysfunctional. We have been holding our breath for a long time!'

The transdisciplinary approach is thus devoted to wide integration and the acknowledgement of a pluralistic knowledge generation. According to Hirsch Hadorn et al. (2006: 125) TD research will have to encompass empirical, evaluative as well as instrumental aspects which is connected to different kinds of knowledge, namely to *systems knowledge, target knowledge* and *transformation knowledge*. Even though I am sure they do not mean that these three are perfectly separable in the actual, concrete research process, the authors point to their different character. The first one, systems knowledge, is knowledge about the origins and development of the research problem, including its 'interpretation in the 'life-world''. The second is knowledge about the needs for change, desired goals and possible pathways of acting. The third, transformation knowledge, is 'knowledge about technical, social, legal, cultural and other means of transforming existing ways of action in desired directions' (Pohl et al. 2008: 414). My reflection is that while all this sounds very attractive, it is at the same time extremely demanding – perhaps unrealistic – to think that any research approach would really be able to accomplish all this. A pragmatic view seems important.

As a promising example of a TD perspective and 'bridging framework', Belsky (2002: 273f) discusses the development of the field of *political ecology*. With reference to R. Peet and M. Watts she points to how for example poststructuralism and discourse analysis have inspired political ecology in a process that according to the author aims at a fruitful integrative approach:

> This poststructural approach emphasizes alternative accounts of reality, rather than the author's own environmental and social data, and the agency and resistance of actors rather than structural inequality. The latter concerns provide opportunities to link resistance with new 'counterinstitutions' and to work for emancipatory change consistent with the 'liberation' dimension of political ecology in practice. In this variant, political ecology does not discount science, but positions it along side with other truth claims.

Peet and Watts see this as consistent with a 'critical materialist orientation', which 'combines the insights afforded by scientific, quantitative-empirical, and materialist approaches with insights from poststructuralist constructivism' (ibid: 273). 'No small task' Belsky ends – and I couldn't agree more.

Integration of 'inside' and 'outside'

Transdisciplinary research also involves integration in the sense of close interaction with the research field and with actors outside of academia. In short: while 'normal' science tends to demark an 'inside' and 'outside' of the research problem (and the research community) – the TD approach challenge those boundaries (Luks and Siebenhüner 2007: 421).[3] There *is* no inside or outside. The research problem is part of an interconnected totality and so is the researcher. The researcher becomes an active part of the research field. This means, among other things, that the researcher needs to be constantly reflecting on his/her own role. We belong to an old tradition of science placing itself – and being placed – in a distanced and privileged position. Being a TD researcher, to use a famous metaphor, is to dare to climb down from the ivory tower and work together with – and not above – people.

[3] The discussion by Luks and Siebenhüner concerns in this case the concept of 'Post-normal science' but is presented in a wider context of transdisciplinary research approaches.

This reasoning also implies an appraisal of the actors normally viewed as 'outside' of the research act: the layman, the stakeholder, the public, the man on the street. His or her knowledge and experience is not to be viewed as inferior to scientific or 'real' knowledge. Rather, it *is* the knowledge that constitutes the multitude of a real-world research field. The idea of working with 'extended peer communities', is one example of how one can make 'insiders' of those who normally are seen as 'outsiders' (Funtowicz and Ravetz 2008: 363f). In my PhD-project, I have established contact with a network of local and regional actors working in different ways with urban sustainable development. On a regular basis I send them my working drafts and invite them to give feedback. Although perhaps utopian, I would like to see the final thesis as a product of a wide communication and as a learning process where I am only one of the involved actors.

Integration of spatial and temporal scales

Even if not always explicitly mentioned, TD research should aim at a proper handling of the multiple spatial and temporal scales connected to the research problem. In the case of sustainable development research, it is obvious that one needs to be able to put small-scale local findings in the light of large-scale global issues, as well as being able to understand how short-term as well as long-term historical trends influence the actual situation (cf. Luks and Siebenhüner 2007: 422). In the example of Malmö it is clear that what happens at a local level – here and now –is intimately connected to a larger-scale international system of production, trade and consumption with complicated economic-political historical roots and sustainability implications in different parts of the system.

Integration of methods

The idea of integration is of course also relevant when it comes to research method and the practical research process. TD research is best supported by a flexibility regarding the choice of methods including the integrated use of methods from different research traditions. As suggested below, TD research is problem-driven rather than method-driven research.[4] The choice of method and methodology is an open question primarily driven by the art of the research problem. When it comes to the practical implementation, as Hirsh Hadorn et al. (2008: 35 ff) point to, it is important that the TD researcher does not cling to any rigid model of how to do 'good' research, but instead stays alert and flexible in all parts of the working process. In my own case, and as earlier stated in Andrén (2008a), I will take advantage of a mix of quantitative and qualitative research methods, even though I will mainly rely on a qualitative research tradition inspired by participatory and action-oriented approaches. Quantitative research results, although not the fruits of my own work, will however be extensively used throughout the study. For example, a body of quantitative data describing the Malmö energy system will act as a framework for engaging with different actors and stakeholders in my coming field study.

Open-minded, communicative, innovative

In the light of these far-reaching ambitions it is no surprise that other key-words for TD research are communication, creativity and innovation. To be able to reach a high level of intellectual integration one needs 'cognitive flexibility' (Thompson Klein 2008: 408), which I would like to see not only as an intellectual skill but as open-mindedness and courage. TD research 'requires an ethic of resolute openness, tolerance, and respect toward perspectives different from one's own' and a 'commitment to mutual learning and meditational processes in which contrasting values and conflicts of interest are negotiated and accepted, if not entirely resolved' (Stokols 2006: 68).[5] TD research will inevitably force the participants out of their disciplinary 'comfort zones' and require their commitment to

[4] This message by Flyvberg (2004) is connected to *phronetic planning research* but I find it highly applicable to a more general TD context.
[5] This characterization is suggested with reference to W. Russel, the International Centre for Transdisciplinary Research and the TD-net.

mutually respectful communication (ibid). Further, a TD researcher has to be able, and willing, to take part in many types of communication processes. Not only is the academic arena relevant, but the public discourse, the political arena and different kinds of informal settings as well. Above all, the researcher must stop to see him/herself as in a superior and privileged knowledge position. TD research should be a consistent reaction against the view of a 'one-way transfer of allegedly reliable instrumental knowledge from experts to 'ignorant' users', as Hoffmann-Riem et al. state it (2008: 4).

