Tapping Design Practice
Experiments in conveying the innovation potential of design practice to “non-designerly” firms

Report for the Doctoral Education Seminar on 50% Level
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“... while readiness to recognize alternative worlds may be liberating, and suggestive of new avenues of exploration, a willingness to welcome all worlds builds none. Mere acknowledgement of the many available frames of reference provides us with no map of the motions of heavenly bodies; acceptance of the eligibility of alternative bases produces no scientific theory or philosophical system; awareness of varied ways of seeing paints no pictures. A broad mind is no substitute for hard work.” (Goodman, 1978:21)
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PREFACE TO THE 50% “edition”

Notes and “reading instructions” for the 50% text

Since the 25% presentation a lot has happened. Unfortunately this report will not reflect everything – a lot is either in the making, like a chapter for a book by Vinnova, or “cooking”, like a literature review on how design practice is framed by different discourses.

I have kept the texts from the 25% report as they give a fairly good overview of the thesis project and the empirical study, even though everything is not up to date. I have made comments in a couple of places to indicate new thoughts or directions. These comments are highlighted: “50% Comment”

I have also added a number of headings with no text. The purpose of these headings is to try out what a complete thesis could include. I do this with hopes of reactions at this stage.

The news for the 50% thesis is the text in part three. In it I present a reflection on how I understand design practice in relation to relevant Philosophy. This is a direct reaction to how I feel that theory in the area is insufficient from a practice experience perspective. To me this is the backbone of the whole thesis.

The purpose of the thesis and the research question has been slightly adjusted and also broken down into sub-questions.

This report has very few photos. I have added a few just to try out. Hopes are that the final thesis will include some of the many photos I have taken on this journey.

Concerning the empirical study

By the time of the 50% seminar all cases will have finished and all interviews will have been done. The next step, which starts in January 2011, is to start interpreting the vast empirical material. However a first rudimentary interpretation has already been done with the focus on effects on the companies. The reason for this is that Vinnova is editing a book about the different projects of the call that this study belongs to. Ulla and I have handed in a first draft of our text. The book is due 2011.

A catalogue in the making

In parallel with all this we are also developing a catalogue that will present the project with images, illustrations etc together with SVID. The catalogue will be a more “light weight” version of the Vinnova text. The Catalogue will be printed and launched in early 2011. A spin off will perhaps be an exhibition that builds on the same material.

Marcus Jahnke, 12 November 1 2010
PREFACE TO THE 25% “edition”

As a teenager in the 80’s I was shocked to learn about the state of the planet. Writers such as Lovelock, Thoreau and von Wright challenged my assumptions about progress, and I became determined to be “on the side of the planet”, as actor Bob Peck stated in the BBC drama series “Edge of Darkness”. Even before it was thought of, I made environmental issues an integral part of my engineering training.

I worked initially with great optimism with environmental change processes in the auto industry. This work however became increasingly disheartening. I could not reconcile with the established notion of change processes as top-down enforcement of policies, procedures and targets. Simultaneously I observed how design driven R&D projects generated radical new knowledge and visionary results. It was with despair that I also witnessed how this knowledge was turned to dust when meeting the unyielding mass of the formal organization. Still, a glimmer of a hope had been ignited. Could design perhaps serve as the alternative model for learning and change in organizations that I was searching for?

It was with an instrumental intent of exploring this potential that I left industry for design studies at HDK. To my great surprise these studies resulted in a more fundamental shift in thinking than I had anticipated. Many of the notions that I had earlier been shaped by at university and in industry were fundamentally challenged in the search for my creative process. I began to appreciate how problematic my instrumental intentions with design had been. At the same time my notion about designs possible contribution to innovation and change was also strengthened and deepened. This was not least a result of my explorations into issues like sustainability and gender through design. Here the designer network O2 nordic and the research project “Gender and Design” at CFK, the Center for Consumer Science, provided perfect “testbeds” for my ideas on how to inquire into such complex matters.

In this work I came across a Marie Loft who had worked with designers in the SVID (Swedish foundation for industrial design) project “Companies and Employees in Good Shape” to address workplace health and safety in organizations with no previous design experience. We shared similar experiences and together came up with the idea of combining our ideas in an experimental design research project. In a time when the idea of design as the model for innovation and change is catching on it seemed about time to dig deeper into these claims and hopes.

As luck would have it, Business & Design Lab, the combined initiative of HDK and the Business school of the University of Gothenburg, was just about to be launched. Business & Design Lab and SVID in
combination seemed a suitable context for this interdisciplinary project, and with the blessing of VINNOVA (The Swedish Governmental Agency for Innovation Systems) we could begin our explorations. This is the backdrop of my study. My objective of being part of positive change remains. Hopes are that a deepened understanding and a more critical perspective of issues relating to the use of design as a process for innovation can somehow be put to good use in other contexts and circumstances, further on down the road.

*Marcus Jahnke, 30 March 2009*
PART ONE – ABOUT THE STUDY
Introduction to Part One of the Thesis

Background

In recent years the concept of “Design Thinking” has been proposed as a way to strengthen innovation capability in firms. Such claims are made both by innovation scholars e.g. (Vedin, 2000, Verganti, 2006), management scholars e.g. (Boland, 2004, Dunne, 2006) as well as design practitioners, e.g. (Brown, 2008, Neumeier, 2008). Drawing from research into the practice of design e.g. (Lawson, 2006, Cross, 2006) it is suggested that design’s processes, methods, perspectives and attitudes (design thinking) are apt to the generation of novelty that can be turned into innovations.

The suggestion that design can be beneficial to product development and innovation is however not all that new. Design management scholars e.g. (Borja de Mozota, 2003, Cooper, 1995) have claimed that design needs to be integrated in the early stages of product development. It is argued that in doing so, design’s contribution can be leveraged strategically to improve products and strengthen the brand.

What is new is the notion that the innovation process as such should be modeled on design thinking and designs methods. This suggestion has generated substantial hype in business press e.g. (Brown, 2008, Dunne, 2006). The rhetoric is based on a couple of recurring cases, for example from the practice of design consultancy IDEO. These accounts are fairly superficial and do not in any detail describe experiences from the process of implementing design thinking. To add to this lack of knowledge, few, if any, empirical academic studies have as yet sought to understand the implications of applying design thinking as a model for innovation.

This lack of studies stand in the way of a more informed way of applying design thinking to strengthen innovation capabilities in firms, especially those with little or no previous design experience. From a design perspective a risk might also be that the current design thinking hype could collapse before the ideas has had a chance of being properly tried and tested. This could be detrimental to both the practice of design and the general innovation capability of industry. Not least as practical experience do seem to support the suggestion that design can be beneficial to innovation.

One such example is the development program “Design as development force” (“Design som utvecklingskraft”) which was initiated by the Swedish government and conducted by SVID (the Swedish foundation for industrial design) between 2003 and 2005. Among the projects of this program some resulted in innovations that could be regarded as radical and where design seemed to play a pivotal role.
However, and as the independent evaluator of the program criticized the program for, no studies in collaboration with Academia were made of the projects (Johansson, 2006).

A more recent study of one of the successful projects of the development program did however show that although the outcome was positive, the integration of design thinking was not without friction (Persson, 2008). This was attributed to the meeting of different epistemologies or logics, in particular those of design and engineering. A similar observation of friction was made in a study of the integration of design in product development (Persson, 2007).

That epistemologies are quite different between practices, not least between engineering, management and design, has been shown and discussed by several scholars e.g. (Simon, 1996, Schön, 1985, Ramirez, 1998, Johansson, 2008b, Edeholt, 2008). However the practical implications of an instrumental meeting or merging of epistemologies have rarely been studied empirically. This raises a number of important questions.

For example, if innovation is sought for, and engineers (ideal typically) can be regarded as problem oriented while designers are solution oriented (Edeholt, 2006b), and their respective processes reflect these different logics - how may then a fit between these processes and mind-sets be negotiated and turned into a generative innovation process?

Further, as noted by Edeholt (ibid), the very concept of innovation is understood differently between for example engineering and design. Designers seem more apt to radical or disruptive solutions. When designers regard users and contexts as drivers of innovation rather than technology, the scope of possible concepts is widened. But this may clash with those factors often attributed to as “innovation barriers”, e.g. dominant designs, mindsets and infrastructure barriers (Assink, 2006). How can such possibly different perspectives be integrated?

And what consequences will an instrumental application of design thinking have on the role and practice of the designer? If the designer is regarded almost as an incarnation of innovation, as in the current hype, what will be demanded of her or him? For example, what skills and abilities will it take to channel or transfer design’s thinking and methods to organizations with little or no previous experience from design, considering that the practice of design is based on knowledge which is largely embodied and non-articulated.
The idea of applying design thinking to strengthen innovation capability suggests a process of organizational learning (Junginger, 2008). What are possible strategies for such a “learning journey” to be both efficient and effective? What will it mean to practices, leadership and organizational culture? And what are the possible pit-falls?

To summarize, it is interesting to note how radical the approach of applying design thinking to spur innovation is. In this light it seems paradoxical that design thinking as a model for innovation is heralded without reservation and with little empirical knowledge backing these claims. The aim of this study is to attempt to fill some of this knowledge vacuum. Hopes are for a contribution which may not least help spur discussion between the discourses of design, innovation and management, as well as provide actionable knowledge for firms and designers.
Purpose of the thesis and research question

50% Comment: This section has been slightly updated since the 25% report.

This study deals with the fairly recent suggestion that innovation processes may be modeled on “design thinking”, or on design practice experience as a representative of the creative practices. Such an approach infers the instrumental application of design practice experience and knowledge in an area where design has hitherto been little applied, and to organizations with little or no previous experience of design. Further it suggests a participation of designers. The purpose of the thesis is thus:

“To explore what occurs when design practice experience is introduced by a designer to strengthen the innovation capabilities of firms with little or no previous experience of design.”

This purpose spurs a number of related research questions:

- How do different discourses frame and understand design practice?
  - How has design practice been framed historically by for example different academic discourses, such as design management and design research as well as art and management research?
  - How is design practice framed within the general interest in creative practices and creative industries, by for example governmental policy organizations?

- Design Practice Perspective:
  - How can design practice and design practice experience be understood from an innovation perspective?
  - How can design practice be understood in general considering for example tacit knowledge etc?

- Innovation Perspective:
  - How can design practice be beneficial to the innovation capabilities of a firm?
  - What is the relationship between design practice and the concept of innovation capabilities?
Method

50% Comment: This section will be developed a lot for the 75% report but for now I have not made any changes since the 25% report, other than ad a couple of possible new headings.

An abductive experimental research approach

Krippendorff (2006:33) argues that most research about design is done from outside the design community, by other disciplines and non-designers. This, he argues “… hardly helps the design community to understand itself… [and]… is one serious weakness of the contemporary design discourse.” (ibid:34).

The proposition of design thinking as beneficial to innovation stems mainly from the research fields of management and innovation e.g. (Dunne, 2006, Boland, 2004, Utterback, 2006). The perspectives and knowledge of these fields are important in regarding design in a new light. However, and as I have attempted to imply elsewhere in this text, the perspective of the designer, as well as the addressing of the problematic meeting of epistemologies, seems for the most part lacking.

Krippendorff calls for a “Science for design” which “… does not surrender its criteria to other disciplines.” (ibid:35), a science which instead “… encourages designers to examine their own practices in their own terms…” (ibid:35). However, when exemplifying what is included in such research, Krippendorff mostly stays with a traditional understanding of design and the practice of design, focusing on design methods and the artifact.

In the case of design thinking as a model for innovation, a more radical shift in the role of the designer is implied. I believe that the study of this role, and the meeting of epistemologies in this practice, calls for a more over-arching research approach – of a bridge that needs to be built between different discourses to provide knowledge in the areas hitherto neglected.

This bridge is firmly anchored, on the one side, in design and the design practice through an experimental approach and a design practitioner perspective, and on the other side, to knowledge areas such as innovation and organizational learning as well as complementary methods. The fundamental notion underpinning this approach is that qualitative knowledge can be generated by a continuous shift in position, between that of action and that of observation. Clues to a “designerly” understanding of such an approach can be found in Schön’s description of design as processes of ongoing oscillation.
between involvement in, and detachment from, the design problem at hand, thus enabling interrelated reflection and creativity (Schön, 1985:49).

The experimental research approach allows for a more traditional and “designerly” process based on the intent to “design” a solution, in this case a process for applying design thinking and design’s methods as a model for innovation. In this process I actively participate as a designer, or rather as a designer-as-design strategist, in certain stages of the process.

The purpose of the study is however not to primarily search for instrumental solutions or models answering questions on the format of “how to”. Rather it is to better understand “… what occurs when design thinking is introduced as a model for innovation in organizations with little or no previous experience of design.”. The reason then for this experimental approach, and my active participation, is to render possible a more in-depth understanding of the process from a design practitioner perspective.

To allow for and pronounce distancing and observation the experimental approach will be combined with an ethnographically inspired approach. This will allow for the attention to questions on the format of “what is going on here?” (Alvesson, 2007:1270). This approach will be used to challenge existing theories with the emerging empirical findings. Here I will rely on an approach of looking for “mysteries” and the construction of “breakdowns” (ibid). Such an approach is modeled on the pragmatist concept of “abduction” (Alvesson, 2008b) in that theory and empirical material interplay and is used interchangeably to look for relationships and connections that had not been previously suspected.

