Writing about writing a thesis about a practice in which I work myself: *"You are your own lab rat"*

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Abstract: The paper is about combining roles of practitioner and analyst of that practice. I write about writing a thesis about a practice in which I work myself: one human-centred design project. I first describe how I found a research approach: I went from action via description to reflexivity. Then I attempt to write reflexively about several awkward situations in which I found myself – I treat my experiences as material for further study. Representation, telling stories, providing accounts seems to be central in my project(s). I conclude the paper with several suggestions for making my research relevant for both practice and scholarship.

Keywords: Research approach, Reflexivity, Representation, Relevance

Introduction [1]

I am sitting with my two supervisors around a table. And I am feeling uneasy. Opposite of me sits Jan, a professor in innovation management. Next to me sits Hugo, a professor in organisation studies. We are discussing my PhD research. I had just put on the table transcriptions of two project team meetings in which I participated myself, and which I intend to analyse. They are asking me all sorts of difficult questions: about my role in the project, about my role in the team, about my role in the meetings which I am analysing, about my role as analyst, about my role as author of my thesis. I feel like being under attack. (15 September 2006)

At that moment, in that meeting, I was unable to answer their questions. The goal of writing this paper is to explore and answer a series of questions that emerge from my choice to combine practice and analysis, to write a thesis as practitioner.

There are questions about method: How can I combine participation and analysis? How can I analyse situations in which I am an active participant? I come up with *reflexivity* as a strategy.

Other questions are about relevance: Why would my findings, which are primarily based on 'personal' experiences, be interesting for other people? My goal is to write a thesis that is relevant both for practice and for scholarship.

Context of my research

I work at TNO Information & Communication Technology [2], a government sponsored research organisation, and I am writing a thesis on one project in which I work myself. TNO does all sorts of things, ranging from applied scientific and technological research to business consultancy and market research. My expertise is in qualitative user research (e.g. observations, workshops, interviews), and in concept development and design (e.g. sketches, mock-ups, prototypes), and mostly in projects in which we design some (innovative) application of information and communication technology (ICT). The last couple of years we, i.e. colleagues, clients and partners, are applying methods to "involve" end-users in our projects, methods to interact with, cooperate with, and learn from, end-users. We draw from traditions like human-centred design (HCD), participatory design and empathic design.

The project which I study in my thesis is a project in which several organisations, for example research labs, university, technology vendor and end-user organisations, cooperate in the design and evaluation of a new kind of telecom application. I am coordinator of the HCD activities in this project: user studies and application design. (The business and technological aspects are addressed in other parts of the project.)

In this project we work on two telecom applications: one for police officers who work mainly on the streets, i.e. community police officers and emergency police officers; and one for a specific group of informal carers, i.e. people who provide informal care to someone who suffers from dementia and lives at home (often their wife or husband). Our attempt is to design these telecom applications with and for them.

The topic of my thesis is 'human-centred design' (HCD) or 'user involvement': I am interested in how researchers and designers interact with end-users – in observations, interviews or workshops – and how they apply their findings in their project – when they articulate a problem to focus upon or when they design and evaluate solutions for such problems.

Finding a research approach

In 2004 I started in the DBA/PhD program of the University for Humanistics [3], with the goal of studying, and writing about, my practice. Rather early-on I developed the idea to study a project in which I work myself, because that would provide me *access* to the practice that I want to study. I betted that, during the process, I would be able to solve the need for some *detachment* to my practice, in order to study it, and that I would be able to develop ways to write about my research findings. Maybe the *naivety* of someone without only little training in sociology or philosophy – I was trained as a design engineer.

From positivism and involvement (1) …

At that time I tended to think in dichotomies: people versus technology, and good versus evil. I thought that people are more important than technology. I imagined a dystopia in which people use email, phone and MSN to communicate, instead of talking with each other face to face, or in which people spend all their time in virtual worlds, instead of living in the real, material and social, world.

I saw human-centred design (HCD) as a method for people to (re)claim power over 'out of control' technology. And – possibly because of my training, under the influence of a centuries-old belief in progress (Bacon 1627) – I had the ambition to *improve* our methods for HCD. I imagined experiments in which we would develop, try-out, evaluate and improve our methods for user involvement.

Such research would be based on a positivist idea that I study a part of the world that is external to me. And such research would require an involved researcher role. Typical kinds of research of this sort are experiments, in which the researcher manipulates the experiment's settings, or (a certain kind of) action research, in which the researcher intervenes actively – and then sees what happens.

Soon I discovered that experiments would not work for me. First of all I want to do research in a 'social constructionist' paradigm, and not in a positivist. And practically, I would have to treat my fellow project team members as 'lab rats' in my experiments – which I would find hard to combine with working together with them in our project. Or, if I were to do action research, I would have to give my fellow project team members agency in my research process – which I do not want to give away just like that. (Although I would like to involve them in some way, see below.)

... via social constructionism and detachment (2) ...

In the course of 2004 and 2005 I came across contemporary philosophy of technology, the 'empirical turn' in which concrete practices of technology development or technology use are studied, and 'science and technology studies' (STS) (e.g. Latour 1987). This kind of thinking about contrasts with the theoretical treatments of 'classical' philosophers of technology like Heidegger (cf. Achterhuis 1992; Achterhuis 1997).

As a result, my ideas concerning the relation between people and technology became less crude, and changed in the direction of the idea of 'co-construction', which goes 'beyond technological determinist views of technology and essentialist views of users' identities' (Oudshoorn and Pinch 2003: p. 3). A key idea of this idea is that people and technology are in a reciprocal relation: people influence upon technology and technology influences upon people.