Further, as the transdisciplinary approach wants to challenge the established way of making 'normal' science one can demand a strong element of innovation to it. TD research should, to be good, come up with fresh ideas not only on how to frame research problems and on methodology but also on the use and dissemination of research results. If TD implies a demand for new qualities of science it should itself be a forerunner in inventing them. In a contested and high-stake field like sustainable development new approaches seem indeed needed. Meppen and Bourke (1999: 397) argues for a 'communicative turn toward sustainability' where '[t]ransdisciplinary notions aim to 'unmake' conventional ideas, conceptions and mindsets about sustainability'. It focuses on 'unearthing the assumptions within disciplines, perspectives and world views' with the ultimate goal of 'clarifying and deepening communication channels allowing for the emergence of a more shared and therefore more complete understanding of the problem under consideration' (ibid). To me, considering the business-as-usual as a strong regime, this certainly seems to require the researcher being both creative and brave in new and unconventional ways.

Problem- and solution-oriented

As stated above, a common feature of TD is the devotion to problem- and solution oriented research in real-world situations. Even if all TD research certainly does not have this ambition, it is in my case a very relevant one. Instead of defining research problems 'internal' to a scientific community, the TD researcher goes 'out' to listen to the issues at stake among actors in a given context. To succeed, I think, such ambition must be well anchored in personal aims and the motivation of the researcher. But, more important perhaps, it must be placed as a core issue running through the entire research agenda including what can be called the 'ownership' of the research process. Who defines the research problem and who controls the research process and the use of the results? Whose agenda does the researcher fulfil? In the most radical variant the problem definition as well as the research process takes the feature of a transdisciplinary collaboration where a broad range of stakeholders are involved. Of course, all this must be seen as ideals. It also deserves a great deal of caution from the point of view of staying an 'independent' researcher. We will return to this issue again.

Ecological economics is one example of a field with an ongoing and vital debate of how to work transdisciplinary. While the intellectual tools of research are important, Bob Costanza argues, 'they are secondary to the goal of solving the critical problems of managing our use of the planet' (Hirsch Hadorn et al. 2006: 120). Baumgärtner et al. argue that what distinguish this kind of research is that it is not only driven by a *cognitive* interest, but also by an *action* interest (2008: 385). Hirsch Hadorn et al. are on the same track by saying that TD research is not only *curiosity* driven: 'it is also committed to improving the lives of people in problem fields characterised by complexity and the interests of the common good' (Thompson Klein 2008: 408). I will in further detail discuss this action-oriented aspiration below. And, again, while all this sounds very nice I can only agree with the authors that this is actually nothing less than a monumental challenge. To contribute to knowledge that aims at real-world solutions is, to return to Belsky's phrase: 'no small task'. As Hirsch Hadorn et al. continues, we must not forget that, so far, 'there is a crippling disconnection between local efforts and the abundant information and insights that have emerged' (through research); 'What has been learned on the job', simply seems no easy task to pass on to real-world solutions.

One of the reasons that problem-oriented research in real-world contexts may become criticised is that it does not seem to give the 'traditional' scientific results that may be expected. The question of research quality, where the possibility of making generalizations from your results is one important issue, will be further discussed. However, to run a bit ahead already, following from the

transdisciplinary mode of problem-framing and way of conducting research, we have no reason to expect the results to constitute any exact, positive or 'objective' knowledge that is possible to generalize. This follows already from the premises. And, as we will see, this is not to argue that the quality is disputable, only that the differing starting points and working methods inevitably will end up in another kind of result.

Normative element inescapable

Does anyone still believe that science is non-normative? The question is relevant, because, one may as Funtowicz and Ravetz argue that: 'It is now common sense that science does not deliver certainty, nor is it free of values, personal judgements or institutional agendas. The faith in the truth and objectivity of science, established by Descartes and Galileo, is overthrown' (2008: 364). And yes, one may agree, but even so, I think that the culture of today is still permeated by such beliefs of a value-free and objective science. Science (and scientists) tends to be viewed as a sphere clearly separated from the 'real' world – the ordinary world where people are subjective, irrational, and unreliable. When writing a popular article in a newspaper, for example, nobody expects me to be totally independent from my own beliefs, values, and judgements. But, when presenting an academic work it is as if this inescapable part of being human – that everything we see and do inevitably is coloured by our history and our worldview – is expected to strictly be set aside. Of course, normal criteria on good research is not what I here talk about. There are good reasons to put high demands on for example accuracy, clarity and honesty in academic texts. But the way we tend to separate between what science and the 'rest' of the world is able to accomplish, I think is a mistake. There simply is no easy way, no magic – nothing, that will ever make science totally objective.

Even though there is probably a more critical stance today that in its earlier history, there is still a public tendency of distancing itself, and to either worship or to discredit the endeavours of science. We have already seen what Funtowicz and Ravetz (ibid) call a 'crisis of trust' between the public and science in for example the climate debate. In the case of sustainable development, where it is very clear that we are dealing with a highly normative and politicized issue: why should we even dream of being able to tell the 'truth'? As Costanza argues (2009: 360), there is *always* a 'pre-analytic vision' in every researchers work, an underlying framework consistent with that person's knowledge, history and experiences. This inescapable component of subjectivity does however not rule out the possibility for doing good research. The best way to go about, and which in turn will enhance honesty and thereby the credibility of science, is according to Costanza to be explicit and clear with your pre-analytic vision. In other words: as a researcher I should not be afraid, on the contrary I should be eager to, make explicit a normative position and the personal framework that inevitably will colour the context of my research. In my own case of contemporary Malmö and its policies on urban sustainable development, this seems all fine at a first glance. But, thinking further: Is it really so that we actually *can* be totally explicit about our pre-analytic vision? Is it not that some aspects of our subjectivity are always hidden to ourselves, and that there will always be a moment of obscurity and need of interpretation in all human acts, including research? Following the line of reasoning in this paper, there simply is no shortcut to any certain truth – even though we would sometimes wish there would.

Knowledge/power awareness

In the same way as there is no science free from values, there is no science free from power or politics either. If there has ever been science that is non-political – it should be doubted – today it seems increasingly clear that these spheres are intermingled (cf. Luks and Siebenhüner 2007: 419). For example, one may expect different power structures to heavily influence research on sustainable development. How is the 'problem' perceived, how do we go about to research it, and how are the results used? And more: what if these power relations constitute the very fundaments of the research problem? Must we then not find ourselves, as representatives of 'science', deeply involved in this same problem?

In any case, to say that knowledge, science and power are interconnected should not be very controversial. As was the message from Foucault, 'the rhetoric of a dominating narrative will reflect the rhetoric of the dominating power structure' (Meppem and Bourke 1999: 391). The 'truth' is always dependent on existing power relations, on what can be said – and thought – and not. Science is definitely no neutral player, but on the contrary one of the institutions we should expect to gravitate close to existing power structures. The making of knowledge and the exercise of power should rather be seen as intimately dependent, as co-existing, and as mutually supporting.