The combination of an experimental process involving action, and an ethnographical approach favoring observation certainly means one additional level of complexity. It demands not only moving between empirical material and theories, but also between the roles of “insider” participation and “outsider” observation. In this sense it resembles the shifting roles that are typical of “Insider Action Research” (IAR) e.g. (Bartunek, 1996). This process will be characterized by the challenge to handle a multitude of different perspectives and questions. This challenge is at the same time the prerequisite for the quality of the process. Something which is further accentuated by a need to utilize “shallow” or “peripheral” elements of my “interpretative repertoire” (Alvesson, 2007:1274) to be able to construct or frame mysteries.
Indeed this might be the very “designerly” quality of the approach – to let the journey of exploration shape the framework utilized in the solving of such mysteries – of the “wicked problems” posed by the “open-ended” research purpose.

Field work and collection of empirical material

The collection of empirical material is modeled on qualitative research methods including ethnographically inspired observations as well as interviews. There are several “arenas” where I obtain material for the study:

The initial review - As a first stage of the process an “initial review” is conducted with the combined objective of establishing an understanding of current product development and innovation processes and possible design integration, as well as ensuring commitment to the project. The review is conducted by me and Marie Loft and is based on a site visit and semi-structured and open ended interviews with key personnel. Theses interviews are recorded and are part of the empirical material as are notes made of the visits. A short report is also written and presented at a management meeting before a formal decision is taken to initiate the process. The discussions of these meetings are also recorded and part of the empirical data.

50% Comment: I have approximately about 25 hours of recorded material from the initial reviews.

Workshops – I participate as an observer in most workshops conducted by the external designer and with the project groups of the companies. Notes are taken which are used as empirical material. Other documentation may include photos and video filming.

50% Comment: To date I have recorded material and field notes from about 25 workshops. I did not pursue filming but have instead intensified photography.

Discussion seminars – Two types of regular “discussion seminars” are held. The “management seminar” is held twice a year and includes two representatives per company as well as the external designers, Marie Loft and me. The “designer seminar” is held slightly more often and involves only the external designers, Marie Loft and me. At these seminars progress is discussed and experiences are shared. I for the most part plan these seminars in collaboration with Marie Loft. These seminars are recorded and also filmed.
**Additional interviews** – The interviews of the initial review will be followed up by interviews midterm and at the end of the project. These will also be semi-structured and open-ended and include both company representatives and designers. These interviews will also be recorded.

*50% Comment: I have not made midterm interviews. Final interviews are done fall 2010 and will cover about 30 hours of recorded material.*

**Additional documentation** – I also use photography and other means to collect more “ambient” data that may both be part of the visualization and my own reflections. Discussions between me, Marie Loft and the external designers on the progress of the projects are also logged as notes, including e-mails and other documentation.

**Analysis and reflection**

The research question deals with phenomena occurring when designers actively attempt to transfer “design thinking” to the companies involved in the project. Observations will be directed towards both designers, the SVID representative (Marie Loft), the representatives of the companies as well as my own actions. Interesting questions may involve what happens when the designers utilize their practice-based and often non-articulated knowledge in action as part of this process, or the perceptions and involvement of the participants of the firm in the process.

To be able to interpret and engage in the action of interplay between theory and empirical material, a reflexive approach will be utilized (Alvesson, 2008a). To be able to represent such issues a “sense-making” approach (Weick, 1995) will probably be utilized. This enables a representation of multitude of views and understandings.

I will also take advantage the possibility to reflect through design practice. This may include working with mood-boards and images to visualize events, emotions, perspectives etc. It may also involve interventions directed towards the company processes, for example in the format of “provotypes” (Morgensen, 1992) or “discursive” design projects (Tharp, 2007). This however remains to be seen.

**My different roles**

*50% Comment: I have had several different roles in the study and these need to be explained.*
The character of the experiment
50% Comment: What is the character of an “experiment”, in for example relation to both design practice “experiments”, experimental design research as well as “the experiment” in the natural sciences?

Choice of cases
50% Comment: A discussion about how cases have been chosen, on what grounds etc.

Reflecting through text
50% Comment: Discussion about the reflective part of the thesis.

The guiding metaphors
50% Comment: The project rests on several metaphors, not least on the notion of “a journey”. The meaning of the metaphors should be reflected on.

A narrative approach
50% Comment: About how I will use narratives in interpreting the empirical material.

Photographic documentation
50% Comment: The photograph has a dubious history in science, but is also an important part of Gestalt in artistic research. How have I chosen to use the photograph, and why?

Writing in English
50% Comment: About why I have chosen to write in English and how this is also problematic.
PART TWO - FRAMING THE CONTEXT

Introduction to Part Two of the Thesis

50% Comment: The purpose of this part of the thesis is to present existing perspectives on design and innovation that are relevant for the study.

Literature review of how design practice is framed in different discourses

50% Comment: I will in late 2010 write a critical review of how different actors and discourses have framed design practice, including design management research, innovation management research, public policy, interest organizations (e.g. SVID and British Design Council.)
Literature review of the relationship between design and innovation

50% Comment: This part of the thesis will be further developed in the beginning of 2011.

The evolving concept of innovation

A large number of definitions of innovation exist. A typical example is (vonStamm, 2003):

“Innovation is the commercial successful exploitation of ideas”.

Most of these definitions are quite uniform and for the most part share well-known notions that can be derived from Schumpeter’s definition (1934), i.e. that innovation is set in an economic context, that innovation means the introduction of novelty of some sort to the market, and that this introduction is judged as successful.

Even though this allows for a wide understanding of innovation, traditionally the concept has been intimately related to the areas of science and technological development and technological products (Utterback, 1994, Dougherty, 1996). However the number of areas included in the concept of innovation has since then expanded to also include for example processes (Schroeder, 1990), services (Thomke, 2003) and management practices (Birkinshaw, 2006). This however, can be regarded as areas still within the traditional discourses of engineering and business management.

More “radical” concepts, skipping the boundaries of business and engineering, include for example social and political innovation e.g. (Mensch, 1979, Zapf, 1989) and innovation of “messages and meanings” (Verganti, 2006). These notions open up for an understanding of innovation as a concept which may cover all areas of human endeavor and this is also my own understanding of innovation.

To me the concept begins at the “other end”, not in the innovative solution which may be connected to a certain area, but rather with the need the solution address, and the especially the context of that need. This context has influential social components and I believe that the ANT (Actor-Network-Theory) (Latour, 1993) understanding of artifact as social actors (non-human) liberates innovation from specific areas such as technology, process or management. To me innovations are not least social interactions. This is also how I understand how innovations spread, or “diffuse” (Rogers, 1995), not as a linear, sequential model of diffusion (ibid:133), but rather as an ongoing process of translation and adaptation where actors use the innovation as a symbol shaped by their own purposes (Latour, 2007:44).
This understanding is one that has been developed during my design training as well as my own attempts at coming up with novelty addressing social issues. I recognize elements in scholarly accounts of for example how designers reserve the right to keep an open mind and “postpone judgment” when dealing with wicked problems where the possible solution may lie in many different and/or combined areas. Further, Simon (1996:146) argue that:

“... an appropriate representation of the problem may be essential to organizing efforts toward solution and to achieve some kind of clarity about how proposed solutions are to be judged. Numbers are not the name of this game but rather representational structures that permit functional reasoning, however qualitative it may be.”

He claims that the character of the ”representation” will suggest what kind of solution and area will be favored. Here I believe that innovation research has stayed in too narrow representations of problem areas for too long, and perhaps still is, judging by the recent OECD definition of innovation according to the “OSLO manual” (OECD/Eurostat, 2005):

“An 'innovation' is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.”

Regarding sources of innovation, traditional notions maintain that innovation occurs inside organizations of some sort. That innovation may takes place between organizations, through collaboration and “Open Innovation” (Chesbrough, 2003) is a fairly recent concept expanding this rationale. The concept of “User Driven Innovation” (von Hippel, 1988) further expands these notions, but still stay with the perspective of the organization or firm. More radical notions can be found in movements such as “Open Source” e.g. (Gold, 2005) and “Hacktivism” e.g. (Samuel, 2004). Here my understanding is also wide open in the sense that I wish to include any source as important.

An often used distinction is that between levels of novelty of innovations. A typical way to distinguish seems to be between a range between incremental and radical change (Tidd, 2005). According to Leifer et al (Leifer, 2001) a radical innovation “is a product, process, or service with either unprecedented performance features or familiar features that offer significant improvements in performance or that transform existing markets or create new ones.” (ibid:102). Radical innovation is often also equated with the concept of disruptive technology or disruptive innovation (Christensen, 1997).
Edeholt (2006b) argue that for the designer, the concept of innovation implies a more “radical innovation”, while “incremental innovation” will consequently be bundled up together with what Schumpeter coined as “routine work”. One reason for this is that the designer is not (ideally) partial to a certain product type, technology or mode of production. Instead design favors the perspective of the user and the context. The designer is keen on maintaining an open mind to any types of solutions which may improve a situation (Lawson, 2006, Cross, 2006) and design may therefore move in larger conceptual spaces. This to a large extent also reflect how I perceive innovation, however within the scope of this study I may well use distinctions such as incremental and radical further on.

The relative absence of creativity in main-stream innovation research

One striking observation is that innovation research seems to rarely deal with the concept of creativity, Problem solving within the engineering discourse has for the most relied on analytical models handling quantitative properties (Evbuomwan, 1996). These are generally either product or process oriented and do not integrate creative thinking (Hatchuel, 2003).

To spur idea generation and creativity industry has applied tools and methods such as “Brainstorming” (Osborn, 1963), “Lateral Thinking” (de Bono, 1992) and TRIZ (Moehrle, 2005). These are derived from research from different areas, for example cognitive psychology, or in the case of TRIZ, from a systematic classification of key principles behind innovation. These tools seem to fit well within the analytical and linear logics of product development. Here they seem to be used rather as “band-aids”, to fix a system which does not otherwise include the logic of creativity.

However, Hatchuel and Weil (2003) argue that innovation is a type of process which does not fit with in traditional logics of linearity and stages or problem solving, “creativity cannot be just ‘added’ to problem solving theory, it has to be built in the definition of the process.” (ibid:4). These scholars instead propose a theory which accounts for the expandable rationality of the design process, rather than the bounded rationality which Simon suggested. The “Concept-Knowledge Theory” (C-K theory) is a formalized design theory which expresses the rationale of creative practices such as architecture and design, through the language of formal logics.

External to innovation research, critique of assumptions of creativity as mental problem solving is raised by philosophers like Asplund (2002) and Dreyfus (2008) who argue that creativity is also a social and embodied process. This is also reflected in Amabile’s work (1996) where creativity is set in a social
context. Such notions are part of an ongoing battle between different ideas about the nature of creativity.

The suggestion of design thinking as a model for innovation

50% Comment: I have developed a quite critical perspective on Design Thinking since writing this.

The perceived absence of creativity in established rational processes and practices noted above is also part of the rhetoric behind the fairly new tendency to turn to design for answers on how to improve innovation capability.

Within the innovation discourse, a small group of scholars e.g. (Verganti, 2006, Utterback, 2006, vonStamm, 2003), argue that a common feature of companies that succeed in the development of products, is that they pay attention to a wider perspective than that which is technical and product-related, for example cultural or social development, and that the innovative and creative capacity is allowed more scope. These scholars suggest design as a model for a more successful innovation, e.g. (vonStamm, 2003):

“innovation and design share the same frame of mind” and that the designer is “educated and trained to deal with projects that involve unfamiliar concepts, are predominantly visual rather than verbal, involve fuzzy problems and high levels of ambiguity.”.

Parallel to this, management scholars e.g. (Boland, 2004, Dunne, 2006) criticize the “decision attitude to problem solving” (Boland, 2004:4) of current management practice, arguing that this is “doomed to mediocrity in its organizational outcomes” (ibid:6). And just as proponents of “Design-Inspired Innovation” within the innovation discourse, they also turn to design for answers, arguing that management practice needs to learn from designs attitude to problem solving. Not least is the design consultancy IDEO used as a popular example on “Design Thinking”, a concept borrowed by Lawson (1980). Design professionals Tom Kelley and Tim Brown of IDEO have further helped popularize this suggestion through books, articles in business press and TV.

Design seems to be understood as the ideal innovative practice on which to model both management and innovations processes. This is a more radical rhetoric compared to that of the Design Management discourse which emphasized the integration of design into product development and management processes e.g. (Svengren, 1995, Borja de Mozota, 2003, Cooper, 1995).
A problematic representation of design

When scrutinizing the texts of design thinking proponents from a design perspective, two things are striking, firstly, that these discourses seem to share a quite normative and traditional understanding of design as an aesthetic practice. One such example is (Utterback, 2006:2):

“To achieve inspired designs and innovations, the aspiration must be for excellence and elegance. Excellence is achieved when a product is eminently good. Elegance – the tasteful richness of a product’s design - is achieved when a product is neat and simple.”

Design’s more critical, subversive and visionary track record is rarely referred to. Within the practice of design, it is not least the works of such movements as “ecodesign” e.g. (Papanek, 1985, Manzini, 2003), “critical design” e.g. (Pinto, 2003, Lasn, 2006, Dunne, 2005, Walker, 2006, Foster, 2002) and “social design” e.g. (Sparke, 1995, Ahl, 2002) which have paved the way for development and innovation. Not to forget either the Bauhaus or the Memphis Group that worked at odds with the traditional establishment and in close cooperation with political and social movements.

This critical and provocative perspective in design is intertwined with its visionary and synthesizing ability. However it seems to me that design is asked by design thinking proponents to explore but never provoke. If the above tendencies taken together shape the understanding of design within industry, will not a vital part of design’s tradition risk being quenched? Similar concerns have been raised by scholars e.g. (McRobbie, 2002, von Osten, 2007), in the context of how EU policy through the Lisbon agenda promote the “artist” and “creativity” as instrumental models for the innovation capability of the new economy.