However, being honest, I never fully succeeded in stopping to think in terms of people versus technology and good versus evil. I feel attracted to thinking about any ethical qualities of people's practices, including my own.

In STS, a typical research would a study the practices of (a group of) people who play a role in creating using some technology, and would be done via (participant) observation and interviews, like an ethnography. Such research would be done within a social constructionist paradigm – based on the idea that ' 'reality' is determined by people rather than by objective or external factors' (Easterby-Smith et al. 2002: p. 30). And it would – if we are talking about mainstream ethnography – require a detached researcher role: the researcher goes 'into the field' and studies the people, without 'going native'.

Although I am happy with the social constructionist approach, but I have troubles with the 'detached' researcher's position, because I want to combine practice and analysis. Furthermore, I would not be happy to 'merely' describe situations, which I

associate negatively with a certain detached – sometimes *ironic* – academic style, in which I hear someone speaking from a superior position.

… to social constructionism and involvement (3)

My concern to bring practice and analysis closer, brings me to my current position: to do research within a social constructionist paradigm, with an involved researcher's role.

The two key ideas underneath such an approach – that reality is constructed and experienced by people, in their interactions, including myself as one of the actors; and that I have an involved role in the project which I study, because I work in it – ask for reflexivity.
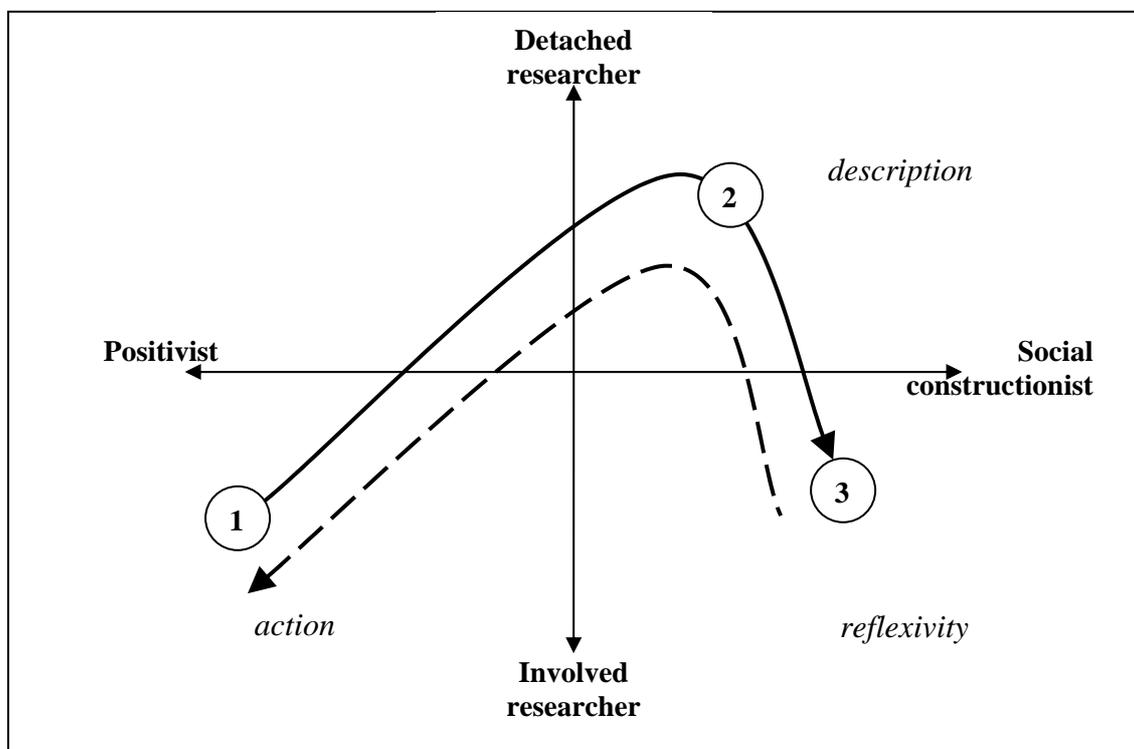

Figure 1. Alternative approaches to conduct research
(adapted from: Easterby-Smith et al. 2002, p. 57 -- arrows and words in italics added)

For those readers who (like myself) enjoy visualisation, I can plot the movements in a graph with two axes: a horizontal which plots a positivist against a social constructionist paradigm, and a vertical which plots a detached against an involved researcher's role (see Figure 1): I started with *action* (positivism and involvement), in the lower-left quadrant (1), and moved, via *description* (social constructionism and detachment) in the

upper-right quadrant (2), towards *reflexivity* (social constructionism and involvement) in the lower-right quadrant (3). From this position I wish to do my research.

Furthermore, my goal is also to move back every now and then to practice (the dotted line). I do want to be reflexive, but I also want to continue my practice. I want contribute to practice, and bring (tentative) conclusions and recommendations into my practice, and discuss these with, for example, my fellow project team members.

This is how I did my research, 'put schematically' (Ashmore 1989, p. 197) [4]:

a. In 2005 I started to do participant observation in the project which I study, and in which I work. I made field notes during and after project meetings, and recorded and transcribed several project meetings. I did not keep a systematic diary and I did no interviews (I'll come back to interviews later on);

b. In 2006 I wrote-up my observations and wrote two conference papers on my preliminary findings. I discussed these papers with my fellow project team members – to learn about their perceptions of our project and of my interpretation of our project – and recorded these 'evaluation meetings';

c. In 2007 I started to read about reflexivity. I am currently writing about situations in which I combine roles, for example about conversations with my fellow-project team members and with my supervisors about my findings and interpretations. And I am trying to write reflexively about such situations.