In sustainable development research we are faced with a highly contested and politicized arena. The dominating sustainability discourse – no surprise – mirrors other powerful narratives in our present culture. While not going into detail of the great narratives of modernity here, one can suggest that the concept of 'ecological modernization' summarizes quite well the contemporary and dominating discourse on sustainable development. The fundaments of this discourse – to put it a bit rough – is the presumption that a sustainable development may be achieved by continued or even enhanced 'business as usual' but in a greener and reformed version. It is an optimistic view on present society-environment interactions including the potential of the market economy and technological and scientific progress. The fundamental structures of society, e.g. the logic of the economic or the political system, are not called into question as such but are rather seen as subjects to adjustment. This can be contrasted by 'alternative' views on sustainable development where such structures are placed at the core of the problem, and their radical restructuring as a premise for real progress.

Returning to the transdisciplinary researcher, one fundamental task is therefore to accept that you will inevitably get involved and connected to spheres of power and politics; there is no 'outside'. Scientists *are* a critical stakeholder group, as Costanza puts it (2009: 369). The challenge is then rather to be willing, and make yourself able, to 'see' through the power-containing narratives, or at least, to be able to grasp more than the dominating one(s). As we know, if we look beyond the 'official' version of sustainable development, we find highly divergent and conflicting alternative views. While it is of course important to stay critical to each one of them, the TD researcher must struggle not to just become part of the prevailing dominant narratives. As each of us understands, this is no easy task. But, to follow the arguments of Luks and Siebenhüner, the imperative of involvement is something we must embrace, rather than try to escape (2007: 421, my italics):

> Given the inevitably connected and embedded nature of scientific research in particular in the field of sustainability studies, we argue that science as one actor group in the social learning process has a distinct *responsibility* to become involved in political decision making processes.

As will be further discussed, this however puts an extra demand of the researcher to be aware of what quality criteria good TD research must fulfil. The knowledge generation must be '*salient* to potential users', but it must also be *credible* and *legitimate* with regard to the scientific methods and performance (ibid: 422). The TD researcher must be devoted but also distanced and balanced. Perhaps an ideal of what a TD research project could aim at lies close to what Meppen et al. outline as a 'discursive community' (Meppem and Bourke 1999: 401 quoting P. Healey):

> This ideal of a 'discursive community' is embraced cognisant of the power conflicts, special interests, institutional structures, unreflective cultural conditioning and limits to governance systems that constitute the complexities of the environmental discourse. This alternative approach is aimed at collectively 'asking questions about appropriate modes of governance, our arenas and forms of governance, who these privilege and who these marginalize; what they are effective in achieving and what they seem unable to cope with'.

Critical, constructive, reflexive

Following from the discussion so far, it has been stressed that the TD researcher must actively balance between a distancing and critical position, on the one hand, and an open- and constructive-minded, on the other. To be able to scrutinize the state of the art and to reveal uncomfortable facts, but also to be able to give credit and point to alternatives and ways forward. Flyvberg, whose phronetic research approach I will further discuss, argues that 'at the same time as continuing the critique /… / alternatives must also be developed'; we have to 'operate on both fronts, critique and reconstruction' (2004: 286 referring to Fisher). A critical but communicative mind is something that Meppen outlines as (2000: 48): 'A transdisciplinary orientation [that] aims to problematise 'conventional wisdoms' or disciplinary boundaries by promoting communicative strategies that recognize 'different ways of knowing' in sustainable policy development processes'. To me, this seems to be much about being able to oscillate between presence and absence, closeness and distance; between being fully present and warm-heartedly engaged and to pull back and have a detached, critical and 'cool' look at the whole process including yourself.

The importance of a critical stance must however be underlined since, as earlier discussed, the dominant discourse and the 'normal' practices tend to conceal alternative ways of perceiving, explaining and acting. The TD researcher must therefore make an effort not simply to reflect and reproduce the mind and the practices of the 'normal'. This will take not only radical and critical thinking, but courage and open-mindedness. The 'normal' as well as the 'alternative' should be subject to critical scrutiny and one should avoid judging any of them too hastily. The temptation to just fight the dominant discourse should be resisted as well as the uncritical acceptance of it. This reminds me of the always present research subject – the researcher him/herself – who will deserve ongoing critical and constructive reflection. Viewing the unsustainability of the present as something connected to deep structures of the society and thus as embedded in the mentality of every individual, self-reflection must indeed be a key to progressive TD research.

Motivation and personal development

Involved in TD research seems implicit a great deal of personal commitment and engagement. To indulge in urgent issues with high stakes and no easy truths seems… well, if not stupid … then at least extremely demanding. Which personal driving forces are in action? How do these influence how one frames the problem and go about the research? Inspired by the open-mindedness called for above, I will spend one moment reflecting on the motivation and driving forces within the individual researcher, which we have good reasons to expect will affect the research process.

Why do we devote ourselves to sustainable development research? The article titled 'Mind the sustainability gap' by Fischer et al. (2007) points to one important reason, I think, why it is so difficult not to get deeply personally engaged in this research field. The message from these authors, and of course from many others, is that we are confronted with nothing less than a fundamental 'sustainability gap' fraught with momentous consequences: while unsustainable socio-ecological trends on a planetary scale continue to widen the current discourse and practices perpetuate in failing to do something about it. While we have been talking at least since the Rio conference, some 20 years ago, about a 'sustainable development' – the whole planet is increasingly in a messy state. Besides getting frustrated and worried, a natural reaction simply is to get dead angry. This is one motivation, I think, one that pushes you forward.

The other driving force is the more pulling one: All the reward, fun and meaningfulness of doing this kind of research. Meppen et al. argues that the transdisciplinary approach is especially rewarding as it encourages fresh and inspiring ways of being a researcher (Meppem and Bourke 1999: 390):

> These alternative ways of thinking, not being so rigorously bound to the logic and epistemological premises of the dominant modes of thought, potentially offer new angels and perspectives on the character of the difficulties we are confronted with. In so doing, they offer us the prospect of new approaches and methods which will allow us to go to work on the problems with renewed energy and hope.

While I think that all of the above mentioned sources of motivation are relevant, there is also a more practical, and less heroic, side of it. I hold the view that what we end up doing could quite easily have been something else. But some things you choose to do in life, and in some of these cases it turns out that you are quite suitable, and then you are encouraged, and you continue … and you keep on track because you are a human being and not a computer game. You like to do it – but you also have to do it. It's your job. In my case, working on issues of sustainable development for some years now, I see it as privilege to have the possibility at all – at the moment – of doing what I am doing. And, committed to the idea of what TD research can be, and determined to make an effort, I can only hope that this will mean anything for real societal solutions and not only for my own aims and personal development.

Collaborative or individual research?

At last, is it really possible to conduct TD research on your own – as a solo-project? Is it not implied by the very concept that this kind of broad and integrated approach demands teamwork? This seems to be the opinion of several scholars writing on TD research (cf. Hirsch Hadorn et al. 2008), although non-collaborative and individual forms are not ruled out. However, according to Stokols (2006: 68) with reference to P. Wilson, individual TD projects may turn out to be very demanding, as: 'solo transdisciplinary scholars encounter higher levels of information overload than do the members of collaborative research teams. Non-collaborative researchers, thus, may face greater difficulties in their efforts to assimilate and integrate information across multiple fields than do collaborative teams'.