Secondly, the possibly problematic meeting of epistemologies when design is proposed as a new way of thinking for organizations is rarely discussed by design thinking proponents. This has however been explored by scholars within design and design management research e.g. (Edoholt, 2006b, Johansson, 2008a, Johansson, 2008b, Ramirez, 1998). However, to date, few empirical studies have investigated such meetings of epistemologies, with a few exceptions e.g. (Persson, 2008, Persson, 2007, Junginger, 2006), which all point to tendencies of friction and clashing of thought-styles and mind-sets as part of the process. The current lack of more in-depth knowledge makes it difficult to apply the concept of design thinking in an informed way.
The wieldy concept of design

50% Comment: I have since the 25% seminar “broken up with” Simon, as is evident in Part three of the thesis.

I will here neither describe how design is a verb, an adjective or a noun, nor trace the etymological roots of design. Firstly because this is a rather text consuming exercise, and secondly as this has been done so extensively by others e.g. (Johansson, 2008a, Lawson, 2006, Julier, 2000). Instead I will attempt at capturing an understanding of design as relevant for this study.

From an innovation point of view, Simon’s fundamental notion of design still seems relevant (Simon, 1996):

“... design is the transformation of existing conditions into preferred ones.”

This notion is often commented for being too broad to work for design as a practice. Indeed, it is an overarching concept within which design can be seen as a specialization of the human capacity to transform with intent, and a specialization in the very specific context of industrial mass production. However from an innovation point of view, when we search for this innovative capacity in the practice of the designer, the definition works.

If we compare the notion of Simon with the concepts of innovation, as derived from Schumpeter, we see a great difference in that the latter has a very clear business connotation. I would suggest that the “pre-innovation” concept as expressed in for example variations of the ancient saying, as expressed by Viktor Hugo, “Necessity is the mother of invention” (Hugo, 2004), provides a more direct link to Simon’s definition. Why is this interesting? Because it explains the fundamental perspective of design – that of the context and the user, rather than for example a certain technology or product etc. A paradoxical and valuable character of design then is that it has kept to and guarded a more “pre-modern” understanding of innovation.

My own understanding of design is an amalgamation of Simons’ notion expressing human intent and a post constructivist and feminist inspired recognition that design is also part of the ongoing construction of values and norms, such as gender. Akrich (1992b) suggests that “innovators ‘inscribe’ a specific vision about the world into the technical content of the new object” (ibid:208), a “script”. Such an understanding is pronounced by the ANT (Actor Network Theory) e.g. (Latour, 2007) notion that artifacts, i.e the artificial and designed, are social actors (non-human).
The concept of design thinking

50% Comment: I have developed a quite critical perspective on Design Thinking since writing this.

The concept of Design Thinking, which is referred to and used by scholars like Martin (2004b), and Boland (2004), and design strategists like Brown (2008) has been drawn from previous research into the design process. This research has its roots in the 60s and Simon’s suggestion of a “Science of Design” (Simon, 1996). This first wave, which included Simon, favored an understanding of the design process modeled on problem solving theories and the linear processes that followed were expressed in the generic format of “analysis-synthesis-evaluation”, for example the processes of Alexander (1964) and Jones (1970).

Lawson (1980) reacted against this and argued that these models failed to capture the process and character of design, and suggested that design should be understood as a creative, intuitive, reflective and largely embodied process. Lawson drew not least from Schön’s notions about the reflective practitioner (Schön, 1983). Lawson has successively launched several models to frame the design process and practice; however it seems that the concept with most staying power is “Design Thinking” – a way to attempt to express the quite fuzzy nature of the design process through descriptions rather than models.

Typical notions of design thinking include that designers deal with what Rittel and Webber called “wicked problems” (Rittel, 1973). Such problems, which are initially “ill-defined” and where an optimal solution cannot be found, are typically also “multi-dimensional” with a “need to devise an integrated solution to a whole cluster of requirements” (Lawson, 2006:59). Such problems include qualitative properties to which no one correct solution can be found. Rather the problem and solution emerge in parallel during the design process to result in a “matching problem-solution pair” (Cross, 2006:102).

Designers employ an “explorative process” where problem and solution emerge in “putative action” (Cross, 2006:58) and where solution attempts drive the process forward. The designer moves back and forth between problem and sub-problems, between solution and sub-solutions (ibid 78). The principal tool in this process is sketching which let the designer engage in a “reflective conversation with the situation” (Schön, 1985). In this process, the problem is actively challenged through solution attempts and attempts at “framing” the problem in different ways (Schön, 1983). Here visual thinking, metaphors and analogies are actively used e.g. (Kelley, 2001, Cross, 2006).
Design thinking as a possible process for organizational learning

50% Comment: I will probably not pursue the “Organizational learning” perspective.

Within literature on design thinking by design research scholars, the design process is often compared to a learning process e.g. (Cross, 2006, Lawson, 2006). Hatchuel (2001) argues that design’s iterative process of expanding the concept and knowledge space can also be regarded as a learning process. Junginger (2008) argue explicitly that “The design of a product can become an organization’s strategy for internal change” (ibid), and that “The iterative and participatory nature of human-centered product development presents a viable path for double-loop learning” (ibid).

Within the innovation discourse a number of scholars have investigated both success factors behind innovation as well as inhibitors of innovation (Assink, 2006). The notion of “Absorptive Capacity” of a firm e.g. (van den Bosch, 1999, Cohen, 1990) suggest a number of capabilities needed for a firm to be able to “absorb”, or “recognize the value of new external information and apply it to commercial ends” (Cohen, 1990). The notion of “Innovation Capabilities”, which includes this absorptive capacity, but which is more “complete” can be defined as “the internal driving energy to generate and explore radical, new ideas and concepts, to experiment with solutions for potential opportunity patterns detected in the market whitespace and to develop them into marketable and effective innovations, leveraging internal and external resources and competencies” (ibid:219). This certainly seems to amount to innovation as an organizational learning challenge.

This notion of regarding design thinking as a possible process of learning to enhance innovation capabilities in organizations is recent in my study, and so far I have only touched lightly upon theory. I will therefore not pursue this line of reasoning further, other than to imply some preliminary questions to inquire.

What does it mean that design is tied to a specific practice and context when applied as a possible process of learning? In other words, the design rationale is not “pure”, it is affected by the specific traditions and methods within different design disciplines, such as industrial design, fashion design etc. This will probably have an effect on instrumental applications of design thinking. Further, design is learnt through studio training (Schön, 1985) where design becomes embodied as knowledge and reflection in action – such knowledge is not easily articulated (2004). What effects will this lack of articulation have on a process of transferring design thinking to “non-designerly” organizations, when the process is facilitated by designers?
PART THREE - DESIGN AS WORLDMAKING - Reflection on characteristics of design practice
Introduction to Part Three of the Thesis

“Practice has a logic which is not that of logic” (2009:48).

Background to the reflection
The reflection that this third part of the thesis presents has to a large extent been triggered by frustration. Early on in the research process I made a review of innovation and design literature that seemed relevant to the study. The purpose was to try to distinguish how design could contribute to the innovation capabilities1 of “non-designerly” firms, especially engineering firms. In the review I looked specifically for “key-characteristics” of how design and innovation respectively are described in academic literature in order to better articulate design’s possible contribution, i.e. I took the difference suggested by several scholars (e.g. Utterback, 2006, Martin, 2004b, Rosell, 1990) for granted. Indeed, what I got was not only the expected confirmation of a pronounced difference between the traditional engineering oriented understanding of innovation, and a design oriented one, but outright dichotomy. I only had to plot the representations that I found in literature in a matrix, and voila – the difference was clear as a day. The dichotomization had already been done for me.

However, half a year later when I had to return to the conference paper that I had written on the literature review (Jahnke, 2008) in order to prepare for a presentation at the 8th European Academy of Design Conference 2009, I began to feel unease that peaked in outright frustration the day before the conference. I quickly wrote a new script which attempted to instead reject the dichotomous representation I had provided, and which had received an “interesting framework” comment by the reviewers. I not least called on gender theory to try to argue that this type of dichotomous and bi-polar representations typically hides most things interesting. One reason for this 180 degree turn was that I could no longer relate to polarizations such as “abductive vs. analytical” or “intellectual vs. embodied” in any meaningful way. My own design practice experience, which I had neglected when writing the paper

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1 The notion of “Innovation Capabilities” can be defined as “the internal driving energy to generate and explore radical, new ideas and concepts, to experiment with solutions for potential opportunity patterns detected in the market whitespace and to develop them into marketable and effective innovations, leveraging internal and external resources and competencies.” (Cohen, 1990:219)
as a literature exercise, now stood in the way. Further, the type of representation that I had provided also seemed to establish unnecessarily enhanced oppositions between practices.

At the conference presentation I ceremoniously let the matrix crumble and fall to pieces via a “subverted” power point slide. However, what I had not done was to provide an alternative understanding. In a sense it was French Sociologist Pierre Bourdieu who came to my rescue and provided the momentum I needed to find a new approach. According to Bourdieu, in his book Outline of a Theory of Practice (2009), relevant sociological knowledge can only be found in practice and not in the theories and rules as extracted from practice by the structuralist school of thought. In the book, which helped open up a space for post-structuralism when it was first published in 1972, Bourdieu uses the example of gift exchange. French structuralist anthropologist Claude Lévi-Strauss had previously analyzed gift exchange among South American native tribes from a structuralist perspective, i.e. he had attempted to find generalized explanations and rules about rituals, myths etc. Bourdieu attacked Lévi-Strauss’ analysis by stating that it is the temporal structure, i.e. the “… context, sequence, tempo and rubato of gift exchange.” (ibid 42), that which is not represented in theory, which constitutes the very knowledge about gift exchange at all. A consequence of this is for example that “… case timing and choice of occasion, for the same act – giving, giving in return, offering one’s services, paying a visit, etc., can have completely different meanings at different times.” (ibid 42). So in other words, it is counter logical that contexts have to be excluded in a theory for it to be a theory when it is the very context that determines knowledge:

“The rules of a ritual are not the ritual, a grammar is not a language, the rules for chess are not chess, and traditions are not actual social behavior.” (ibid 43).

To me this makes perfect sense. I still feel the relief that I experienced when I read Outline of a Theory of Practice. These sentiments fit so well with my own observations of how the practices of the designers in my empirical cases, as indeed my own practice, do not resonate with the more theoretical representations found in most of the design research and design thinking literature, other than in abstract ways. One such example is the frequent use of “abduction”\(^2\) (e.g. Kolko, 2010, Martin, 2004a). It

\(^2\) A concept developed by American Pragmatist Philosopher Charles Sanders Pierce to describe a process where something is interpreted and is given new meaning in a new context, as an alternative or complement to inductive and deductive logic which stays in the same context. (Danermark et al, 2003)
certainly is a valid concept about a style of reasoning and interpretation typical of design practice, but it does not say much about experiencing.

At first I thought that it was the “non-epistemic” arational knowledge of the designer that triggered this opposition. But now of course I understand that this is relevant for any practice guided not by rules, but rather by embodied, intuitive, and largely tacit knowledge – the expert knowledge all of us for the most part rely on in social situations. This is something that the practice theory discourse, which not least depart from Bourdieu’s thinking on the subject, emphasize (e.g. Schatzki, 2001). Design scholars who have called for such a perspective are for example Buchanan (1992) and more recently, and inspired by the “practice turn”, Kimball (2009) and Stolterman (2008).

“If design theory has often tended toward neo-positivism, design practice has tended toward pragmatism and pluralism... Design history, theory, and criticism could benefit from closer attention to the pluralism of views that guide actual design practice.” (Buchanan, 1992:6n2)

There are several reasons why literature on design has often been shaped or influenced by a positivist school of thought and present representations that are “rule-like” and focus for example on cognition rather than embodied knowledge, or on linear sequential processes rather that entangled practice. That for example a lot of the Design Thinking literature rationalizes design may be a response to a felt necessity to achieve recognition and credence for design in more rationalist contexts such as much of research and most of industry. A similar tendency seems to be the case with design management research which has sided with “main-stream management research” in a “functionalist” tradition rather than with the “radical humanist” perspective of design research, as Johansson and Woodilla has shown (2008b). Another reason is of course that a lot of research on design is conducted within positivist discourses such as product development and innovation management research, where generalization is the norm.

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3 The concept of “arational” has been dubbed by American scholars Dreyfus and Dreyfus to express intuitive human competence, where one draw “… on one’s own experience – bodily, emotionally, intellectually”, and “… recognize similarities between these experiences and new situations.” (Flyvbjerg, 2001:21), without falling into the trap of calling this “non rational” or “irrational” as would be the alternative when stuck in the western paradigm of rationality.

4 Johansson and Woodilla use Burrell and Morgan’s “Sociological Paradigms”, where the others are the “Interpretative” and the “Radical Structuralist” paradigms. (Burrell & Morgan, 1979).
Many of the insights that such sources offer are very important, including interesting theoretical models (e.g. Hatchuel, 2002), inspiring practitioner accounts (e.g. Brown, 2008) and of course the rich writings of design research scholars such as Lawson (2006) and Cross (2006). But a problem to me is that they all, in one way or another, either abstract away the experience of designing by too rational theoretical foundations, or when representing experience lack a theoretical foundation which is “up to scratch” for academic purposes. Therefore neither matches the purpose of this thesis. I both need a vocabulary more in line with Bourdieu’s “context, sequence, tempo and rubato” – i.e. a language resonating with practice experience, talking about things like tensions, dynamics and frictions, and an academically viable theoretical foundation⁵ which supports a practice perspective.