The need for reflexivity

I tend to approach questions or problems in the typical engineering-style: to separate the problem into smaller bits and to solve them separately. I tend to separate my practice into bits which I can manipulate separately, as if they are LEGO™ bricks: the project with/for police officers; the project with/for informal carers; my PhD/DBA research project; the project of writing of my thesis… But they are *not* separate. The projects are connected in many ways, and I am one of the important ties between them. In order to understand my own thesis – in order to understand what I did, what I saw and heard – I will have to be reflexive on my own roles, my way of mixing practice and analysis, and allow for reflexivity to kick-in.

It has been noted that the words *reflexive* and *reflexivity* 'in social science discourse tend to be subject to unsystematic variation' (Ashmore 1989, p. 31); different

people attach different meanings to these words. So I will have to make clear what I want to say with these words, and why I need reflexivity and how I want to do that.

(Parenthetically, it is easy to illustrate that reflexivity is a key issue in my project(s) –the project which I study and the project of studying: I study people and their interactions (me and my fellow project team members) who, in turn, study people and their interactions (the 'end-users'). I try to write about writing a thesis about a practice in which I work myself.)

Reflexivity is exercised in various traditions [5]; let me briefly review four of these: autoethnography, ethnomethodology, science and technology studies, and essay writing.

Autoethnography

An ethnographer goes out, 'into the field', and describes what she sees and hears – and she also writes about her own thoughts, feelings and experiences. Some ethnographers separate the two: they would jot down their field notes, including their 'private' thoughts and feelings, in a diary, and they would write-up and publish more detached descriptions about those people (and leave out most of their subjective writing).

But since the 'crisis of representation' (Denzin and Lincoln 2000, pp. 16-17) – the realisation that one cannot write about 'the other' objectively, that one always brings oneself, one's own preoccupation, and that this profoundly influences one's perception, interpretation and writing – ethnographers are more likely to mix both sources of knowledge: what they see and hear, and what they think and feel about that.

This can be called a reflexive move. Writing ethnography in such a way is also called 'autoethnography' (Ellis and Bochner 2000), and is based on the idea that a story which I tell about somebody else is also (or mainly) a story about me.

Ethnomethodology

In ethnomethodology attention is given to 'the most commonplace activities of daily life' (Garfinkel 1967, p. 1). An ethnomethodologist is interested in how people construct and experience social reality – social life – through their interactions. There is nothing like 'culture' or 'structure' that pre-exists or exists outside these interactions between people. To study 'social reality' is to observe people interacting. This means, for example, that roles of people or relations between people do not exist beforehand,

nor are they fixed, but these are (re)created and negotiated through all sorts of 'procedures'.

An ethnomethodologist observes people and talks with them, and thus creates knowledge. Reflexivity kicks-in when she realizes that her 'scientific' study of people is done via 'procedures' just as well. There is no alternative or some superior route to knowledge: all things social, such as gathering knowledge, happen in interactions between people. She can, for example, try to blend in with the 'procedures' of the people she studies in order to get to know them better. Or she can invent new 'procedures' and see what happens, for example, when she does a 'breeching experiment': she does something which is incompatible with some current practice, so that something interesting happens.

As soon as the researcher is aware of this – that her study is also a 'procedure' between people, that it happens within interactions between people – she must tell reflexively about her research procedures, about her role and relations, her contribution to the social event that she studied, and about her analysing procedures, about how she went about interpreting that event.

Science and technology studies

Another tradition where reflexivity is key is 'science and technology studies' (STS, also known as the 'sociology of scientific knowledge' or the 'social study of science').

This is a multidisciplinary field in which sociologists, historians, philosophers, and other social scientists study empirically the practices of scientists, engineers and designers. Latour and Woolgar (1986) pioneered this field when they studied what people in a natural science laboratory actually *do*, how they make and discuss inscriptions, notes and scientific papers – instead of studying the *outcomes* of what these people do, as is commonly done. They did that study as an ethnography of some exotic tribe: going 'out there', doing participant observation, making notes, trying to understand their language and rituals. Their conclusion is that people in a lab 'construct' facts via all sort of practices: making notes, negotiating, publishing, referencing, etc. Studying such practices explains better how 'facts' are created, and how they change over time, than the idea that the scientist discovers facts by looking ever more precisely.

This methodology – studying the practical, mundane activities of scientists – introduces reflexivity. A social scientist who goes to a biology lab to study how they create (biological) facts, must tell about how he constructed his (sociological) facts

about their practice. He needs to tell about his own process of observing, making notes, negotiating, writing-up, etc.

Ashmore's *Reflexive thesis* (1989) is a fine example of reflexive writing. He wrote a sociology of the way scientific knowledge is created in the field of 'sociology of knowledge. He studied sociologists who study scientists who study some (natural science) phenomenon. His thesis plays with being reflexive and wri(gh)ting reflexively.

Ashmore (*ibid.,* p. 32) distinguishes three forms of reflexivity: 1) self-reference, a kind of reflexivity which is based on the idea that a person who does sociology is part of what she studies, of the same social world ; 2) self-awareness, a basic and unproblematic kind of reflexivity, i.e. to 'think more deeply about what we do'; and 3) 'reflexivity as the constitutive circularity of accounts', a kind of reflexivity which is needed because of 'the mutually constitutive nature of accounts and reality'.

This last kind of reflexivity is relevant here, and is about the reciprocal relation between something 'out there' and a story about that something (*ibid.*, p. 32):

> In order to make sense of an account one must, in a sense, already know what it is that the account refers to; and in order to know that, one must have already made sense of the account.

The implication of this 'circular' reflexivity for my research is that I will be paying attention to various 'accounts' – how I talk about the project which I study, and how others talk with each other and with me about the project and about my study – besides paying attention to the *content* of what I study – the project 'out there' which I am studying. (Which is what I would do without this kind of reflexivity).