While agreeing that collaborative TD research seems the most advantageous option, I still find it worthwhile to engage in a learning process inspired by the TD approach as an individual PhD student. I will take advantage, as far as possible, of having an interdisciplinary background with a degree in the natural sciences as well as extensive studies in the social sciences, in addition to several years of working experiences outside of academia. But I will have to stay aware of the difficulties underway and to accept the limitations of how far I can reach in the ambitions of being comprehensive and integrating. Despite the risks inherent in this what I would like to call *transdisciplinary learning approach*, I still find it very relevant considering the aims of my project.

Participatory and action-oriented research

Close to the idea of transdisciplinarity we find the participatory- and action-oriented research approaches. As in the case of transdisciplinarity, I see these as something that informs and inspires my work, not as specific methods that I will follow in detail. They constitute a framework for reflection, learning and inspiration, not exact models of how to go about. Thus, I will here not go into detail of the participatory- and action-oriented schools, which are in themselves huge fields, but point to some features that I find relevant for my own work with Malmö and urban sustainable development.

Participation

There is a vast literature on the theory of participation. According to Elzinga (2008: 349) one may detect two main approaches: the liberal functionalist or pluralist one which emphasises group representation, and a theory of direct participation, which gives priority to the involvement of the individual citizen as an 'amateur' in the process. Both perspectives, to follow Elzinga, converges on some common criteria which are that 'the participant should be independent, involved in the research process as early as possible, and be given resources to effectively influence decision making'. A basic condition for participatory research to work, based on the experiences presented in Hirsh Hadorn et al., is that some degree of *trust* has to exist, or to be built, between the participants involved (ibid: 352).

Participatory research may take place in the whole or only in some parts of the research process. It may be used in the problem-framing and problem-definition, when the researcher wants to understand a field and to grasp a problem (ibid: 350 ff). It may be used in the learning and studying phase, that is, during the part of the research process where the problem is examined and the results to the problem(s) are searched for. And finally, participatory methods may be chosen as a way of implement and/or deliberate research results. For example, researchers may organize public workshops or write popular handbooks to engage stakeholders with the results. Not seldom participation is involved in all of these stages, and this is also the ambition that I aim to follow.

The reasons for working participatory may have its ground in very different motivations. According to Elzinga (ibid: 355) participatory research may be chosen, for example, to begin a process of cultural and institutional change; to observe and collect data; to complement expertise; to make or implement decisions; to attempt to 'educate' citizens but also to overcome public mistrust, to stifle objections or to defuse critique. This immediately points to a critical question to those applying a participatory approach: is it used as an instrument of the researcher/instigator to only 'send' out a message or is it a working-model aspiring for communication, dialogue and mutual learning? Even if one is convinced of being part of the latter of these, one should be aware that participatory approaches run the risk of being an act of power rather than an inclusive and unbiassed investigation. As Meppen, with reference to Munro-Clark, Miller and Arnstein, argues (2000: 51):

> Stakeholder participation is an ambiguous term with positive overtones, ideologically conferring a stamp of approval on whatever it names (Munro-Clark, 1992 …). Strategies with the façade of inclusiveness are able to diffuse opposition and therefore enhance legitimacy of pre-determined and structured policy stances, and are increasingly used as a 'safe politics' (Miller, 1988). In a now classic article, Arnstein (1969) described public participation as instances of either 'manipulation' or 'therapy', representing opportunities for powerholders to 'educate' or 'placate' the 'community'.

There is thus a need to problemize the concept of participation and what participatory research is. With inspiration from the discussion by Elzinga (2008: 355 ff) I find that when going into participatory research one should be especially aware, and critically reflect on:

- If your research tends more or less to the linear model of communicating with and relating to the participants (sending a message, educating, informing) or if you are working on a model were mutual communication and learning takes place.
- The extent to which your research reflects dominant power structures and discourses or is able to grasp alternative views and listen to marginal voices as well? This is close to the questions: Who is included and listened to – who is excluded? Who is empowered? (ibid: 357)
- Pay attention to if your research methods allow effective and creative participation or if it actually consists more of a superficial or symbolic one. Ultimately, be critically aware of the risk that the ideal of participation at a micro-level stands in too stark contrast to a higher-level structural problem aimed to be confronted, one which is actually out of control of the participants – as individuals and collective.
- Be self-critical! How are you viewing yourself and acting in your role as a researcher: as the omniscient and distanced expert or as one participant with a voice and a position equal to the other? Problemize the act of research and the researcher as person – and the same way with regard to the other participants.

I think all of this highlights very important aspects of my own research field, the modern urban context and the ambition of urban sustainable development. Not least I think we must be aware that there is a potentially problematic paradox in the participatory approach: the clash between the ideal of 'true' participation and the actual capacity to change the unsustainable structures of society by the same. We are living in a society were individual and often consumer-based solutions are presented as that which will make sustainable development happen. Of course, the agency of individuals and groups in a local

context is important, but one should not get trapped in a 'rhetoric of participation' which is unable to fulfil what it aims at (ibid: 357):

> It is a trend where local governance and choice available to actors at the microlevel in local arenas, concern arrays of options that are predetermined by forces and structures beyond their control. A sense of individual participation is cultivated in a culture of individualism, with promises of radical freedom of self constitution of one's appearance, one's body, lifestyle, or local affairs, while decisive decisions concerning one's livelihood are made in centres where elites concentrate their power. The possibility of radically changing one's own situation and life condition presupposes access to material and cultural resources that many people do not possess.

Even though we have now been pointing quite a lot to the possible shortcomings of a participatory approach, I still find it very sensible and attractive. While trying to stay aware of the risks along the way, I will take with me the idea of participation in my own research process. Due to practical and other reasons, this will not be a fully developed but a pragmatic kind of participatory approach. I will during the whole research process work close to the research field. Actually, I will be right within the research field most of the time, since I am also a resident in Malmö and engaged in the development of the city as a citizen as well. I will also try to stay in contact with a network of local actors already working with issues around urban sustainable development. Regarding the practical research method, I will be inspired by participatory methods in the way I conduct my field study with individual- and group interviews. I will also take into consideration other participative forms of engaging with stakeholders such as by focus groups and workshops. But, on the whole, this will still mainly be one individual conducting a PhD project with all the limitations in time and resources this implies. A far-reaching participatory approach will simply not be possible at this moment – and is not the primary aim of the research project either.