The purpose of the reflection
The main reason why I need to establish an articulated representation of characteristics of design practice experience, beyond the more rationalized or abstract representations mostly found in literature, is that I will attempt to interpret and reflect on situations in my empirical material in which design practice is at the center of attention. In these situations, i.e. in the workshops and other events that the designers arrange, the designers will attempt to articulate and transfer their professional knowledge, which is to a large extend tacit⁶, both through language and also through experience providing exercises and events. Further, the specific purpose for these attempts to transfer or “tap into” design practice is to strengthen the innovation capabilities of the firms. This is an interrelated reason why it is important to also reflect of design practice experience from an innovation perspective.

The reason why I need a theoretical foundation is more instrumental in that I for academic purposes need to set the findings of the study in relation to other academic schools of thought. However I also believe that a theoretical foundation might inform me in different ways and also help me better frame my interpretation of the empirical material, but I will be careful this time around to not let theory dominate reflection.

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⁵ I am a bit hesitant to call this dimension a “theory” or a “theoretical foundation” as the emerging foundation is more an ontological or philosophical perspective rather than a “theory”. This will become clearer further on. But for the lack of a better word I will in the meantime stick to “theoretical foundation” (perhaps “philosophical perspective” is the word I am looking for.).

⁶ 50% Comment: How the design practice is to a large extent “tacit” or silent will be discussed in another section of the final thesis.
I have as a contrast with the first attempt, which was a literature review, let this attempt be on the format of reflection. Or in other words, the reflection that was as a direct consequence of the failure to “provide an alternative understanding” at the EAD conference is what I represent here. It has thus emerged as a reflection with dual purposes – to attempt to draw out relevant design practice experience and let that inform me of an appropriate theoretical foundation. In a sense this reflection will also provide a kind of first cycle of reflection that will be followed by deepened interpretation and reflection on the empirical cases.

Methodological considerations
A fundamental purpose is thus to make an effort to “extract” or “draw out” practice experience, i.e. some of the otherwise often tacit knowledge that has been internalized through “hands on” studio training rather than as articulated methods, tools, concepts etc (Schön, 1985). I could attempt to draw more specifically on my own practice experience when reflecting. This is not uncommon in for example artistic research (e.g. Hannula, 2005, Lind, 2010) where interest is in the particular practice of the artistic researcher and how it resonates with an emerging work of art – i.e. the work of art and the practice stand in an intimate relationship which secures depth of reflection. However in this study I have chosen to not participate as a practicing designer, hence I here lack the kind of integrated “sounding board” to reflection that an artistic research process would provide. Instead I have chosen a method of reflection consisting of three main “components” to attempt to make up for this lack:

1. The use of an empirical study.

2. Support by a specific method for reflection on practice.

3. The adoption of a narrative approach.

1. The use of an empirical study
For the purpose of reflection on design practice in innovation contexts I have conducted a specific empirical study. In the study three master students in design engage in design processes which results in innovation of both meanings and practical features of artifacts. The project that the study draws on was conducted within a gender and design oriented project that I was involved in as assistant researcher

7 The study was conducted in cooperation with research colleague Lena Hansson at CFK, the Center for Consumer Sciences at the University of Gothenburg.
in the period between 2005 and 2007. This study has helped provide a contrast to my own practice experience and to articulate otherwise “tacit” experience through the conducted observations and interviews with the involved designers.

2. Support by a specific method for reflection on practice

I have been inspired by a specific method used in research on professional knowledge called the Dialogue Seminar Method (Göranzon, 2006). This method has been developed at the Royal Institute of Technology in Stockholm to support the reflections of practitioners on practical knowledge in their work life. The essence of the method is that participants in a seminar series reflect on personal practice experience with a focus on “decisive events”. The participants come from different contexts and share reflections where not least metaphors and analogies help pronounce practice experience and knowledge in practice. Reflection is spurred in relation to the reading of classical texts by authors such as Descartes, Newton and Shakespeare. Stories that emerge are written and given Gestalt as essays that are read to further deepen reflection. Further, events are arranged where artistic practice is introduced to provide contrast to scientific forms of knowledge, for example at Royal Dramatic Theatre.

In my “individual” version I have focused on reflection in relation to important and thought-provoking and mostly philosophical texts, but also other literature, films, magazine etc. I may have lacked the dynamic which occurs in the articulation through writing and reading essays together with a group. But on the other hand, the artistic research context at the University of Gothenburg Faculty of Fine Arts, with courses, seminars and performances of many kinds, as well as the PhD School at “The Swedish Faculty for Design Research and Research Education” have certainly helped to provide contrasts and inspiration similar to what is accommodated in the Dialogue Seminar Method setting.

I have also had freedom to find and quite frivolously read a multitude of texts that seems to resonate with my attempts at interpretation. These philosophical texts, and the different concepts they represent, have helped me release hitherto difficult to articulate aspects of practice and have trained my attention to aspects that I had not before given attention. They have also guided me in finding the theoretical foundation I have been looking for.

3. The adoption of a narrative approach

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8 Kungliga Dramatiska Teatern™ in Swedish.
I have also used stories where possible. This is also inspired by the Dialogue Seminar Method as well as the Narrative Turn in management science (e.g. Czarniawska, 2004, Boje, 2001). It is through stories from practice and life that I have managed to take control of the otherwise risky business of attempting to articulate practice experience, without necessarily threatening the existence of a less articulated and precious “feeling” of practice. When I have found the balance, this process has instead enhanced and vitalized my understanding of practice. Without them I would be lost. And even though my reflection will always be flawed in relation to experienced practice, they have, just as the literature, been helpful in articulating the often hidden characteristics of practice. Not all stories have found their way into this text, but they have all been important.

Concluding thoughts
Design is, as are all practices, universes of understanding and knowledge. In a sense it is an impossible task to represent a practice. Even though I wish to dig deeper than in my first exercise in dichotomy I will still stay on a fairly general level. I will for example not attempt to describe any specific design practices, such as fashion design or industrial design. But I do cherish all that is specific, everything that is in the detail, in the skill and in the craft. It took my mother four years of apprentice training to become sufficiently skilled at invisible mending\(^9\) to set up her own studio. It has taken her a life time to master the craft. As much as I lack that kind of deep knowledge and experience, I sincerely respect it.

The structure of this third part of the thesis is as follows. In a short Prelude my daughter Lillit and her friend Axel will challenge my lingering rationalist understanding of innovation. After this awakening I will with some force attempt to exorcise and release from the persistent problem-solution duality that seem to obscure a better understanding of design practice in innovation contexts. When the smoke has cleared I will introduce Donald Schön’s concept of the Reflective Practitioner. It will provide the first stepping stone to describing design practice from an interpretative perspective as a contrast to the rational problem solving perspective. However I will not be completely content with Schön’s model and his still somewhat problem oriented representations. I will therefore propose that the Historical Hermeneutics of Hans-Georg Gadamer offers a more comprehensive fit with experienced design

\(^9\) Invisible Mending, in Swedish “Konststoppning”, is the sadly almost extinct craft of mending clothes and other textiles with patches taken from hidden places on the garment or textile artifact. The patches are woven into the fabric, thread by thread, at the place of for example a tear or a cigarette burn. The place of repair is then pressed flat with heat and steam and the result is a more or less invisible “mend”, depending of type of fabric, pattern etc.
practice. But I will not be completely satisfied with Gadamer’s Hermeneutics either. To complement it I will also have to draw on other philosophers, such as Robert M. Pirsig, Paul Ricoeur and James Dewey to explore areas where Gadamer’s Hermeneutics needs to be either contrasted or expanded to suit an understanding of design practice as interpretation, deliberation and manifestation of meaning\textsuperscript{10}. One such area will be Critique, another the generation of new Meaning. In a sense Gadamer’s Hermeneutics has been the axis of interpretation around which my reflections have oscillated with the help of these philosophers. In an Epilogue at the end I will also return to the problem solving rationality. I will there share some final thoughts on how an interpretative perspective also supports the notion of solving practical and functional “problems”, i.e. I believe that an interpretative perspective is a better one for also understanding innovation in general.

\textsuperscript{10} I will throughout the text (Part three of the thesis) use the words “interpret”, “deliberate” and “manifest”. The word “manifest” could for example be replaced by “express” or “materialize”. When fitting I may use also these words. Further – that I write “interpret, deliberate and manifest” does not mean that I talk about a sequence of operations like in “analysis-synthesis-evaluation” (Alexander, 1964).
Prelude – A Story of an Emerging Something

I will begin this investigation in a roundabout way, by departing from the action of children, so bear with me. A few years ago me and my then year five-year-old daughter Lillit had this conversation. I had come to pick her up at Kindergarten.

She beamed as she showed me a beautiful bracelet that she had made. It was beautiful to the point of looking like something bought in a “designer store”, stylish yet crafty, a bit innovative and a bit conventional. “I made it out of a toilet roll and colored match sticks”, she exclaimed. I was intrigued and proud. “How did you come up with the idea of making a bracelet out of a roll of toilet paper?”, I asked as I found it so incredibly clever. “I didn’t, that was Axel.” I was dumbstruck. ”What do you mean, did Axel make the bracelet?” “No, but he saw that it was a bracelet, and then it was a bracelet”, she answered a bit impatiently now, wanting to head for home. But this was a mystery that had to be uncovered. “But then, what did you do?” “I cut the roll in half to make it shorter, and then I glued the match sticks on to the roll. They were already colored and didn’t have that black stuff on the tip”, she said. There went another illusion out the window. Then Axel came and saw that it was a bracelet and then I cut here (along the roll), so that I could put it on my arm – can we go home now!”

In this situation at least four standard assumptions about innovation were efficiently dismantled by the actions of my daughter, and her friend Axel.

First of all, I had assumed that she had begun with an idea – the idea of making a bracelet. She certainly did something in her working with the “materials at hand” in the Kindergarten studio. She explored and opened up possibilities. But were this would lead was not predetermined, or even interesting. There was no problem. There was no idea, just action and mediation. Thus the end result did not correspond to any problem, “just” to a possibility immanent in the situation and the materials.

In addition to this, I assumed that the process had been linear, from idea to finished result. Instead it had been explorative and might have taken any of many possible directions. The direction taken was as a result of both reflecting with the materials at hand, to refer to Schön’s theories of Reflection-in-Action

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11 Her Kindergarten works seriously according to the Reggio Emilia approach where not least exploration and discovery is encouraged. For example there are very few toys but a lot of different materials to build from.
(Schön, 1983), but also in the social situation of sharing the process with another person, namely Axel who entered the scene by chance. This leads to the third and fourth dismantled assumptions.

I had perceived this as a for the most part cognitive or cerebral process. Further, and as Swedish Philosopher Johan Asplund would perhaps have put it in English, that it had gone on “in one head” (2002). Rather it was a shared interpretative process between in this case two individuals. In the book “Genom huvudet”12 (ibid), Asplund argues that in Western Society, we are stuck in the construction of creativity as something going on in one mind, and not in just any mind, but in the mind of the “genius”. What this little example shows is rather that this is a quite natural human ability, both cognitively, bodily and socially – both Lillit and Axel are quite normal children of their age.

But was Lillit not “at the mercy” of Axels interpretation – was it not he who saw that it was a bracelet? Was his act not more important – was it not a kind of decision? I would say no for several reasons. His interpretation was equally dependent on Lillit’s material proposal in the shape of an experimental object of unknown kind, but immanent with possibilities. Further, I believe, without having witnessed this, that what was central was the social contract formed by both individuals when Lillit confirmed that this was indeed a bracelet. Both Lillit and Axel had seen something in the experimental object, something both affirmed. I believe that it was not that it was a bracelet; rather that it had qualities which made it a bracelet for them. It resembled a bracelet because of these qualities – it was “seen as” in the Wittgensteinian sense (1953/1992:223)

To conclude this with Asplund’s notions, such processes as the above are at the heart of knowledge-creation. Fundamentally it is the same process which is at work in science as well as in the arts, and as we have seen here, in the exploration of the world by children. The problem is, according to Asplund, that as we learn more we are also increasingly stuck in cemented understandings, in the dominant signs, and conceptions. One fundamental challenge to innovation is thus to break open these taken for granted understandings and assumptions and open up for new possibilities.

The above story represents four cemented understandings regarding how we traditionally perceive innovation and creativity: as problem-solving, as a linear process, as an individual process and as a purely intellectual endeavor. To try to push these understandings “off-center” and to attempt to

12 “Through the head”, my translation from Swedish.
reformulate innovation, at least as far as design is concerned, is now my task. But before I get ahead of myself we shall now retrace some of these thoughts with some more precision, beginning with the concept of the all-pervasive problem.

**Exorcising the Pervasive Problem Solving Rationale**

**Introduction – Why pick a fight with problem solving?**

With the above opening-story, of Lillit’s and Axel’s making sense of an artifact that was open to interpretation, it will be evident that I will attempt to move away from the ever present problem-solution duality. My belief is that this school of thought efficiently clouds a deepened understanding of design practice or indeed of any practice concerned with innovation and change. Again and again design is proposed as a method or a process for the solving of problems, albeit complex and wicked ones (e.g. Brown, 2008, Buchanan, 1992). The problem (yes I will also deal with the word “problem”) is that an understanding of design as a problem solving practice is thus constructed and reinforced over and over – the ends (solving problems) obscure the phenomenon of the means (design practice). This will not do. But to be able to uncover an understanding of design practice beyond problem solving, which is such a dominant and all-pervasive rationale in western society and industry, will take quite radical measures. Even though I am the first to also acknowledge the merits of problem solving (I have after all been trained in engineering for eight years), the concept has got to go - it will have to be cleanly “exorcised” so as not disturb my reflection.