Essay writing

Reflexivity also occurs in essay writing. I take the example of Michel de Montaigne – who coined this genre's name when he wrote his *Essais* (originally published in 1588).

Montaigne regarded himself as a source of knowledge. He wrote about his own thoughts, feelings and experiences and treated these as material for further study. He painted a self portrait as honestly as possible, that is interesting for a wider audience, although it is from a very personal perspective (Dobbelaar 2005, p. 18). He was *not* looking for some universal truth or some fixed facts, as was normal in his time, and still is, in some places – although some call our time 'post-modern'. He wrote about what he

personally thought valuable (rather than about a universal truth) and about how his feelings and thoughts changed (rather than looking for fixed facts).

> There is no description so difficult, nor doubtless of so great utility, as that of a man's self (Montaigne, *Of Exercise*)

Montaigne took seriously his own experiences as a way to learn about himself, and to create an opportunity for others, his readers, to learn about themselves.

My attempt for reflexivity

I think the reflexivity which I currently need is a mixture of the four traditions reviewed above.

I am like an autoethnographer in that I write about *us*, the project team in which I participate as a 'complete member'(Ellis and Bochner 2000, p. 740). And I need some reflexivity from ethnomethodology because my 'procedure' of creating knowledge, for example by analysing project team meeting to evaluate how we work in this project, is intertwined with *what* I study: the 'procedures' of working in this project, of involving end-users in our project, which I study, for example by analysing project team meetings.

(Looking back, some of my research efforts may be characterised as performing (unintentional!) 'breeching experiments'. For example, when I organised and conducted these evaluation meetings with my fellow project team members, I switched awkwardly between roles of 'studying the project' and 'critiquing the project', and roles of 'project leader' and 'discussing details of the content of the project'. With 'awkwardly' I mean to say that miscommunication and friction took place in those meetings.

Furthermore, when I presented and discussed raw material, empirical data like transcripts from project team meetings in which I participated, for example in discussions with fellow thesis-writers, or in discussions with my supervisors, I switched awkwardly between 'studying and critiquing the project' and 'defending my role of competent project leader'. With 'awkwardly' I mean to say that I felt bad, receiving all sorts of critical questions, not only at a content level, but – more painfully – about me, about my role and competence.)

Furthermore, in my study of the project I make knowledge claims about the process of making knowledge claims in our research and design project. This puts me in position similar to someone who studies the practice of STS via an STS approach. And,

lastly, like an essay writer, I would like to treat my thoughts and feelings as material for further study and write interesting and attractive texts (in English, which is not my first language).

Awkward experiences

One of my supervisors suggested that 'the actor and the reflective roles really should never be allowed to be opposed or separate! this separation is a cause of lots of problems' (Hugo Letiche, email communication, 26 Sept 2006).

Ashmore also sees severe risks in separating 'analyst' and 'participant' roles: 'Too much insiderness and one risks going native; too much outsiderness and one is in danger of mis-*Verstehen*-ing the situation', and concludes that 'in the study of science (and knowledge practices generally) the student *cannot avoid* being inside and outside at the same time' (1989, p. 108).

Recently, the same supervisor remarked: 'You are a rat. [sorry?] A *lab* rat. You are your own lab rat'. I, the subject, am also the object, the lab rat, being studied.

Being my own 'lab rat' was probably one of the reasons why I found myself in several *awkward* situations. Often situations which I organised myself, situations in which people did things that I had not expected – and situations which I found unpleasant during the situation, but from which I now try to learn something. I will treat several of such experiences as material for further study, and I try to write reflexively.

Situation 1.
We are doing a workshop with police officers. The goal of the workshop is to talk about their current work, problems they experience, and about possible solutions. A few weeks before the workshop each of the project team members spent a day with them to observe their work, and wrote 'storylines' as a way to summarize our findings. At the start of the workshop their manager, a police sergeant, was irritated and said that he did not like our 'storylines' and called these 'children's-stories'. At the end of the workshop he was still irritated and said that we 'learned nothing', and that, in order to learn something about the police, we need to do observations more thoroughly, over a longer period of time.

The practice of researchers and designers to go 'into the field', to the place where (putative, potential, future) end-users live or work, to do observations and interviews, and, based on that, to construct 'personas' (descriptions of fictional end-users, including their demographics and interests, illustrated with pictures and quotes), and 'storylines' (short narratives, e.g. as 'a day in the life of…' in which such fictional end-users use the product or service that is being developed) as a way to summarize and communicate their user research findings within the design team, is widely accepted and advocated in the field of product design and user interface design (Carroll 1995; Cooper 1999).

So, when we accompanied the police officers and then wrote our personas and storylines, we thought we did the right thing: putting the end-users centre-stage.

I made arrangements for the observations together with Jack, a young police officer. He made the schedule for observations together with his manager Caroline. The observations were pleasant, both for us as project team members – as a quick and lively introduction to police work – and for the police officers involved – they enjoyed showing us their work and explaining what they do. Only, I forgot to talk with their manager, their sergeant, before the workshop. It is difficult to recall why and how I forgot to do that. Maybe I just forgot to inform him about our project and our plans for the workshop. Or, I may have assumed that any communicational or political work within their organisation would be done by Jack or Caroline. Or, maybe I sort of chose to act as if hierarchy does not exist within the police organisation, and chose to rely on improvisation if we were to hit obstacles. (The latter is plausible, since I have a problematic relation to the concept and practice of hierarchy – and I am trying to develop a healthier relation to it.)