Action-orientation

What distinguishes action research is that the goal of the research is to benefit not only science and knowledge building but also practice and social change. Action research was introduced as a concept in the 1940's by Kurt Lewin at the Center for Group Dynamics at MIT (Stokols 2006: 63f). The aim of Lewin was to establish a new kind of psychological research where scientists and practitioners worked collaboratively to analyze and ameliorate social problems. Interracial conflict, for example, was investigated jointly with civil servants resulting not only in scientific publications but also in practical recommendations, etc. According to Lewin, the basic feature of the action research process is that *action*, *research* and *education* form an interlinked triangle (Hirsch Hadorn et al. 2008: 26). This is to be seen in contrast to other types of social research that was criticised as a kind of 'hit and run' model, as described by R. Sommer (Stokols 2006: 64):

> A psychologist cannot simply walk in off the street, tell other people what they are doing wring, walk away, and expect them to change their behaviour. Rather, one must work with people … to facilitate the change process.

There are three basic principles in action research commonly referred to (cf. Hirsch Hadorn et al. 2008: 26). 1. The starting point of the research is social reality, that is, in people's interpretation of reality. 2. Action is part of the field research, so that the researcher is both acting *and* researching, thereby integrating the research with the promotion of, and the comparison of different forms of, social action. 3. The principle of the subject status of the research object or participation. The researcher as well as the people researched are doing research and being researched. There is no research object but only research subjects. Everyone concerned should be able to participate and intervene in the process to create social change.

The action-oriented aspiration seems indeed relevant for the field of sustainable development research and lies very close to where I aim myself. As already stated, I am working with a local community in where I also live and have my family. I am engaged in the process of promoting a change for urban

sustainable development on many levels: as a researcher, but also as a resident, parent, and citizen. As a researcher I work in contact with local practitioners and I take the opportunities possible to participate in diverse events and processes concerning urban sustainable development. Further, by having established contact with a network of local actors, the drafts of my thesis are distributed to this network during the research process, thus constituting a sort of 'extended peer community' (Funtowicz and Ravetz 2008: 363f). I also write columns and articles to local and regional daily papers. Even though I do not consider myself as a trained action researcher, the aspiration not only to build knowledge but also to facilitate change will run like a red thread through this thesis.

Research quality

It should come as no surprise that transdisciplinary research will raise criticism. At a first glance, some will certainly dislike its radical and challenging approach, its revolting ideas, and the experimenting on methods. Is this really research? Are these not only postmodern anarchistic, relativistic or even nihilistic activities going on without any clear quality criteria (cf. Funtowicz and Ravetz 2008: 367)? As an example, Belsky points to how political ecology, here viewed as a transdisciplinary field, have been criticised as lacking of coherence, to become 'all things to all people' and in the worst case is a form of 'academic hitchhiking' (2002: 269f). Further, that it suffers from an uncritical pluralism, which 'constructs all 'actors' and their meanings and stakes as equal'; that it is 'long on critique, and short on establishing goals (even plural and/or provisional ones)', that is, a tendency to be prone on criticism but lacking in giving alternative views or solutions; and finally, that it is too romantic in its view on traditional nature-society relations and 'alternative' ways of living.

Without commenting on this critique, which no doubt can be opposed, I would like to spend a moment discussing what kind of quality criteria, then, one could put on transdisciplinary research, including my own. First, as is clarified in the introduction to Hirsh Hadorn et al. (2008: 5), one should not expect transdisciplinary research to have the same quality criteria as disciplinary science. As this new approach is by its very definition intended to *break* with – and to transcend – the traditional way of doing science, new quality control criteria will have to be used. By taking part of the literature, I have gathered the following aspects as important to secure a good quality of TD research.

Active reflexivity

The TD researcher must show a clear case of ability to reflect on his/her work not in one or two aspects but in *all* dimensions of the research process: in problem-framing, ontological, epistemological and ethical positions, in the interaction with stakeholders, in the way perspectives, theories and methodologies are integrated, and so on. This lies close to what Alvesson and Sköldberg (2009: 317) call 'reflexive interpretation' in the context of qualitative research methodology. 'Good qualitative research is not a technical project; it is an intellectual one', these authors argue. What primarily determines the value of this research is not the way its different components are managed but an 'awareness of the various interpretive dimensions at several different levels, and the ability to handle these reflexively'. The reflexive methodology is neither a postmodern project aimed at disarming all kinds of rationality nor is it to claim the supremacy of anyone. Rather, as Alvesson and Sköldberg argue, this research can be seen as a 'provisionally rational project, in which the kernel of rationality is a question of reflection rather than procedure' (ibid).

To be systematic and explicit

The transdisciplinary researcher will work in a social reality which is chaotic and in constant flux. This however does not take away the demand on the researcher to systematically describe the problem and to analyse as well as synthesise in a clear and accurate manner. On the contrary, one may say that precisely this kind of research context rather *strengthens* this demand. To be clear, consistent, honest and transparent with what you are doing, how you are reasoning, and why, should lie at the fundament of good TD research.

Flexibility *and* consistency

Following from the feature of TD research is a demand to stay creative and flexible regarding the way to handle the research process. This lies close the 'active reflexivity' discussed above, but underlines the need for a non-rigid and open-minded pluralism. At the same time, as I see it, this flexibility must be balanced by some consistency so that the research will not run the risk of being conceived as a case of confusion, arbitrariness or fragmentation. How to precisely develop the stages of the research process, to choose methods, and to present the results, should all be subject to a flexible mode, but also a consistency in the way it is conducted.

To show a good learning case

What 'traditional' science regard as a fundamental quality criterion, the possibility to generalize your results, is not possible in the same sense in TD research. There simply *is* no full or universal knowledge to be extracted from this type of research, but instead a local and contextual knowledge which, if good, may serve as a case for learning. This fact is an important one, as criticism on this issue is common and causes misunderstandings of what TD research actually can deliver (and not). The traditional way of regarding scientific knowledge is that the more it is possible to generalize and universalize, the higher its value (Krohn 2008: 369 ff). This radically contrasts to transdisciplinary research which is, more or less, context-dependent, heterogeneous, and with a 'procedural orientation' intended to define real-world problems, be part of conflict resolution and to make change. The transdisciplinary approach thus has a different point of departure and, as Krohn notes (ibid: 370), 'several observers have attempted to understand transdisciplinarity as a foundation for reconciling the prospects of scientific knowledge production and life-world concerns of people. If successful, it would contribute to changing the self-description of science and to constituting new institutional frameworks for coordinating research and reform'.

If generalization is not what defines good TD research, what is it then? A suggestion found in the literature is that the research done, in all its stages and aspects, should be able to act as a good learning case for other (but perhaps similar) problem situations and research contexts (cf Hirsch Hadorn et al. 2006: 125). One may compare to what Costanza (2009: 360) calls a 'pragmatic modelling philosophy', where there research results (in this case, models in ecological economics) 'can only apply to a limited part of the real world, and the ultimate goal is therefore not 'truth' but quality and utility'. In a summary of what defines TD research Wiesmann et al. suggests that (2008: 436):

> Transdisciplinary research is by necessity shaped by concrete problem contexts and related societal settings and its results are basically valid for these contexts. However, taking into account the prerequisite of contextualisation, transdisciplinary research also aims at generality by providing insights, models and approaches that can be transferred to other contextual settings after careful validation and adaptation.