But in order to do this exorcism we need at first to take a closer look at the phenomena of the problem as such, and we need to do this with some emotional energy to gain momentum in order to displace or refract it along a wider continuum than is the norm. One side of the continuum will hold clear cut rational and reductive problem solving, and on the other it will begin to shape shift into something else, something that I can start building a different understanding on – a “terra firma” that supports design practice experience. The aim is indeed to entirely break away from the “force field” of problem solving in the sections to come.

**Problem as metaphor**

In everyday speech we use the concept of problem prominently. Already by observing this frequent use will it be clear that problem can mean anything from a negative something which can hardly be solved, an issue, something which is more or less seen as an unavoidable part of life, to problem as a concrete
matter to overcome through a concrete solution. The first instance is a kind of outlook on life as reflected in common wisdom like “que sera sera”, “Murphys Law”, or why not “Shit happens” - i.e. such negative matters that come and go. The latter is not least derived from the scientific understanding of the problem as a matter to solve, as how a hypothesis needs its corresponding solution or theory etc. In everyday life and each day we come across this whole range of issues, from obstacles to overcome to things that are more or less an intimate part of life. All these issues we lump together under the label of “problem”, one of the most common and taken for granted words in our vocabulary. How did this happen and what are the consequences? These are things I will now attempt to address.

The word “problem”, which is the same in for example English, German and Swedish (in French, problème), has a common background in the latin word “problema” which is derived from the Greek word “proballein” – to propose or “throw forward”. The use in Swedish goes back to 1673 and in English an on-line source indicates that the word was first used in the late 14th century. However more frequent use in English, French, German and Swedish coincide with and seems to be a direct result of the rise of modern science. The use is at first more or less restricted to scientific contexts until the late 1800’s, to denote mathematical problems and similar. Then something happens. In the late 1800’s the use is also found in relation to more societal phenomena such as discussions on poverty and the spread of disease, first in more restricted scientific and political contexts but soon it spreads to more public contexts through media. In the early 1900’s for example the word “problem child” is found in both English (1920) and in Swedish (1937). In other words the everyday use, and thus the construction or conceptualization of reality according to that word, is not more than about 70 years old.

American Linguists George Lakoff and Mark Johnson offer an amusing and at the same time thought-provoking story in their well known book Metaphors We Live By (1980). An Iranian student that took one of their classes on metaphor interpreted “the solution of my problems”, something he had heard on campus, as a metaphor for problems as in a solution, as in “… a large volume of liquid, bubbling and smoking, containing all of your problems, either dissolved or in the form of precipitates, with catalysts

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15 Se footnote 14.
16 “Problembarn” in Swedish
constantly dissolving some problems (for the time being) and precipitating out others” (ibid 143) – a wonderful metaphor for his way of understanding problems he thought. The Iranian student “... was terribly disillusioned to find that the residents of Berkeley had no such chemical metaphor in mind” (ibid).

To Lakoff and Johnson this illustrates how an unconventional metaphor, like this beautiful and insightful one, provides a completely different understanding of a concept – one which has the potential to create a quite different reality - in this case of problems as “… things that never disappear utterly and that cannot be solved once and for all,” Where the reappearance of a problem is viewed as a natural occurrence rather than a failure on your part to find the “right way to solve it.” (ibid).

To us, this would resonate well with the common sense understandings put more bluntly above, i.e. “shit happens” etc. According to Lakoff and Johnson, the more conventional metaphor is what they call the “Puzzle metaphor”, “… in which problems are PUZZLES for which, typically, there is a correct solution – and, once solved, they are solved forever.” (ibid 144). According to Lakoff and Johnson, this notion of the problem to be solved as a puzzle by a correct solution underpins Western society. It is as an enacted metaphor, that pervasive and powerful engine of the idea of progress in science, society and philosophy supporting the “Myth of Objectivism”. In other words, with this concept we regard reality in a certain way – we notice issues that can be considered problems and we construct phenomena as problems and consequently we believe in their possible solution. Such an understanding is enhanced when constructions on how to solve problems in a scientific manner is transferred from Scientific contexts via engineering to society.

Interestingly we also recognize a similar attitude as the puzzle concept in repentance and salvation in Christianity. As Swedish artist and writer Jonas Gardell notes in his book “Om Jesus”17 (2010), in Christianity all problems have only one answer – Jesus. This could be the extreme outer end-point of our attempt at refracting the concept of the problem, i.e. that all problems have only one solution. This is however not so common in society in general, although some politics and politicians seem to come

17 “About Jesus”, my translation from Swedish.
close\textsuperscript{18}. Somewhere close beside that on our vast continuum we see the problem that can be readily solved, highlighted as a major concept.

When mathematician George Pólya describe problem solving in his classic book “How to Solve it” from 1945 (1990), as a sequence consisting of: First – Understand the problem, Second – Devise a plan, Third – Carry out the plan, Fourth – Look back, he is talking about mathematical problems. Yet this is exactly the same sequence that is enforced to all kinds of “problems”, as institutionalized in business as well as democratic institutions where knowledge generation and task execution are separated activities, organizations and professions etc. (e.g. Schön, 1987).

If we take a look at the concept of solution, it seems that a common denominator between science, religion and society in general is perhaps not the notion of the solution as such, but rather the hope of attainment or achievement of a possible stable and ideal or optimal situation in accordance with Pólya’s sequence or similar. It is not only that the problem and solution resonates within the same conceptual schema, it is also that this duality reinforce a belief in such a clear cut relationship. It is within such realist ontology that the notion of the Puzzle fits, i.e.: a problem solved - one step closer to scientific Truth. A notion not so far from: repentance through Jesus - one step closer to Paradise\textsuperscript{19}. In other words, the way problems and solutions seems to confirm each other breeds a dynamic which conserves existing beliefs.

Perhaps a clue is that the thrust of science to offer radical and actual improvement in this world, not the next, has replaced the hegemonic position of religion, with its more efficient and generative solutions of problems through method rather than through Jesus. Or in the words of Rorty:

“The scientist is now seen as the person who keeps humanity in touch with something beyond itself. As the universe was depersonalized, beauty (and, in time, even moral goodness) came to be thought of as subjective.” So truth is now thought of as the only point at which human beings are responsible to

\textsuperscript{18} I’m thinking here of for example of Thoralf Alfsson of the right-wing populist party Sverigedemokraterna: “Det är lätt att vara Sverigedemokrat, det är bara att hålla sig till sanningen.” (“It is easy to be a Sverigedemokrat, you only have to stick to the truth”, my translation from Swedish) (Alfsson, 2010).

\textsuperscript{19} That early Christianity was inspired by Platon’s ideals of eternal truths is of course no coincidence (e.g. Liedman, 2007).
something nonhuman. A commitment to “rationality” and to “method” is thought to be a recognition of this responsibility.” (Rorty, 1991)

Of course the approach that Pólya offer has its strengths. Not least that it, through the concept of the problem, seems to solidify otherwise quite liquefied issues so that they can be handled more concretely. Further, the process of reductively solving a well defined problem is very efficient, at least within determined conceptual spaces built on quantitative properties, such as in engineering. This is how the momentum of progress is generated I believe. Formulating problems give method the necessary grip or traction for the momentum of progress to gain full effect.

The “problem” (sorry), is that when the problem is isolated, meaning\textsuperscript{20} is fixed - meaning becomes a “non-issue”. Nothing in a process where solving follows a reductive model, and where separated steps are institutionalized in procedures and in the knowledge of people, will challenge meaning, except maybe in the last stage “Look back” – but who cares about “white books”? A paradox really, that progress can be levered with a concept that is so narrow as problem-solving seems to be. Or can it?

The limits of problem solving
The track-record of science and technology is indeed phenomenal, but alas it is framed by an objective belief system and the areas of progress are typically material ones, many with a huge positive effect on human well-being, for example the amazing developments in medicine and technology. There can in other words be no doubt that rational method since Descartes, the directed attention to logical dissemination of problems through scientific inquiry, has had a quite persuasive effect in supporting the notion of objective reality and truth as well as a belief in the possible solution. And has not all the practical outcomes through applied technology, from microwave ovens to nuclear power, added strength to this argument during the 20\textsuperscript{th} century? Within this rational school of thought Problems are overcome, they are solved. Universal progress is indeed made. Or so it seems.

Not least after the Second World War such beliefs were victorious. Technology paired with the ability to mobilize resistance through the war effort, which proved the efficiency of Scientific Management and rational production methods, were the savior of the day - nothing could now stop imagination on how to use this force to make a better world.

\textsuperscript{20} i.e. how we understand and experience something.
Within science and politics, different lines of investigation converged after the war in the perceived need to professionalize occupations to be able to harness this force to be able to exploit it to its fullest potential. It would not do any longer that professions seemed fuzzy and unscientific. Belief was strong in the efficiency of rational management and decision-making techniques. Human intelligence could now even be measured thanks to the advent of the Binet test and the rapid development of the computer even promised the soon arrival of artificial intelligence. In addition to this, creativity could now be harnessed through creative problem solving methods and tools as, e.g. Gordon (1961) and Osborn (1963) (Cross, 2007). The future looked bright indeed.

In this climate Nobel Prize Laureate and economist Herbert Simon suggested that a “Science of the Artificial” was lacking in his famous book on the topic, “The Sciences of the Artificial” (1996), first introduced in 1969. Simon was indeed troubled by how, when professions like engineering, were drawn into academia, the practices were purged of knowledge that did not fit the traditional scientific model. Not that he had any problem with science as such, on the contrary, but he felt that notions of science, such as strict rationality, did not fit human behavior. To combat this he introduced the concept of “bounded rationality” to discuss actual human decision making as he saw it (as not completely rational). This was also why he felt that the “artificial”, the human-made and how it is made to fit human needs (based on human bounded rationality) had not been accepted by prevalent scientific norms that did not accept that “… what we know about design and about the artificial sciences [which are] ... intellectually soft, intuitive, informal, and cookbooky.” (ibid 112). To tackle this situation he devised the notion of a Science of Design - a science which would attempt to understand the human process of design, that everyone is engaged in when devising “… courses of action aimed at changing existing situations into preferred ones”\(^{21}\) (ibid)

“I have called my topic “the theory of design” and my curriculum a “program in design.” I have emphasized its role as complement to the natural science curriculum in the total training of a professional engineer, or of any professional whose task it is to solve problems, to choose, to synthesize, to decide.” (Simon, 1996:135)

In another words, as commendable as his approach was, it was still firmly in the grip of rational decision making theory, \textit{albeit} understanding human decision making as “bounded” (and limited) to “satisficable”\(^{21}\) Please note the similarity to the problem solving schema of Pólya.
rather than optimal solutions – such solutions that hopes were that artificial intelligence would be able to generate. Simon was not alone in such an understanding. During the 60’s other scholars, as part of the new “design methods movement” (Cross, 2007) followed similar neo-positivist, analytical and rational devices for attempting to formulate a scientifically coherent and valid definition of the design process, for example Alexander (1964) and Jones (1970) on the formula of the linear process of “analysis-synthesis-evaluation”.

But this was also a time when the dominance of science, rationality and homogeneity began to take some first blows. In Science, Kuhn dealt a serious blow in the 60’s (1970). The “happy” middle class ideal of the US was “disturbed” by the reality of racial conflict and feminist awakening. Berger and Luckman showed the functioning of “the social construction” of reality (1966). In technology the invention of hydrogen bomb showed the potential of ultimate destruction. And as a backdrop to all this, the Vietnam War was not resolved, only escalated with tragic consequences made public thanks to the new journalism media of Television.

From a critical perspective, problems did not seem to disappear at all, they were rather moved around and were even enhanced and scaled up in relation to the scale and scope of proposed solutions in a never ending spiral of applied solution attempts (e.g. Schön, 1987). Further, they seemed to move from the domain of technology, where problems are ideally solved, to the spheres of culture, society and nature, where the problems resurfaced, but in a different way. The worst case scenario was still fresh in mind, of how the leaders of the Third Reich had directed the problem solving rationale towards the “problem” of unwanted people standing in the way of the optimal and final “solution” – a “Volk” cleansed from perceived inferior races.

And the story goes on, with ever new disasters in a vicious circle of suggested “solutions” to “problems”, both environmentally and socially. Not least do we see how we have been caught by how the problem-solution duality breeds an instrumentalism which is blind to dynamic and complex social reality, for example evident in recent years “solutions” such as “tear down the Ghettos” (Danish party “Dansk Folkparti”), “Tear down the Gypsy camps (French Government), “Prohibit Burka and Niqab in schools” (Swedish party “Folkpartiet”) and “Ban minarets” (Swiss people).

At 3 PM on March 16, 1972, according to architectural historian Charles Jencks, the idea of modernist architecture as a way to address societal problems died when the first of 33 buildings in the building
complex Pruitt-Igoe in St Louis were demolished\textsuperscript{22} (1987). The Post-Modern era was born at exactly that point in time Jencks argue. After only about 15 years the housing estate was completely run down and the social situation was a disaster. The promising architecture had done nothing to curb pressing social problems, rather the opposite. Segregating and poverty ensued. As an illustration of the failure of rational problem-solving directed at complex social and societal issues this was certainly a spectacular and quite fitting “end”.