(Interestingly, the telecom application which we are developing for the police officers, and which I helped to design, is supposed to help police officers to work more pro-actively and self-steering-ly – acting sort of against hierarchical, top-down lines of command. I am pursuing at least one personal obsession in this design project.)

When I arrived, together with fellow project team member Mandy, at the reception desk, one hour before the workshop was scheduled, the police sergeant had us call into his office and announced that the workshop could not happen. I felt like being called into the head master's office after doing something evil. And at the same time I thought bad of this police sergeant, because I had the feeling that he was trying to cancel our workshop. I started to improvise and talk, and after some explanations and phone calls,

he agreed that the workshop could happen, *but* with him present as participant. Given this new setting Mandy and I decided to skip two activities which we had planned to do: we skipped the role-playing (an exercise in which we were going to invite several police officers to enact situations), and we skipped the video-taping (documenting the workshop for later analysis). We did not dare to push our luck too far by explaining that our plan was to do some theatre exercises with police officers and video-taping that.

When the police sergeant called our 'storylines' 'children's stories' [6], he explained that he did not want these stories to be picked-up by journalists and appear in *De Telegraaf* – a popular Dutch newspaper, infamous for scandals and scoops. I guess – now that I reflect upon it – that he was concerned about the image of police work and of his organisation in particular. His job is to let police officers do their work well. He does not want them to waste their time in workshops. He does not want unauthorised stories to show up in some tabloid newspaper. And *if* we want to do research, his advice is to do so properly.

But at that time I thought that the police sergeant was being uncooperative: he spoiled our workshop. Saying this draws attention to ownership: saying 'this is *our* (the project team's) workshop, in which *they* are going to participate so that *we* (the project team) can learn' is very different from saying 'this is *our* (the project team's and the police officers') workshop, in which *we* will speak with each other and from which *we* (both project team members and police officers) hope to learn'.

This was, for me, the first time that a real end-user gave critical feedback on my storylines about him/her. Which makes me ask myself questions like: What gives me the right to study and write about another person? To represent this other person?

Some researchers and designers raise similar or related critical issues concerning the construction or application of personas or storylines: about how 'representations are constructed and shaped by the interests, specific discourses and traditions of actors involved' (Rohracher 2005, p. 16); that the application of personas may avoid the problem 'of involving users by simply excluding them' (Blomquist and Arvola 2002) from the design process; about the political character of choosing 'gender, age, race, ethnic, family or cohabitation arrangement, and socio-economic background' for each persona (Grudin and Pruitt 2002); and about the influence of 'actors and interests that are remote from both the use context and the concrete development context' (Rönkkö et

al. 2004) that easily overrule the 'human-centred design' work in the process or product development.

Since that occasion I have become critical about our practice of constructing and applying personas or storylines.

> *Situation 2.*
>
> Project team member Pauline, together with Edith and Catherine, organised a large survey with hundreds of face-to-face interviews with people with dementia and their 'primary' informal carers (often their husband, wife or child). In several project team meetings she presented preliminary findings of their survey, often in the form of a table with a 'top ten' of 'most frequently mentioned (met and unmet) needs of the people with dementia and their informal carers', including percentages and statistics. After the fieldwork was done, in a project team meeting, did she mention, for the first time, that almost all interviewees had been crying during the interview.

A key idea of 'empathic design' is that researchers and designers move towards (putative, potential, future) end-users, towards *their* world and experiences. Often they go to where they live or work for observations interviews, so that they can better design products for them. One definition of empathic design is: 'empirical research techniques that provide designers access to how users experience their material surroundings and the people in it' (Koskinen and Battarbee 2003, p. 47).

Within our project team we find two different approaches to interact with informal carers. Pauline and Edith, in their role of doing quantitative user research, do standardized interviews with a large number of end-users in order to identify the 'most frequently reported (unmet) needs'. They have years of experience in studying, and working with, people with dementia and their informal carers. At the same time, Rachel and Annelies, in their role of designers, are doing a series of unstructured interviews with four informal carers in order to better understand their lives and inform and inspire their design work. These approaches are quite different: the former is similar to how 'objective' social scientists work, being concerned with describing reliably a current state of affairs; the latter is more like how 'subjective' designers work, being concerned with envisioning future possibilities (Haddon and Kommonen 2003).

During project team meetings there frequently was friction between Pauline and Edith on the one hand, and Rachel and Annelies on the other hand – about how to conduct user research, about the validity and generalizability of results.

That I was surprised of Pauline mentioning the crying interviewees probably tells a lot about my own prejudices. I feel more comfortable with a designers' approach then with a social scientists' approach – I was trained as an industrial design engineer – and, by the way, some team members are aware of this bias of mine. My prejudice may have led me to believe that Pauline's study is only concerned with numbers and statistics, and *not* with emotions. And looking at and listening to Pauline presenting percentages and tables with figures in it may have strengthened this prejudice.

Why had I never asked Pauline what happened during the interviews? On several occasions, I encouraged Rachel and Annelies to read Pauline's and Edith's survey results and to use the survey results for their design. And, similarly, I encouraged Pauline to cooperate in organising and reviewing the interviews and design work of Rachel and Annelies, so that her expertise concerning dementia and informal care is used. But I had not asked a question like 'Pauline, can you tell us about what happens during such an interview?'

In project team meetings I sometimes – or 'often', as my fellow project team members may say – mentioned this difference in approach: social science versus design. I thought that becoming aware of the difference may help to solve frictions. But it often fuelled the debate. If I working looking for a way to facilitate cooperation rather than fuel conflict, I could better have tried to make a connection between the two approaches, for example by inviting them to move towards each other: ask both Pauline and Rachel to tell about their experiences during interviews, and ask Annelies and Pauline to jointly go through the survey data and the design sketches.