In my case, I interpret this quality criterion as a demand to do research that avoids simply being consulting and/or some kind of 'research activism'. It should aim higher and matter to more than just the local specific case and stakeholders. Even though my case chosen, the City of Malmö, only is quite small and, in a global perspective quite insignificant locality, I am convinced that if this research project succeeds it will have the potential to act as a learning case for other communities and researchers with similar agendas.

To communicate and to reach out

As already shown, the TD approach aims at involvement in complex, real-world problems with high stakes and no easy truths. This creates a special demand on the TD researcher to show a clear case of high communication skills. Not only must the TD researcher show a high quality in academic writing to live up to general standards and to convince those who may distrust a TD newcomer. He or she must also show an ability to handle a sensitive process of interaction with the research field in all its

aspects. As the sections on participatory and action-oriented research have shown, the researcher must engage with a broad range of stakeholders and an 'extended peer community' consisting not only of academic scholars but of representatives from e.g. politics, business, public bodies, media, and NGO:s. The researcher must show an ability to engage in communication processes where he or she does not take a distanced or privileged position, but actively tries to be on equal footing with other participants. In sum, the researcher must prove to master becoming a part of the research field him/herself.

A final note: as the TD research typically aims at contributing to social change, my opinion is that it is not enough to write some nice academic publications. You should aim higher, and broader: you should write a thesis, but also a damned good book – and work to get it read. Further, if truly to follow the TD ambition you should enter a multitude of arenas, not only the academic ones, to be able to reach out and to engage a broader public with your research results.

An inspiring example – phronetic planning research

> The way to re-enchant the world…
> is to stick to the concrete
> Richard Rorty[6]

I would like to synthesize this broad discussion by giving one concrete example that I find very inspiring. It is so-called *phronetic planning research* (here abbreviated 'phronetic approach'), which is presented by Flyvberg (2004).[7] It is a research approach that emphasizes practice and involvement in real-world processes. By careful case studies and by being aware of a set of critical questions and methodological guidelines (see below) the researcher will, as Flyvberg argues, aim at 'making social science matter'.[8] The name of the approach is inspired by the Greek *phronesis*, meaning something like practical wisdom, practical judgement, common sense, or prudence. This concept is to be seen in the context of the different forms of knowledge discussed by Aristotle (Hirsch Hadorn et al. 2008: 31):[9] *episteme* (science), *praxis* (life-world action), *poiêsis* (production), and *phronêsis* (prudence). Phronesis is about values and goes beyond scientific knowledge in the traditional sense as well as technical knowledge or know-how (Flyvberg 2004: 284ff). According to Aristotle phronesis is an intellectual virtue that is 'reasoned, and capable of action with regard to things that are good or bad for man'. In the writings of Aristotle one could further read that such intellectual quality was considered to belong to 'those who understand the management of households or states' (ibid: 287).

Phronesis is thus about practical knowledge and practical ethics and, as made explicit by Aristotle, is the most important intellectual virtue as it is able to balance instrumental rationality with value-rationality. Important to understand, however, is that this is not about one type of knowledge out-ruling the others. Science, technical know-how, practical life-world action, production, and prudence, are all needed for a well-functioning society according to Aristotle. The thing that makes phronesis of extra importance is that it will 'ensure the ethical employment' of the other knowledge domains. In the context of doing research, then, it is about active reflection – beyond the scope of 'neutral' science – about processes and phenomena such as politics, values, means/ends, and power. As Flyvberg writes (ibid. 288):

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[6] Taken from Flyvberg (2004: 283).

[7] Flyvberg presents his approach as concerned with 'planning research' of different kinds. Here, I will discuss the phronetic approach in the context of urban sustainable development which, as I will argue, seems very close to where Flyvberg aims (but with slightly another terminology).

[8] This quote is taken from the title of Flyvberg's book *Making social science matter: Why social inquiry fails and how it can succeed again* (2001, Cambridge University Press).

[9] These concepts are here discussed only at a superficial level and for purpose of highlighting their main differences. The English interpretations in brackets are taken from Hirsch Hadorn et al. 2008: 31.

> *Phronesis* is that intellectual quality most relevant to praxis. It focuses on what is variable, on that which cannot be encapsulated by universal rules, on specific cases. *Phronesis* requires an interaction between the general and the concrete; it requires deliberation, judgement, and choice /… / More than anything, *phronesis* requires *experience*.

Besides a focus on values – and what distinguishes the phronetic approach in comparison to similar efforts – is a strong emphasis on the power dimensions in planning (or more generally, I would say, in any social process). Flyvberg argues (ibid: 284):

> Like previous thinking about practical judgement in planning, the classical interpretation of *phronesis* is strong on values but weak on issues of power. The interpretation presented in what follows [the phronetic approach] attempts to balance values and power. Here practical wisdom involves not only appreciative judgements in terms of values but also an understanding of the practical political realities of any situation as part of an integrated judgement in terms of power.

Basics of the phronetic approach

Phronetic research calls for three basic endeavours of the researcher according to Flyvberg (ibid: 284). First, one should strive to 'let rationalism go' in the sense of giving up the faith in certain planning ideals as well as taken-for-granted truths such as that on the inherent 'rational and progressive promise of planning'. Instead, one should go scrutinizing those 'truths' and be especially aware of the power dimensions in what is revealed. Second, one should address problems that matter to real-world people in real-world contexts and 'this should be done in ways that matter'. Third and last, results should be shared with the participants/citizens in ways that are effective and dialogically – and the researcher should listen carefully to the feedback. If this is done, Flyberg continues, and this I think elegantly summarizes what I also would like to see as my ambition in the field of Malmö and urban sustainable development:

> If this is done, with a focus on the values and interests of specific groups in the context of particular power relations, planning research may be transformed more effectively into an activity of import to those involved in and affected by planning, sometimes by clarifying, sometimes by critiquing and intervening, sometimes by generating new perspectives, and always by serving as eyes and ears in ongoing efforts at understanding the present of planning and deliberating about its future.

As we can see, the phronetic approach is specifically directed to *planning research*, to which I understand could count for example local and municipal planning but also broader issues of development in regional, national or even global contexts. My research project will concern 'planning' in the sense of policy making on – and social processes around – urban sustainable development. Even though I think this may incorporate more aspects than 'planning', depending on the definitions of course, it seems to lie very close to where Flyvberg aims. Perhaps there is really no difference.