In 1973, planning researchers Rittel and Webber offered that the scientific, and to some extent technological problems were so called problems while societal problems involved in all planning activities, involving for example different opinions etc. – were wicked problems (1973). This was also a time when the design methods movement started to run out of steam. One of its early pioneers Chris Alexander said (Cross, 2007):

\begin{quote}
“I've disassociated myself from the field... There is so little in what is called “design methods” that has anything useful to say about how to design buildings that I never even read the literature anymore... I would say forget it, forget the whole thing” (Alexander, 1971)
\end{quote}

Interestingly enough, within engineering and management, the decisions making and problem solving schools of thought would lead on to the structuring of engineering and product development processes, leading for example to the much applied “stage-gate-process” (Cooper, 1988), as well as to TQM, Lean Product development (e.g. Karlsson, 1996) and many similar concepts. Similarly, according to Elmquist (Elmquist, 2007) attempts has been made at applying such models to R&D and the “fuzzy front end” of product development (e.g. Khurana, 1997, Koen, 2001, Burchill, 1997). Further, Simon’s dictum is still alive and well in the problem solving school of thought within innovation management theory (e.g. Nickerson, 2004).

Only of late have the rational foundation underpinning this understanding of innovation been challenged, by for example by Van de Ven who argue that the innovation process does not follow a linear trajectory but should rather be regarded as a “dynamic journey” (1999), or by Hatchuel who argue that innovation theory and Simon’s problem solving rationale has omitted to account for creative acts (2003).

\textsuperscript{22} Exactly how spectacular can be seen in the fascinating film Koyanisqatsi.
Beyond problem solving

While rationality and problem solving has more or less reigned supreme in innovation theory, within design and architecture attention turned to an interpretative paradigm in the early 80’s. This turn is more or less a direct consequence of the publication of the book “The Reflective Practitioner” (1983) by the professional knowledge and organizational learning scholar Donald Schön. Inspired by American Pragmatist philosopher James Dewey, he posited that what professionals do in action is first and foremost reflection. Through reflection on complex situations, problems may be “set”. In other words he explained how professionals dealt with the type of wicked problems that Rittel and Webber had identified. Since then Schön has been one of the most important scholars in design research. For the first time someone spoke in a language which seemed to resonate with experienced design practice. We shall soon take a closer look at Schön’s theory in the section “Donald Schön’s Theory of Reflection-in-Action”. But for now it is enough to recognize his understanding of problems as far away on the opposite side of the continuum that we have explored.

We are now closer to the notion of the problem “as in a solution” a la Lakoff and Johnson, of problems that are never really solved. However, we are still discussing problems. What if we can snap out of the concept of problem solving entirely, without also leaving the notions of design and innovation behind?

On a radio show I heard this exchange between the reporter and an artist. The artist had just opened a new exhibition on his most recent art inspired by a long stay in China (Thurfjell, 2010).

The reporter introduces the topic/spot by announcing:

R - “When you enter the exhibition hall the first thing that confronts you is a very large insect carved in wood, damned if it isn’t a cockroach, hanging in a chain from the ceiling, like a votivskepp”

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23 Donald Schön’s doctoral thesis in 1955 was on John Dewey’s theory of inquiry (http://www.infed.org/thinkers/et-schon.htm)

24 “Votivskepp” is a kind of model ship often found hanging in church windows or by the altar in churches by the sea, as tokens to remember the absent seamen.
A – “Well, it is really a very small sketch that I brought to a workshop in Orsa where I worked together with Chinese artists. And I knew that I had to bring something to start with and that is why I had that sketch, and made a cockroach”.

R – “Why did you make a cockroach?”

A – ”Because I had made a sketch of it in a museum in Mexico.”

R – ”Was there a very large cockroach there?”

A – ”No I believe it was very small, like a jewelry or something. I sketch as a way to interpret what I see. I don’t sketch with the intention to draw. I don’t always remember what I have seen. (giggle)”

R – ”And now a large cockroach hangs, I guess it is a meter long, hovering at waist height. Anchored to the ceiling by a large chain, you could say.”

A: “Yes, like a votivskepp in a church”

R and A: Silence

End

Something had been done. Something was experienced. But despite the efforts of the reporter to try to find a rational reason for the cockroach, there was no such beginning of the artistic process, hence the result was not a solution to anything. But it was something, and it had meaning. The reporter and the artist obviously seemed to come from two different worlds - the reporter looking for a reason, a problem, and the artist referring “only” to process and silently to the implicit meaning of the cockroach.

Of course this is artistic practice, not situated in instrumental service of industry – and thus from a design practice point of view it is quite extreme. Some would even argue that because the result is not a “design” in the sense of it being a practically useful artifact, there can be no similarity between the practices. I would disagree.

German Design theorist Klaus Krippendorff offers a completely different perspective on design in comparison with Simon in his book “The semantic turn – a new foundation for design” (2006). He contests that design is primarily about “… making sense of things…” (1989), by drawing on the etymology of the word “design” (ibid). To him humans primarily respond to the meaning of things rather than to their physical properties (2006:47). This view thus fundamentally challenge the all-pervasive problem solving understanding. Indeed, “meaning” seems to be the necessary “divider”, the
“epistemological wrench”\textsuperscript{25} that breaks open the primacy of the problem and offers a completely different paradigm in its place. In other words, the perspective of meaning is not on the problem solving continuum at all, but somewhere else.

This is why I choose to relate design to meaning and design practice to artistic practices, not because they are the “same”, but because they share the same focus on meaning, both regarding the process and the outcome, and especially in that the perspective of meaning is acknowledged, at least in art. In my experience designers indeed solve practical problems as part of the work process. But it is illogical to therefore deduce that the process and practice must correspond to a problem-solving process \textit{a la} Pólya’s, or similar. Indeed, all practices, including science and engineering are practices where meaning is negotiated, something which has for example been shown by Mary Hesse concerning Science (1980) and Bruno Latour concerning science and engineering (Latour, 1993), it is just that this dimension has been fundamentally obscured by a strict rationalist perspective and belief-system.

While art has resisted “objectification”, it seems that design as a practice has been caught in what American philosopher Robert M. Pirsig calls the “Platypus”, and which I will call the “Platypus dilemma”, i.e. either it has been forced into dominant categories based on a subject-object understanding of reality, that it does not fit, or it has been understood as an enigma, a freak of nature – like the little animal Platypus, the duck-billed mammal that lays eggs and suckle their young and which was found in Australia at the end of the eighteenth century, causing such a stir as a “paradox of nature” – Why does this paradox of nature exist people wondered?

“… it doesn’t. The platypus isn’t doing anything paradoxical at all. It isn’t having any problems. Platypuses have been laying eggs and suckling their young for millions of years before there were any zoologists to come along and declare it illegal. The real mystery, the real enigma, is how mature, objective, trained scientific observers can blame their own goof on a poor innocent platypus. Zoologists, to cover up their problem, had to invent a patch. They created a new order, monotremata, which includes the platypus, the spiny anteater, and that’s it. This is like a nation consisting of two people. (1981:110)

\textsuperscript{25} A nice word “invented” by designer and researcher Julian Bleeker, inspired by Bruno Latour. (www.nearfutirelaboratory.com)
Sometimes I think Design Thinking is a similar patch. As a concept making design “special” in rationalist contexts (such as business, engineering science etc.) it obscures the very common and fundamentally human practice of dealing with meaning that is at the core of designing.

Combining Lilit’s and Axel’s story with the perspective of meaning rather than with problem-solving, it seems that a process that will generate something new doesn’t necessarily have to start with an idea, nor a problem. What if it starts with curiosity, or a question – perhaps a wish to understand something? What if it even ends up with a problem posed rather than with a solution offered, or an experience or a fascination materialized, as with the cockroach, or with a chair, for others to engage in, for others to experience? This is what is at the heart of design practice in my mind.

We are now well outside the problem-solving school of thought. We have “snapped out” of its force field. But I have still said next to nothing about such practices that explicitly deliberate meaning. These are still enveloped in fog. Nothing that would bother a practitioner much, as illustrated by artist Warren Zevon’s answer to David Letterman, when he was on the show a few days before he passed away in cancer:

D: But what does an artist know?

W: I guess artists have some kind of instincts or feelings about things that cannot be put in words, kind of impressions, combined with very rudimentary manual skills. Otherwise, how would we get away with having a job so easy and so much fun.”

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26 Late Night with David Letterman, October 30, 2002.
Donald Schön’s Theory of Reflection-in-Action

Introduction – A reflective turn in design theory
After having “exorcised the problem-solving duality” in the previous section I will in this section and the sections to come investigate how design practice can be understood from an interpretative perspective or within an interpretative paradigm. The purpose is both to try to “tease out” and articulate aspects of experiencing design practice and to establish a valid theoretical platform.

In the previous section I mentioned that in the 70’s, following Rittel and Webbers suggestion, problems were increasingly understood as “wicked, i.e. complex, contingent and socially dependent, and thus non-generalizeable (1973). This understanding spurred several new developments in design research. Not least did Schön’s notion of the Reflective Practitioner “hit home” to those who rejected rationalist explanations and concepts, such as that of Simon’s Science of Design (1996). Therefore, as it is the first and still to this day the most influential reference concerning design as reflection or interpretation, I will start out with an investigation of this concept.

Background to the concept of Reflection-in-Action
Schön represents an constructivist school of thought (Dorst, 1995) and was one of its leading scholars in research on professional knowledge and organizational learning until his death in 1997. Many practice scholars as well as practitioners from different fields, e.g. teaching, design and architecture, have relied on his seminal book “The Reflective Practitioner – How professionals think in action” which was released in 1983 (1983), to better understand the “knowing that is in practice” (ibid).

In the introductory chapters of The Reflective Practitioner, Schön gave “technical rationality”, as a heritage of Positivism, a series of sharp blows. He fundamentally challenged the belief that had shaped the scientifically derived professions. As evidence of his view of the necessary failure of this belief in “professional man”, Schön used a series of examples of situations, from the Vietnam War to Watergate, and professional practices, from engineers, planners and politician to economists and others, that had over the years failed to solve problems. Rather, he argued, the attempts of professionals to solve problems in mechanistic ways instead created new and even worse situations.

27 See footnote 4 about Burrell and Morgan’s “Sociological Paradigms”.
He finished these punches with a “knock-out blow” to the then dominating belief that professional knowledge should be built on a Positivist scientific foundation, and be taught at Universities as the application of scientific theory and technique through models and tools to instrumentally solve problems. This notion of applying predetermined, generalized and scientifically “approved” knowledge did not generate any new knowledge in practice and neither did it solve any problems, Schön argued. A key reason why it did not work was that knowledge creation and application were separated activities and also hierarchically defined and institutionalized, and could therefore not respond to the uniqueness and completeness of any social situation.

As one of many examples of the belief that profession could be built on scientific fact, he used Simon’s proposal of a “Science of Design”. Indeed Schön and Simon shared a similar point of departure in their recognition of the failure of society and professions to handle complex social problems, and Schön granted Simon to be the one “who most clearly links the predicament of professional knowledge to the historical origins of the Positivist epistemology of practice” (ibid 46). However, according to Schön, Simon’s approach of suggesting a Science of Design as a possible remedy must fail, not because it proposed design as a solution, but because it was based on the notion that that the training of designers should be grounded in a science of design to be built on decision theory. This was Simon’s way of handling the in his view “cookbooky” knowledge about of design practice. Thus, Schön argued, Simon fell into the “dual traps” of both arguing for the establishment of yet another rationally shaped professional practice and of believing in the possibility of reducing complex problems to ones solvable by “a calculus of decision” (ibid 47).

To Schön, who were seriously inspired by American Pragmatist philosopher James Dewey28, “The situations of practice are not problems to be solved but problematic situations characterized by uncertainty, disorder and indeterminacy.” (ibid 15). Schön argued that practitioners deals which such situations through “Reflection-in-Action”. This reflection may or may not result in the establishing of a more well-formulated problem – in “problem setting”. In other words reflection is at the heart of the process. This was what the rationalist school of thought failed to grasp he argued. Further, this kind of approach reverses the traditional means-ends relationship, i.e. the rationalist notion that that professional practice is about deciding on suitable means to achieve already agreed on ends.

28 See foot note 123.
“When planners or managers convert an uncertain situation into a solveable problem, they construct – as John Dewey pointed out long ago – not only the means to be deployed but the ends-in-view to be achieved. In such problem-setting, ends and means are reciprocally determined.” (Schön, 1985:15)

This is why a separation between knowledge and application of knowledge is detrimental.

The process of Reflecting-in-Action

According to Schön, Reflection-in-Action is typically triggered by “anomalies” or surprises in the due course of practice. Here we may take note that Schön more or less mirrors the general notion of the anomaly as something “problematic” that needs to be dealt with and overcome, even though he in one place also mentions that it may be about something “interesting” (1983:50). I will now make a “detour” via Schön’s fellow American Pragmatist philosopher Robert M. Pirsig. He has a very good and colorful example of what could be called Reflection-in-Action in his cult book “Zen and the Art of Motorcycle Maintenance – An inquiry into values” 29 (1981), which rings well with a hobby motorcycle mechanic like me.

You are dismantling the side cover assembly from your motorbike, and you come across a screw that just won’t budge. You try all your tools and all the “tricks of the trade” to release the screw, but to no avail. And the handbook just says “‘Remove the side cover plate” in that wonderful terse technical style that never tells you what you want to know.”(ibid 250). The screw is stuck and so are you – you are experiencing “stuckness” as Pirsig puts it. But, as he encouragingly adds, this is not a bad place to be, because now the mind is blank. All your previous objective understanding of what the screw is in general, is gone – this is the zen-like situation which his whole philosophy about the concept of Quality as ultimate reality comes down to. It is in this situation that you release from static objective knowledge, of all predetermined ideas and concepts, and engage a dynamic process of reflecting on that screw, not on what it is, but what it does, and what it does right here and right now in this unique situation.