On several occasions Rachel received critical questions from Pauline and Edith about why she and Annelies were doing interviews while 'there is already so much data from the large survey'. This irritated Rachel. Similar to how it irritated Pauline that more interviews were done after the hundreds of interviews they had already done in their survey. One afternoon Rachel sent an email (8 March 2006), explaining why she did her interviews, additional to the survey:

These reports [of your survey, which I did read] are very informative and contain valuable information, however, it is also very important that I speak with informal carers myself. It may well be that an introductory conversation [with an informal carer] will not provide new insights for you, but for me it was very valuable and has gave me many new insights for the [design of the application]. For me, the goal of the conversation was met. I gained much more insight in the situation of the informal carer and the person with dementia, and a basis for further research.

Rachel thinks that the others underestimate how valuable these interviews are for her, and how much she gets from these for her design work.

I am left with questions about representation. This time on a process level, from my role as coordinator: How can I cope with different methods to represent end-users within the design team? Is it okay if experts do their work separately: social scientists doing their survey and statistics, and designers doing their interviews and sketches? Or should cooperation between approaches be facilitated? And what would be the added value?

Situation 3.

I wrote two (somewhat) critical [7] papers about our project. I wrote about how few interactions we had with police officers, and about how we missed several chances to learn about police work, because of our own focus on designing a telecom application for them. And I wrote about how we represented the informal carers, instead of having them actually present in project meetings, and about how we did not manage, within the team, to create constructive cooperation between the two different methods to learn about end-users' needs. Then I organised two meetings with my fellow team members to discuss the project and my interpretation of it.

   Mandy, who works on the police project, did not like my critical tone and asked me why I wrote so critical: Had we not done our best, given the circumstances? We would have liked to have more workshops, but that was difficult to arrange.

   Martin, who works on the informal care project, read my paper as a story about how to badly organise a project, with lousy decision-making and people failing to work together. He asked me, whether I had intentionally let this go 'wrong', to have interesting material for my thesis.

I wrote conference papers about how we interacted with informal carers and designed a product for with/them (Steen 2006a), and one about how we interacted with police officers and designed a product with/for them (Steen 2006b). I sent draft versions to my fellow project team members – the people depicted in these papers, with altered names – and organised a meeting to discuss these with them.

I had several goals with those 'evaluation meetings'. One goal was to provide my fellow project team members an opportunity to articulate and share with me *their* thoughts and feelings about the project, their perspective. Not as a 'respondent validation', an attempt to get closer to some truth – but as an attempt to do justice to the various ways in which one can look at the same social phenomenon, to facilitate 'social constructionism' to happen within my research process. And I thought it only fair to hear their comments on a picture in which they appear themselves [8]. Another goal was to create an opportunity for myself to share my view on the project with them and to stimulate critical reflection and debate within the project team.

Mandy's reaction did not came not as a surprise. We have been cooperating in this project since 2004 and we are colleagues within the same organisation. On several occasions we discussed my view on the project. I remember several discussions in which she advocated our way of doing human-centred design (HCD), and in which I then started to draw attention to the problems and difficulty of doing that. Afterwards such discussions she would remark that making a success of our HCD projects becomes difficult if I stress the problems and difficulty. She asked me why I make such a ambivalent gesture: I practice HCD, and, at the same time, I preach its shortcomings.

Martin's reaction did come as a surprise to me. On earlier occasions I got to know him as someone who's careful to formulate his ideas in such a way that they contribute constructively. And now he asks: 'Has Marc now consciously kept the project unstructured, so that he could nicely research how [a badly managed project] works' (transcript 4 July 2006, time 1:19:47). My first reaction was of being attacked.

I answered that 'I would never let it go all wrong for the sake of nice research, I am not the kind of type who does that' (*ibidem*). My answer was probably motivated by fear of not being seen as competent or virtuous. And then I talked for two minutes (!) about how I wrote this paper while looking backward – going through reports, papers, minutes and notes we made – and how I thus developed a more detached position, from

which I was able to see the process this way, and how I was unable to look upon the process critically while we were conducting it, and how I was thus unaware of its shortcomings while we were conducting it. I pleaded 'not guilty': I only became aware of the process, and of my role – or rather: my failing in performing my role – in the process, afterwards.

Situation 4.

I presented a transcription of one project team meeting, in which we talked about the informal carers and the application we were going to design for them, to my fellow PhD-class members – as material for discussion. I thought it would be interesting to hear their interpretation of such a discussion. They asked critical questions about the role of the person 'Alex', who appeared to have something like a project leader role, and did several things 'wrong' [that is my reading of the my fellow Phd-class members' views], especially that he let the project team members talk *about* the informal carers all the time, rather then stimulating them to talk *with* the informal carers. They asked whether I was one of the interlocutors, and whether I was this 'Alex'? One of the facilitators of the discussion in the PhD-class encouraged me to *not* disclose this during the discussion. However, at the end I did. I felt like being caught twice: firstly as doing something illegal, that is: playing with my identity, not taking responsibility for my own actions; and secondly as performing badly, i.e. being an incompetent project coordinator.

In the transcript I altered the project team members' names, because I thought their real names are not relevant, and protect their privacy, and because it is common to do so. In that process, I altered my own name into 'Alex'. I thought that would create a distance to my role, and would provide me an opportunity to research my role.

But that did not work. I tried to describe my practice from an outsider perspective. But I did not do that properly. For example when I organised the 'evaluation meeting', I could have adopted a kind of outsider-role and pose questions to my fellow team members, but, instead, I participated actively in the discussion, just like I would in any project team meeting.