Key-questions and methodological guidelines

Proceeding from a general description of the phronetic ambition to some more hands-on research recommendations, I will take advantage of the 'four phronetic questions' and the methodological guidelines presented by Flyvberg (ibid: 289 ff). Phronetic research, as we have seen, is about to clarify values, interests, and power relations as a basis for praxis in a social situation. An excellent example of this could be Malmö and the politics on urban sustainable development. Flyvberg offers us great help by suggesting that the researcher may take as point of departure four value-rational questions:

Key questions for the phronetic research approach

1. Where are we going?
2. Who gains and who loses, and by which mechanisms of power?
3. Is this development desirable?
4. What, if anything, should we do about it?

These questions are of course only starting points for further elaborations. For example, the question "Is this development desirable" could lead to an extensive discussion about the different perspectives of stakeholders and/or political ideologies. Further, the term 'we' will always have to be situated in relation to a specific context. The 'we' could for example consist of the citizens and the different stakeholders concerned with the development of a municipality. But, whenever there is a 'we', Flyvberg reminds us, there is usually also a 'they': those who for some reason do not get the status of 'stakeholders' or 'involved' in the process but who are anyhow affected. The answer to 'Who gains of who loses' depends on what perspective or point of view one takes. In the words of Flyvberg; there is no 'neutral ground, no 'view form nowhere'. Applied to my own case, I immediately think of the low-paid industrial workers in the South that are now securing a cheap material standard of the urban 'deindustrialised' economies in the North. No doubt, the 'they' are certainly part of the urban sustainability issue.

OK, so the phronetic researcher sets out to answer the four value-rational questions. But how then - by which methods? Here, Flyvberg argues, and which lies close to a transdisciplinary statement, the choice of methods will be secondary to the choice of problem-framing and problem-solution. Phronetic research is problem-driven, not method-driven. Methodological flexibility and pluralism seem thus the appropriate way to go about, as long as one sticks to the basic ambitions of the phronetic research approach. To help us out, Flyvberg suggests some methodological guidelines, or recommendations one could say, which will now be briefly presented and which I find very helpful to support my own work.

Methodological guidelines for the phronetic research approach

1. Focus on values
2. Place power at the core of analysis
3. Get close to reality
4. Emphasize 'little things'
5. Look at practice before discourse
6. Study cases and contexts
7. Ask 'how', do narrative
8. Move beyond agency and structure
9. Do dialogue with a polyphony of voices

By the first guideline, and which has already been stressed, we learn that the phronetic approach is concerned with values. To handle this, Flyvberg recommends us to strive to abandon any kind of *foundationalism* as well as *relativism*; the former a belief in that there are fundamental values which can be rationally and universally grounded and the latter that any set of value is as good as another (ibid: 291). Instead the researcher should search for what I interpret as a middle-way: *contextualism* or *situational ethics*. By that is not meant a total lack of norms but, as Flyberg argues, a careful study of the 'socially and historically conditioned context' as the 'most effective bulwark against relativism and nihilism'.

Turning to the second guideline, power should be placed at the core of the analysis, as the phronetic approach belongs to those research traditions that sees conflict and power relations as 'phenomena constitutive of social and political inquiry' (ibid: 293). As Flyvberg argues: 'There can be no adequate understanding of planning without placing the analysis of planning within the context of power. Rationality without power spells irrelevance'. Obviously, the concept of power needs a careful elaboration before used: what do we mean by 'power'? What exactly is it that we should 'place at the core of analysis'? According to Flyvberg the way power is viewed in the phronetic approach is based on a combination of a Nietzschean/Foucauldian interpretation and a Weberian/Dahlian one, giving the following:

The concept of power described by six features:

1. Power is seen as productive and positive, and not only as restrictive and negative.
2. Power is viewed as a dense net of omnipresent relations, and not only as being localized in 'centres', organizations, and institutions or as an entity one can 'possess.'
3. The concept of power is seen as ultra-dynamic; power is not merely something one appropriates, it is also something one exercises in a constant back-and-forth movement within the relationships of strength, tactics, and strategies inside of which one exists.
4. Knowledge and power, truth and power, rationality and power are analytically inseparable from each other; power produces knowledge and knowledge produces power.
5. The central question is *how* power is exercised, and not merely *who* has power and *why* they have it; the focus is on process in addition to structure.
6. Power is studied with a point of departure in small questions, 'flat and empirical', not only, nor even primarily, with a point of departure in 'big questions'.[10] Careful analysis of the power dynamics of specific practices is a core concern.

(Flyvberg 2004: 293; the list has been slightly shortened by the author)

By the 3[d] guideline, 'Get close to reality', Flyvberg asks us to anchor our research in a real-world problem as perceived by real-world people. One could make the test and ask oneself: 'If you are wrong about this, who will notice?'. If the answer is 'Nobody', then you are at risk to come up with what M.T. Bailey calls ''so what' results' (ibid: 294). This I see as something that lies very close to the participatory ambition outlined above. The phronetic researcher aims at getting close – and remaining close – to the actual context under study during the whole research process. Further, as the 4[th] guideline states, one should not be afraid of getting into details: to 'emphasize 'little things'' (ibid: 295). Very often research seems attracted to 'big questions' and the 'big picture'. But, as Flyvberg argues, the focus on the minutiae, which may seem to contradict much conventional wisdom /…/ 'has its background in the fundamental phenomenological experience of small questions often leading to big answers'. Flyvberg also recalls the radical position held by Nietzsche who stated that: 'all the problems of politics, of social organization, and of education have been falsified through and through … because one learned to despise 'little' things, which means the basic concerns of life itself' (ibid: 295). It is thus an endeavour of the phronetic researcher not to gloss over these 'little things' but to pay close attention to them.

By guideline 5 we are reminded to stick to the concrete and practical; to study what is done rather than what is said – practice before discourse. Phronetic research should concentrate on the practices in action rather than on theory, text or discourse. Following from this, and in accordance with guideline 6 careful case studies are of crucial importance. The phronetic approach is concerned with concrete, empirical and case-based research. We can talk about the 'the primacy of context' as it follows from

[10] With reference to M. Foucault.

‘the observation that in the history of science, human action has shown itself to be irreducible to predefined elements and rules unconnected to interpretation’ (ibid: 298 with reference to P. Rabinow and W.M. Sullivan). ‘Never lose sight of reference to a concrete example’ was the dictum of Foucault’s work and this may act as an inspiration to the phronetic researcher (Flyvberg 2004: 297).

‘Ask how - do narrative’ is the 7th guideline. Here Flyvberg argues that to understand the many aspects of a real-world problem, one should pay attention to the ‘dynamic’ question ‘how’, in addition to the more structural question of ‘why’ (ibid: 298 f). This is once again inspired by Foucault, who emphasized that social and political research should take as point of departure ‘the little question … flat and empirical’ to understand ‘the dynamics of practice’. Further, narrating is an inevitable aspect of all aspirations to tell a story, including research. Narratology, suggested to be understood as ‘how best to get an honest story honestly told’ is a crucial part of the research process (ibid: 299 with reference to C. Geertz). Many judgements and choices will be necessary along the way, for example on where to start and where to end your story, what to include, exclude and emphasize, and so on.