Pirsig then elaborate on a number of possible strategies of investigation, all with the sole aim of getting that screw out:

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29 Which incidentally predates Schöns’ book by 8 years.
“... you just to drill the screw out, or just burn it out with a torch. Or you might just, as a result of your meditative attention to the screw, come up with some new way of extracting it that has never been thought of before and that beats all the rest and is patentable and makes you a millionaire five years from now.” (ibid 258).

I believe that this is the same kind of reflection that Schön refers to, and indeed he uses a similar case, of when he attempted to construct a garden gate. During his hobby carpentry he noticed that the structure wobbled in an unpredicted way. In his book he explains the different steps of attempts to correct this wobble via diagonal beams, the need for mathematical calculations etc. Indeed, this can be understood as trial-and-error problem solving process he grants. His point is however that such trial-and error occurs when we came across anomalies, and further that the reflection necessary to first determine or set the problem and then solve it in a continuous process takes practice to “indeterminate zones of practice” (1985:25), where “competence takes on new meaning” (ibid 25). Here tacit “knowing-in-action” is converted to “explicit knowledge for action” and in the “action-present” (ibid). Looking back at Pirsig’s example – it is about reflecting on the meaning of the situation. The process thus rests on a crucial component of critically challenging assumptions – just like in Pirsig’s case, releasing from established knowledge to enter into a “dynamic knowing process, rather than [using] a static body of knowledge.” (1983:24).

German practice oriented Philosopher Allan Janik pronounce this indeterminacy in an even more poignant way, this situation, when our knowledge is suddenly not valuable anymore, will either result in a kind of self-destructive insanity, or it is mastered through reflection (1991:43). This is thus the most fundamental reason why we reflect he argues. It is indeed our ability to make one’s way through life’s different obstacles, tragedies and disasters – “Reflection helps us ´... find the way from sickness to health, and from misery to only unhappiness’, to use Freud’s poignant words” (1991:44).

Are designers then constantly on the border of insanity? No, (luckily) because designers learn how to master reflection and to do this as a fundamental part of practice. Then the “indeterminate zone of practice” referred to above is rather the norm in design. But this situation is far from without stress, even for the experienced designer. I am sure such stress can be experienced in a multitude of ways,

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30 My translation from Swedish.
both positive and negative, from anticipation to frustration. And as Dorst and Dijkhuis points out, it is a situation where you as a designer:

“... are continually faced with the very concrete challenge of your perceived design problem, and you have to decide on the kind of content of the action to take in this situation. 'What does this situation mean?' and 'What action can/should I take in this situation?' Are eternally recurring questions.”
(1995:265)

In “The Reflective Practitioner”, Schön used a number of “vignettes of practice” (1983:viii) as cases to represent his thoughts on how Reflection-in-Action is key to understanding practice. These episodes covered practice situations of architects, psychotherapists, engineers, planners and managers. And as he was looking for articulation of practice he had chosen episodes were a “senior practitioner helps a junior one learn to do something.” (ibid 74). But even though the examples are many, Schön argues that it is especially appropriate to use an example from architecture (as a representation of a design process) to illustrate Reflection-in-Action, as:

“Architects are designers; they are makers of representations of things to be built. Moreover – unlike lawyers, physicians, managers or engineers, who might also be seen as makers of things (briefs, diagnoses, mechanisms) but tend not to think of themselves that way – architects tend to be self-recognized makers." (ibid 31)

In other words, in architecture and design there is recognition of the indeterminate situations that are an unavoidable consequence of “making”. Further, the artistry as essential to architectural competence has never been really challenged by technical rationality. Rather it has fitted within more rationalist contexts such as industry, as a kind of epistemologically intact practice moving more or less stealthy “beneath the radar” of objectivism, or in the word of Swedish design theorist Håkan Edeholt, “... as a kind of Trojan horse that has given intuition a hidden refuge in the stronghold of rationality.”31 (2006a).

In one of the episodes, where Schön listens in on an architecture teaching situation, architect and tutor “Quist” and first year architect student “Petra” are engaged in a design studio tutoring session. Petra has worked on an assignment to design an elementary school building that should fit a specific site also described in the brief. She has made a proposal but feels that she has gotten stuck as she can’t find a

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31 My translation from Swedish.
way to make the building harmonize with the prominent slope that defines the contours of the site. Petra shows here attempts to Quist who immediately engage in a reflection on possible ways of “framing” or understanding the situation. But, as Molander (1996), Quist does not tell Petra what to do. Instead he shows her by doing, by engaging in what Schön calls the “language of design”, i.e. parallel articulation through both language and sketching. He also, as a master, comment on his own doing as a kind of “meta-reflection”, or as a “Reflection-on-Action, which further helps Petra understand what is going on.

Studying the actions of Quist, when explaining by thinking and “sketching out aloud” to Petra, Schön sees how Quist engage in “a ... reflective conversation with the situation.” (ibid 43). By applying possible “disciplines” (for example a certain geometry) to attempt to order the ambiguous situation, Quist can play out different and tentative moves. He draws these disciplines from different “design domains” (such as the categories of Form, Scale and Cost) that together make up his “repertoire”. Key to the reflective process is to listen to how the situation “talks back” to him – what the possible consequences of this or that move might be. These moves include the ability to also “step back” and take in the bigger picture of the situation. Thus he continuously “reframes” the situation in different ways, showing Petra by doing reflection and sketching in tandem how to get out of the problematic situation she was in. At the end of the process Quist also have shift “... from tentative adoption of a strategy to eventual commitment.” (ibid 102).

The episode is very rich and I will not be able to give it justice here. But very little is about how Quist or Petra experiences the situation. Schön does not express his observations in this way and one reason is probably that Schön didn’t interview them. His interest was instead in building a theory of Reflection-in-Action to offer up as an alternative to traditional problem-solving theories. What you get is what Schön observes and reflects on. Between Schön and Pirsig it is actually the latter in my mind that best capture how it is to be in this situation, with his “stuckness” and “blankness” etc.

**What is missing in Reflection-in-Action?**

With all these insights in mind, it would be easy to just once again as a “kneejerk reaction” refer to Schön and the Reflective Practitioner, and rest the case about design practice with that. However, as inspired as I am by Schön, there are a few things that still do not feel entirely “right” in his theory, from a practitioner and innovation point of view that is.
First, that the theory of Reflection-in-Action is still too instrumental in the sense that it presuppose a for the most part negative something, e.g. an “anomaly”, that needs to be dealt with and be turned into an improved something, i.e. it still resonates with the general notion of design as problem solving a la Simon - as “... courses of action aimed at changing existing situations into preferred ones.” (1996). As I have mentioned before, this instrumental understanding of the purpose of design in my mind stands in the way of a more complete understanding design practice.

Second, the subject-object duality is intact in Schön’s theories. The reflective practitioner reflects on something by immersing in reflection, i.e. the subject is still positioned in a traditional distanced role in relation to the object. Neither does Schön discuss the relationship between the situation and the “world”. The situation is equally intact and restricted, yes complex but nevertheless “inert”.

Third, the notion of reflection seems to be restricted to the self. Schön pronounce how the practitioner draws on his or her “repertoire”, but nothing more as far as I can see. It seems that in the worst case scenario reflection may be a kind of “mirroring” in the sense of a “feedback loop” with no influence from the “outside” and no real interest in the “otherness” of the situation.

Fourth, I cannot find any tools or actions that work to subvert the situation. If the situation is “inert” and restricted there will be little opportunity to express new meaning. What is missing is a deepened interest in meaning for its own sake, and further, in meaning as transient, in flux, but nevertheless possible to explore, interpret and engage in. Indeed at the end of the RIBA report “The Design Studio” (Schön, 1985) which came one year after the Reflective Practitioner, Schön mentions that he has recently been influenced by Nelson Goodman – an American Pragmatist Philosopher argues who that we experience many worlds of different meaning rather than one factual “real” world. But throughout the text, which was more or less a cut-and-paste job from The Reflective Practitioner, there is quite little that hints at a Goodman inspired relativist ontology. This is also something that Molander has noticed:

“In the first book about the reflective practitioner there is a lingering trace of objectivism in the sense that he speaks as though there is still a fundamental world of facts, it’s just that the practitioner can’t reach it.”32 (Molander, 1996:158)

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32 My translation from Swedish.
Fifth, and in accordance with the above about ontology, there is very little about emotions, norms, and values etc., i.e. aspects that indicate the richness of human life - that which all design is concerned with. The case is more or less about positioning a building to fit a “screwed” slope. It is almost paradoxical that Schön sets out by dismissing the “technological rationality” approach to solving problematic social situations and then offer a case taken from a first year student exercise in architecture with no such social issues involved. Here are no issues of power, no conflicting agendas or perspectives. No wonder that issues of meaning can be almost entirely left out. What we get is the dynamic of reflection on a fairly clear cut situation concerning where to locate a building. And this I good – the dynamic of the practice of the Reflective Practitioner is certainly an alternative to traditional ways of understanding problem solving. What I miss are those frictions, dynamics and conflicts that are involved in dealing with interpreting complex social situations of contesting views and ends.

**Final thoughts on Reflection-in-Action**

To conclude, despite Schön’s break with problem solving rationality, there is a lingering instrumentalist and rationalist problem-solving orientation in Schön’s representations. This provides us with a point where we can anchor the bridge we need to build between problem-solving and deliberation of new meaning. However much of the bridge is still enveloped in fog. This is why we need now need to investigate what Pragmatism’s European cousin Hermeneutics has to offer. Hermeneutics more to the point investigate the instrumental practice of “understanding” and deliberating meaning, which I believe is at the core of design practice. Only in a process of understanding, through interpretation, can we begin to deliberate meaning, and sometimes even manifest new meaning.

But in order to continue this reflection in an “informed” way, I will first call on my own empirical study. It will as a contrast to Schön’s Quist and Petra case involve issues of norms and values, or more specifically gender issues, and thus better pronounce issues of meaning. Even though it is also a student project, which may be problematic as for example Dorst has pointed out (2008), it will clarify how such issues might influence a design process were interpretation and reflection in tandem may inform evolving meaning, as manifested in artifacts.

“Real life” situations will be even more complex as Dorst point out. This to me will only further enhance the need for an interpretative perspective on design practice, a conclusion drawn from the Gender and Design project from which the study is taken. In that project, studies were also made of several “real-life” case (e.g. Hansson, 2009, Petersson McIntyre, 2010) and the findings of the study of the student
project, in which we managed to go deeper in the design process as it was studied first hand, confirm or resonate with those findings. Further the students were all master students and had also had previous practice experience.
Introducing the Empirical Study

Background to the study
This study is introduced to help pronounce an understanding of design practice as a process of interpretation, deliberation and manifestation of new meaning. It will be used as a contrast to Schön’s Petra and Quist case. It draws from observations of an experimental design project that was part of a consumer research project called Gender and Design. In the Gender and Design project the possible commercial innovation potential of a gender perspective on products through design was explored. The project was conducted at CFK, the Center for Consumer Science at the University of Gothenburg between 2005 and 2008 in cooperation with HDK, the School of Design and Crafts at University of Gothenburg.

In the experimental project a number of master students in design at HDK explored and reflected on gender meanings through design. This project was initiated by me when I was involved as an assistant researcher in the Gender and Design research project. The idea was to involve students in a similar “design journey” on gender issues that I the year before had experienced when making my MFA thesis project on gender subverted children’s clothing (2005), and to combine this with the research purpose of the Gender and Design project. I also had dual roles in the project, as an observing assistant researcher as well as tutor and coordinator of the students. However the more intense and proper research observations and also most interviews were made by ethnographers Magdalena Petersson McIntyre and late Magnus Mörck. It is their material and my own observations and experiences of the project that I have used.

Theoretical perspectives

The innovation perspective of the study
The study I have made draws in part from results of investigating the gender project in relation to the recent concept of “innovation of meaning” (Verganti, 2008). The notion of “innovation of meaning” challenges the more traditional understanding of innovation as about technological development and technological products (e.g. Utterback, 1994, Dougherty, 1996). This investigation was conducted by me together with design and marketing researcher Lena Hansson at CFK. An article of the study is forthcoming in Design Research Journal and has also been presented at the EGOS 2010 conference in July 2010 (2010).
The gender perspective of the study

The gender perspective of the project is based on an understanding of gender as socially and culturally constructed but negotiable and not stable. It implies that gender does not exist beyond the acts, postures and gestures that supposedly ‘express’ gender, and which we perform everyday (Ambjörnsson, 2004). Further, gender is not a static condition but a continuous, ongoing process (ibid) but always enacted within defined cultural frames where norms and representations guide our acts. This view is inspired by Butler (1990, 1993) who sees gender as a discursive practice or ‘performance’, and argues that gender and the heterosexual position cannot be predefined. Designed objects can then be seen materialized representations of the performativity of gender, which makes design a tool for gendering as well as for “gender-bending”.

Method

The research method has been inspired by ethnography (Hammersley, 2007). Interviews were carried out with the participating master students just after the project ended and covered the students’ experiences of the project, the group reflections and discussions, their individual design process, the result, the exhibition, and not the least, their understanding of gender. In addition, observations were carried out during student seminars and workshops as well as later on at the exhibition site. Visual analysis of the objects in the exhibition and photos of the objects has also been made as a complement to the students’ own interpretations and explanations.