One of my supervisors articulated this as follows: 'you tried a sort of realism and it failed', the paradox is that my attempt for realism did produce data which forced us into a more reflexive approach: 'the data (realism) buried realism (object assumed to be

outside the author)' (email of Hugo Letiche, 26 September 2006). The way in which I conducted my study forced me to move from 'description' to 'reflexivity' (Figure 1).

Shortly after the meeting with my supervisors meeting I decided to replace my alter-ego with myself. I started to try to say "I".

And then I started to write this paper.

Representation and conflict

By describing and interpreting these experiences, I want to draw attention to representation, and, more specifically: to the legitimacy of representation and to conflict:

1. The reactions of the police sergeant in the workshop draw attention to (the legitimacy of) of interacting with end-users and then representing them in such a way that the depicted people – or one, at least – does not agree with;
2. The friction within the project team about how to study informal carers' needs draws attention to different methods to study and represent end-users, and to different purposes: to depict the 'ist' situation or to envision an 'ought' situation;
3. The questions of project team members about how I combine my practice and my writing about this practice – which is also theirs – my texts, draw attention to (the legitimacy of) how I interact with them and how I represent them;
4. The situations with my supervisors (in the introduction) and in the PhD-class (situation 4) draw attention to how I represent my role in the project team from two perspectives: from an analyst perspective, and a practitioner perspective.

Representation – portraying others, acting as a spokesperson, telling stories, providing accounts – is central in both the human-centred design projects (for police officers and for informal carers), and in the project of writing a thesis about these projects.

To *represent* can have various meanings: 1) to depict, to make a portrait of another person or of myself; and 2) to act as a spokesperson for another person or for myself. For both acts – depicting someone and speaking for someone –questions concerning legitimacy can be asked: How do I choose an angle, a background, a way of lighting, to make this portrait? How do I choose whom to speak for, what to say, and how to say this?

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And, more generally: What puts me in a position that I can talk about other people's lives?

Conversation and deconstruction

Besides *representation*, there are two other elements which characterise my approach, these are: *conversation* and *deconstruction*.

I sought conversations with my fellow project team members and with my supervisors. I guess I let relatively long open questions such as: What do I want to study? How will I be conducting my study? Of course I had ideas about topic and method right from the start… but I hesitated long to bring such questions to closure – possibly because I enjoy conversations about such matters (although conversations where not always pleasant, they were often useful or instructive). Furthermore, I would like my thesis to be a 'turn in a conversation' [9]: people have been talking about human-centred design (HCD) for quite a while, and then I speak for some 120 pages, and then its someone else's turn again.

My goal of doing this study is to tell an alternative story about HCD. I feel attracted to the idea of doing a *deconstruction* [10] of HCD , to seek 'dissensus' with the usual, unproblematic discourse about HCD: as if HCD is a nice method to make better products, speed-up a design project, make more money, as if you can instrumentally look at 'end-users', and use them for your own ends. Alternatively, I would like draw attention to HCD as a social process (rather than a technological or economic process) and to foreground the ethical qualities of doing HCD – qualities which are currently hidden or marginalized [11].

By foregrounding such qualities I hope that more become aware of both the freedom and responsibility which they have, and that this awareness will positively change how they interact with end-users and make design decisions. (I know that saying 'positively', triggers off questions like: "Positive in what sense? Positive for whom?". For the moment, let me say: more democracy, more emancipation.)

'Relevance and practice'

Let me close this paper with questions about relevance: For whom can my study be made relevant? And in what way can it be relevant?

My first idea was to distinguish between two target audiences: practitioners and scholars. However, by doing that, I run the risk of making an artificial distinction, a distinction for which I have been warned, a distinction which I do not want to make… (Furthermore, I speculate that the – artificial – distinction between action and reflection, between doing and thinking, is at the heart of what is called the 'innovation paradox' in The Netherlands: that there is an unconstructive distinction between developing knowledge and innovations (in academia) and applying knowledge and innovations (in industry).

Therefore, I wish to speak about relevance for *action* and *reflection* respectively, and suggest that both practitioners and scholars are able to perform both acts: action and reflection.

Relevance for action

When I visualize *action,* the practice of doing research and design, the first thing I see are people talking in meetings and people handling documents. Not people *doing* things.

I think that we – practitioners – like to think that our work is about creating artefacts, about actually and materially *making* things: mobile phones, internet-machines, optical fibres, wireless antennas, nuts and bolts. And *when* such artefacts are present, for example in a meeting, the atmosphere changes and becomes heroic. However, it seems to me that a large part of our time we spend talking in meetings and in handling documents: we discuss letters and quotations, we talk about functional requirements and user interface sketches, we have meetings about software specifications and contracts. And, at the same time, there seems to be a certain disdain for talking – "Let's not just sit here and talk too long; there is real work to be done" – and for writing – "I don't like to write all day, lonely behind my desk; I enjoy to really get things done".

Writing my thesis – making representations, playing with words – is one way in which I try to stimulate critical reflection and discussion about human-centred design (HCD) amongst practitioners: a way to – indirectly – influence *action*: I hope that some practitioner-colleagues will read my thesis. This means that my texts about our project, in which some of my colleagues appear (with altered names), must be inviting to them, not offensive. I cannot depict our project too negatively, or depict it as a failure, because I wish to keep my practice, and a conversation with my fellow practitioners, going.

Additionally, there are ideas for more directly influencing action. Project manager Jasper and managers in the organisation in which I work are asking me to articulate guidelines for 'better' HCD, to produce prescriptions. As a response, I plan to develop such guidelines.