The phronetic approach takes actors/agency as well as structures, and the relation between them, into consideration (guideline 8). This is, once again, no small task as the traditions concerned with these issues tends to ‘remain bifurcated in social science’ (ibid: 300 with reference to D. Vaughan). Researchers, Flyvberg continues, generally gravitate either towards macro-level or micro-level analyses, ‘ignoring the critical connections’. The challenge for the phronetic researcher is to colonize the no man’s land in between and be able to ‘integrate and move beyond the simple dichotomy of actors and structures’. Last and finally, guideline 9 states the ideal of a ‘dialogue with a polyphony of voices’. As already discussed, the phronetic researcher indulges in a real world context as *one* stakeholder, that is, as one voice among many others. This requires fundamental awareness of the positioning and role of the researcher in the field and in the research process. The special thing about the researcher’s role, according to Flyvberg, is that it can serve as an interpreter and, perhaps, mediator in a complex social communication process. If this can be achieved, to return to the introduction, phronetic research really aspires to the ideal of ‘making social science matters’. Flyvberg writes (ibid: 300f):

> The phronetic research approach is dialogical in the sense that it incorporates, and, if successful, is itself incorporated into, a polyphony of voices, with no one voice, including that of the researcher, claiming final authority. The goal of the phronetic planning research is to produce input to the ongoing dialogue and praxis in relation to planning, which is set in a context of power, rather than to generate ultimate, unequivocally verified knowledge…

My research approach – final reflection

To sum up, and turn explicitly to my own research approach, I will as suggested call it a *transdisciplinary learning approach.* It will follow neither the participatory, action-oriented nor the phronetic planning research approaches in detail – but will be inspired by them all. As the phronetic approach is presented in a relatively concrete way, I will take with me its methodological recommendations and see how they can help me in my own research process. However, that does not mean I feel obliged to use the phronetic approach as a detailed recipe, a choice that seems in accordance with the reasoning of Flyvberg (ibid: 302).

Finally, after taking part of all these impressive insights and experiences, it is easy to feel humble when it comes to what oneself actually can achieve. The transdisciplinary as well as the participatory and action-oriented research approaches are great – but very ambitious and demanding. How can one ever live up to all this? Of course, one can not. But, used as a source of inspiration and as ideals, I think they give strong support to a pioneering and forward-looking sustainable development research. Now it just has to be done.

References

Alvesson, M. Sköldberg, K. 2009. *Reflexive methodology: new vistas for qualitative research.* Second edition. Los Angeles: SAGE.

Andrén, S. 2008 a. *In defence of a qualitative research approach - by taking a quantitative approach as point of departure. Reflections on the sustainable development research field.* Working paper at Lund University. Available at: http://www.hek.lu.se/kontakt/andren-sabina/publications

2008 b. *What is this thing called interdisciplinarity? The answer to the challenge of sustainable development research or just another buzzword?* Working paper at Lund university. Available at homepage above.

2009. *Urban sustainable development from a place-based and a system-based approach: Case study Malmö.* Working paper based on a conference presentation at City Futures'09, Madrid 2009. Available at homepage above.

Baumgärtner, S. et al. 2008. 'Relating the philosophy and practice of ecological economics: The role of concepts, models, and case studies in inter- and transdisciplinary sustainability research', *Ecological Economics*, Vol. 67, No 3, pp. 384-393.

Belsky, J. 2002. 'Beyond the Natural Resource and Environmental Sociology Divide: Insights from a Transdisciplinary Perspective', *Society and Natural Resources*, Vol. 15, No. 3, pp. 269-280.

Christens, B. Perkins, D.D. 2008. 'Transdisciplinary, multilevel action research to enhance ecological and psychopolitical validity', *Journal of Community Psychology*, Vol. 36, No. 2, pp. 214-231.

Costanza, R. 2009. 'Science and Ecological Economics: Integrating of the Study of Humans and the Rest of Nature', *Bulletin of Science, Technology & Society*, Vol. 29, No 5, pp. 358-373.

Elzinga, A. 2008. 'Participation', in: Hirsch Hadorn, G. et al. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

Fischer, J. et al. 2007. Mind the sustainability gap, *Trends in Ecology & Evolution*, Vol. 22, No 12, pp. 621-624.

Flyvbjerg, B. 2004. 'Phronetic planning research: theoretical and methodological reflections', *Planning Theory and Practice*, Vol. 5, No 3, pp. 283-306.

Funtowicz, S. Ravetz, J. 2008. 'Values and uncertainties', in: Hirsch Hadorn, G. et al. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

Hirsch Hadorn, G. et al. 2006. 'Implications of transdisciplinarity for sustainability research', *Ecological Economics*, Vol. 60, No 1, pp. 119-128.

2008. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

Hoffmann-Riem, H. et al. 2008. 'Idea of the Handbook', in: Hirsch Hadorn, G. et al. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

Krohn, W. 2008. 'Learning from case studies', in: Hirsch Hadorn, G. et al. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

Luks, F. Siebenhüner, B. 2007.'Transdisciplinarity for social learning? The contribution of the German socio-ecological research initiative to sustainability governance', *Ecological Economics*, Vol. 63, No 2-3, pp. 418-426.

Meppem, T. Bourke, S. 1999. 'Different ways of knowing: a communicative turn toward sustainability', *Ecological Economics*, Vol. 30, No. 3, pp. 389-404.

Meppem, T. 2000. 'The discursive community: evolving institutional structures for planning sustainability'. *Ecological Economics*, Vol. 34, No.1, pp. 47-61.

Pohl, C. et al. 2008. ’Integration’, in: Hirsch Hadorn, G. et al. *Handbook of Transdisciplinary Research*. Springer Science and Business Media B.V.

Schmidt, J.C. 2008. ’Towards a philosophy of interdisciplinarity: an attempt to provide a classification and clarification’, *Poiesis & Praxis*, Vol. 5, No 1, pp. 53-69.

Stokols, D. 2006. ‘Toward a Science of Transdisciplinary Action Research’, *American Journal of Community Psychology*, Vol. 38, No 1, pp. 63-77.

Thompson Klein, J. 2008. ’Education’, in: Hirsch Hadorn, G. et al.. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

Wiesmann, U. et al. 2008. ‘Enhancing transdisciplinary research: a synthesis in fifteen propositions’, in: Hirsch Hadorn, G. et al. *Handbook of Transdisciplinary Research.* Springer Science and Business Media B.V.

To be continued …

Method chapter and the introductory chapter of the thesis will also include:

General research theme, purpose, research questions
Position of the researcher (theoretical and personal)
Some general reflections on ethics, normative position, self-reflection
All other things you need to write in the beginning of a thesis

Practical method/methodology will be presented in addition to this paper on theoretical perspectives:
‘The way it was practically done’ (practical method, field study, interviews, literature, etc.)