However, I don't like the idea of formally evaluating or testing such guidelines: I cannot imagine myself 'proving' that we did 'well' or 'badly'. Instead, what I plan to do is to articulate such guidelines, discuss these with my fellow project team members in a meeting, analyse (a recording of) that meeting, and then write a dialogue between me and my fellow project team members about these guidelines (based on that meeting).

Relevance for scholarship

One thing that struck me several times in encounters sociologists and philosophers (e.g. with scholars in Critical Management Studies (CMS) or Science and Technology Studies (STS) is that they seemed to mock our attempts to do human-centred design (HCD). For example, when I told about how we went to spent a day together with police officers to learn about their work, jokes were made about our attempt to do such fieldwork. Especially when I mentioned the words 'rapid ethnography' (Millen 2000). I used those words jokingly, to demonstrate that I am aware of the shortcomings of spending *only one day* with the people whom you wish to understand better. Using these words, however triggered more jokes – and more ironic jokes – and references to a parody article about 'rapid results ethnography' (Case 2000). This article mocks the idea of doing fieldwork very rapidly, commercially, without any depth.

Maybe there is something painful for scholars about doing ethnography ('we must do the hard work, the hard way') and about non-scholars doing ethnography ('they don't have a clue about what it takes to conduct ethnography properly').

Recently, there was an article in *BusinessWeek* about applying ethnography in consumer research and product development, in which it says: 'Anthropological research can be a potent tool – or a waste of time and money. Here's how to get the most bang for your buck' (Ante 2006). I don't know the reactions to this article (yet).

Anyway… these were some personal experiences.

Concerning the relation between action and reflection – about *working* in an innovation project and *studying* an innovation project – it has been noted (Ganzevles 2005):

'Keep practice and analyses separated' still seems to be the guiding principle for good scholarship', many scholars 'hesitate to openly cross no-man's-land between 'STS theory' and 'what to do'.

On the other hand, there seems to be a willingness to narrow this gap between analysis and practice. STS scholars started with studying the production of natural science, then turned towards the technology development and then towards the study of technology application and usage (cf. Pinch and Bijker 1987). Studying organisations and business activities may be a next step (e.g. Coopmans et al. 2004; Woolgar et al. 2005).

I would like to help cross this 'no-man's-land', to help bridge the gap between practice and analysis. I am deliberately saying 'practice and analysis' rather than 'analysis and practice', because I am concerned with approaching the gap from the practice-side.

If you start from the analysis-side, gaining access to the situations one wishes to study can be a challenge. But my challenge – starting from the practice-side – is to create an appropriate distance to the situations which I wish to study.

When a scientist goes 'into the field' to obtain access she runs the risk of 'going native'. But, because I am already a native, a 'complete-member' (Ellis and Bochner 2000, p. 740) my challenge is to convince scholars to listen, a babbling native (me).

Let me summarize my ideas relevance in the form of two suggestions: a move towards (more) democracy and a move towards (more) emancipation. I would like to see researchers and designers invite end-users to speak-up about their needs and concerns (a move towards democracy), for example via HCD methods. Similarly, I would like to see social scientists and philosophers invite practitioners in technology and innovation to speak-up (a move towards democracy), for example through joint scholarship. Furthermore, I would like to stimulate those researchers and designers who wish to do HCD, to do so – and to, simultaneously, stimulate critical reflection and learning about their practice and to contribute to scholarship (a move towards emancipation).

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[1] This paper is a work-in-progress and is part of my PhD/DBA research at the University for Humanistics (www.uvh.nl). This paper was written within the Freeband Communication research programme (www.freeband.nl) and as part of my work at TNO Information and Communication Technology (www.tno.nl). I would like to thank my fellow project team members who have given their kind permission to observe them and write about them, and my supervisors Jan Buijs and Hugo Letiche for constructive discussions while writing this paper.

[2] More info is available on www.tno.nl

[3] More info is available on www.uvh.nl, and on www.dba-uvh.nl

[4] Malcolm Ashmore, in his *Reflexive Thesis,* distinguishes between fiction and non-fiction and argues that many academic texts – including his own – are *fiction*, instead of non-fiction. However, when he outlines this argument he uses the non-fiction form of a logical argument (p. 197: 'put schematically'). I like to associate this with my summing-up of the steps of my process, as if these were logical steps – I apply a non-fiction form to tell a story, a fiction.

[5] I am *not* referring to 'reflective practice' (of e.g. Donald Schön), which focuses on the cognitive enterprise of a person reflecting on a design problem and trying to develop solutions, a process of 'reflection-in-action'. Instead, I am interested in reflection on my own acts (practice) and own writing (research).

[6] He called them *Jip and Janneke* stories, which is a Dutch 20th century series of children's stories – originally published between 1953 and 1960, but still being reprinted and still popular.

[7] These papers were *somewhat* critical. A 'critical management studies' scholar would find them not critical enough, but for the practitioners involved they were critical enough. Anyway, it may not be so common for researchers and designers to reflect critically upon their own practice. (And I don't know how critical 'critical management studies' scholars about *their* practice).

[8] There were more reactions. E.g. project manager Jasper advised me not to write too negatively because that would be bad publicity for our project, and Harold, a project team member who works for the police organisation, requested that I change several sections, for similar reasons. These requests, and others, I accommodated.

[9] I borrow the phrase 'a turn in a conversation' from Steve Brown's talks at the DBA program of the University for Humanistics (Utrecht, The Netherlands), in 2006.

[10] One may consider my study as within the domain of critical management studies (CMS), and one may call it 'a dialogic' study (Alvesson and Deetz 2000, pp. 36-7, 143-4).

[11] I recently wrote a text (which is currently in a review procedure) in which I argue that human-centred design has ethical qualities – based on empirical material from the same participant observation on which this paper is based.