The design process of the cases

The student brief was to design interactive artifacts for an exhibition on gender and design. The purpose of the exhibition was to broaden the general public’s understanding of how designed objects are “gendered”. The seven first year master students in design at HDK that participated in the project used quite different strategies, including “bending” norms, make taken for granted norms visible by exaggeration, and opening up for reflection through “Verfremdung”33. In other words, the task was not to solve problems, but rather to make both problems and possibilities explicit through design. In this sense the project was in the tradition of “Critical Design” - a field of design in the intersection of art, politics and the commercial market which explicitly deals with political and social issues through design (e.g. Dunne, 2005, Robach, 2005).

33 Bertolt Brecht’s concept of making something well-known unfamiliar.
The result was a number of artifacts that incorporated radical meanings in relation to established socio-cultural norms and values. These meanings were conveyed both through color, shape and style, and also through material and functional properties.

The project, which ran for one semester half time, can be described as consisting of three phases:

1) Exploration and Reflection (an initial exploration of the market place as well as gender implications, both in theory and practice);

2) Reflections through Design (the students engaged in more personal reflections through practice, based on issues that intrigued them; and

3) Exhibition Design (which the students designed together).\(^{34}\)

I will draw mostly from phases one and two. Further, I will use three examples from the case – the design of three chairs or sitting furniture that together make up an interesting span. As it turned out, three students had a common interest in reflections on gender and sitting, about postures, space and behavior. Postures and our sitting behavior are restricted or bounded by our gender, which can be explained both in terms of space and of body postures. To sit is to occupy a position (Jahnke 2006). A man can claim his space since he is supposed to sit with his legs spread, stretching out while a woman should make space and is expected to cross her legs and keep her knees together. The three cases are interesting both regarding the quite different strategies used to convey meaning, but also concerning the processes involved. These cases that are presented in more detail below are Duel, Stiletto and Slothfully 2006.

\(^{34}\) The project was first shown at the culture center Blå Stället in Angered (a suburb of Gothenburg) and after this was also shown in another six places, such as Svensk Form in Stockholm, at the DesignMai design festival in Berlin 2007 and at Teknikens Hus in Luleå.
Presentation of the empirical cases

I have chosen to use rather lengthy descriptions of the cases here to give them a fuller picture that they deserve. In the section “Towards a Hermeneutic Perspective on Design Practice Experience” I will relate back to some important aspects of these cases, but not all. The texts that present the cases have been co-written with Lena Hansson.
Duel – An experiment in the negotiating of sitting positions and claiming of space

When discussing her design process Ulrika Hegårdh said that to her design projects need to depart from a defined problem area, someone’s need. One should not indulge in design for one’s own sake – “design is not about that”, she says. To her, need has a wider scope than the merely functional and practical. It can just as well be about emotions, for example about enjoyment of everyday situations. The wellbeing of the individual is a central theme in her design philosophy, including the principles of “design for all”. In connection with this she pronounces the importance of the ‘meeting’, the meeting and interaction between people, between people and objects and environments – “enjoyable meetings”.

Picture 1: Duel, one of many sitting configurations, from the photo drape.
Consistent with this, she expressed that she liked that the project provided a frame within which she could work, a kind of semi-open problem space and a theme that had to do with equality and empowerment. At the outset she decided that she would design some kind of chair. Her first idea came as a result of the discussions in the group about gender issues and bodily behavior. She had noted that office chairs with their typical flat seat do not support traditional female cross-legged sitting. Her immediate idea was to add a cushion to support the thigh. However, this did not feel right. It did not ring true to her philosophy to enhance stereotypes, regardless of motive. Instead she moved towards discussing sitting from an equality point of view, and as a social rather than individual phenomenon. Now she felt more “at home”. She also experienced more support from the rest of the group, that confirmed that this would be more “her”.

Reflecting on sitting from this perspective, she felt that she wished to displace or even erase the issue of gender, and instead focus on people as individuals, beyond gender norms. It seems that her own position and resulting design process emerged and was clarified through active reflection together with the group. But it was also provoked by other views and on gender issues in the group – the tension was important.

It seems that Hegårdh now combined an understanding of gendering as a social process between individuals. At the same time she wished to pronounce the importance of the individual act. Gradually her challenge was formulated as an exploration of how we sit together - how much space we claim or offer. She also began to conceive of the possibility of studying this process as an “experiment” which could be made possible through a piece of furniture: “Actually I believe that we are people and individuals, and then I want to take away the gender issue to observe what space we demand, as individuals, standing, sitting, and what space we take up if we are two or more. That really felt perfectly right for me, bull’s-eye really, because I felt that it would work.”

Her challenge now became to explore acts of interaction and negotiation. Initially she conceived of this as a fight over space, of power relations and struggle. The guiding metaphor for understanding the phenomena of sitting together became “sitting is a struggle”. On a meta-level here was probably also a connection to discussions in the group about gender issues as a struggle for rights, space and power in society. Could such a fight over space be conveyed through a sofa? She now drew from experiences of situations with a similar dynamic, and not least from her fascination with public spaces, such as railway stations and parks. She had noticed that in such environment there is a constant demarcation of space
between people, and that it is a fluid, sensitive and bodily experienced process. “The unofficial meeting intrigues me. Something that is really interesting is waiting rooms, where you sit, how much space you take up, how close you can sit to someone else without it becoming embarrassing or an intrusion. I looked into that, stood really close to a guy in the ATM machine line and that became very weird. And think of how a bench in the park works. If you sit in the middle, then you don’t want anyone else to sit down on the same bench. But if you sit on the side then you signal that it is ok for someone else to sit down. But if you sit down next to someone who has taken the whole bench by sitting in the middle, then that person will be really irritated – I think that this is also about individuals rather than gender.”

So she started to conceive of a piece of furniture for similar public situations, a piece of furniture that would actively provoke this kind of struggle. When looking for ways to solve this in a more practical sense she remembered a kind of folding backrest that she had seen and experienced on a ferry in Thailand. The backrest could be flipped over to one side to give space to individuals, or to the other side to allow for a group to sit together. Someone had to actively decide the configuration of the bench. Sometimes there were conflicts. Her idea was initially to use this function and enhance the need to deliberate the backrest before sitting down – to be forced to decide how much space to allow or claim. However as soon as she had devised this idea it did not feel right in relation to her ambition to not provoke unnecessarily. Instead she chose to convey the need for cooperation.

Here is also, on a meta-level, a relation to and understanding of the process of increasing gender equality as a process of cooperation rather than as a struggle or fight, something which was more true to her beliefs. In the sofa, this could be translated to a ‘balancing act’ of achieving equality of sitting – equality in the sense of a negotiated equality rather than in the literal sense of absolutely equal space. Now the guiding metaphor was converted to become something like “sitting together as an act of balancing or cooperation”.

The new redirection also meant that her notion of the flippable backrest had to be revised. It was now converted to the idea of a backrest that would turn effortlessly, like a turnstile or like a vertical seesaw. This, she felt, would allow for acts of possible cooperation or negotiation. To make this possible a lot of work went into the construction of the backrest, both to make it inconspicuous and at the same time strong enough. Further, the sitting space had to be made flexible and not pre-determined in specifying a specific sitting placement. How to enable this was explored at great length through sketches and models.
before a rhomboid shape was devised. This shape would allow for multiple ways of sitting and interacting with the backrest, without prescribing a specific or traditional sitting position.

Thus, on the resulting sofa, one person can take up a lot of space by claiming the whole backrest, resting on its mid section. But as soon as someone else wants to sit down on the same side, they have to start balancing the backrest together for both to sit comfortably. Or, as in picture 1 above, one person has to give up any rights to the backrest to the other. Many other negotiation processes are also possible, with resulting diverse sitting positions.

As the sofa was now completely open to different ways of sitting she also decided to make the appearance neutral and somber, much like ordinary furniture for public spaces, so that it could blend in, and be taken seriously. This would also strengthen the “surprise effect” of the turning backrest that was important for the experiment. The idea was that the process should be spontaneous. One would have to figure out alone, or together with someone else, how to negotiate this surprising piece of furniture. This did not least tie in with her thoughts of what make for a good exhibition experience. To her it was crucial that the visitors to the exhibition would actually use the sofa – that the whole experience was to be in the use rather than in its appearance or shape.

At the exhibition she guided several groups of visitors, mostly teenage pupils at the near-by high school. She was quite surprised that the sofa worked so well. Her approach when introducing it was to only give little hints. “When I presented the sofa I only said that if you sit alone you have to take a central position but if you sit two together you have to cooperate. I never mentioned this about gender because I wanted to get their first impressions and interactions with the sofa. I didn’t want to control them in any way.”

She felt that the idea of not pronouncing gender worked very well. To her this really expressed that we are individuals and that our acts does not really relate to gender – that it was all about interaction between individuals, and about cooperation. However to us as observers this was perhaps not so clear-cut. It seems that the confirmation she had found at the same time perhaps shut out other possible interpretations of what went on. When asked if there were any power relations she answered: “Yes a little, that if it was a girlfriend and a boyfriend, and they tested, and leaned backwards, and then they would switch places and very soon the girl, always the girl, would say something like, what about if we do like this, you sit there and I sit here and we try this instead?, But I don’t think that this has anything to
do with gender. What I thought was exciting was that these, these boy and girl, man and woman roles, were erased.”

What Hegårds saw was cooperation. What we saw was both cooperation and struggle, but always as either as deliberate play, or as unconscious action, as perhaps in the picture 2 taken at the exhibition of the girl and the boy below.

![Picture 2: Pupils sitting in Duel at the exhibition, Photo Josefine Lindgren](image)

Many visitors claimed that this was the best object in that it combined the possibility of experiencing a tricky situation demanding cooperation or struggle, and that this spurred discussion and reflection, not least in relation to the theme of the exhibition, on gender roles and equality. And, paradoxically, what made the piece work was the ambiguity of Hegårds’s reflection. This ambiguity left a clear trace in the materialization. It opened up register between her two metaphors, between the notion of struggle and cooperation. It was inside this register that the experiencing took place. Duel was open for action and respectful of many possible interpretations. Here Hegårds’s own interpretation seems only one of many.
Stiletto – Conveying the sensation of balancing on high heels through a chair

Picture 3: Stiletto from behind, from the photo drape

Talking about her design process, Sigrid Strömgren describes her design philosophy to be to find solutions to complex problems and her goal is to make integrated solutions that are right from the start: “I got problems generating ideas. For my brain to get started I want a difficult problem to solve. Some kind of problem to solve, that’s my motivation, otherwise I don’t think it is...well, that’s my driving force, to investigate through objects.” And she likes to make things that seem impossible possible, something that goes well together with her desire to surprise: “If there is anything that I strive for in my design, it is to create a moment of surprise. As with the silent table, if you knock, you discover that it’s silent.”
Her design philosophy influenced this project as well and she liked the idea of a brief to work from. Strömgren had a number of strategic rationalities to join the project: She wanted to improve her exhibition skills and to become exposed. She also wanted to work with a “real” project that she could use in her portfolio. This influenced her choice of doing a piece of furniture as well. These different strategies influenced the proceeding of her design process and the result. Sometimes it even pulled the process in different directions as we shall see.

Strömgren started from something associated with women and femininity – stiletto shoes. Already at the outset she remembers having cut out a lot of pictures of shoes from magazines in the first phase of the project. However, reflecting on her interest in stiletto shoes, Strömgren did not automatically link this interest with the experience of walking in stilettos. “No, but they are very nice. And it’s of course very wobbly with stiletto shoes. But it is very interesting when you think about it, that it’s so limiting, that it requires practice, you use them despite them being so impractical. There is something magical with stiletto shoes.” Interestingly from a gender perspective was that Strömgren did not consider them being primarily a problem, but more of a fascinating phenomenon – both beautiful and uncomfortable at the same time – the complexity intrigued her. But at the same time she reflected on how wearing such shoes restrains the freedom of movement, and that the wearer has to engage in an unnecessary and uncomfortable balancing act. This thinking is on a meta-level related to the way female attributes tends to tuck in, straighten out and push up in order to beautify, but at the same time limit the freedom of movement. Contrary to products aimed at men that usually are more practical and comfortable, allowing freedom of movement.

Strömgren thought of different ways to “close in” on the phenomenon of the fascinating stiletto shoes. She started out thinking about doing a stiletto lamp, but realized that it would be hard to make something comparable to the experience of walking in stiletto shoes. “...[*] it had to be comparable, so, you have to be able to, that is, shoes you walk in, so then I wanted to find a product that was active, that you take on. I choose a chair, a chair felt more active.” This goes together with another important aspect for Strömgren, that of interaction, that the visitor would be able to do something with the product. In this case the metaphorical thinking revolved round sitting as balancing, a balancing act instead of something static. At some point, she also became influenced by the group discussions about sitting, which she shared with Hegårdh and Grip.
In the discussions of her part of the project some of the other group members suggested she should make a shoe like a chair in leather with stitching and bows, but she did not like that idea at all: “It should look like a stylized stiletto. I wanted to make a piece of furniture first and foremost. I didn’t want to make a shoe that you should sit in, that’s silly.” She defended herself against simplifications and the stereotyped. A piece of furniture that looked like a shoe would then have been wrong. It should be a piece of furniture that in turn expressed the balancing act of wearing stiletto shoes.

But another reason for why she wanted it to look like a chair rather than a shoe was that she wanted to add the chair to her portfolio, that it should show who she was as a designer: “I’m not a shoe-chair designer.” Still, when looking at it, the form and design makes it possible to see associations to a stiletto shoe. For instance, its black color can be associated to a pair of patent-leather shoes. And when you look at it from behind, it also resembles a high heeled shoe (see picture 3 above). However, these associations do not make it a pastiche, which according to Strömgren might have been the result if drawing on the feminine leather shoe with a bow and ‘sitting in a shoe’.

The end-result came to be a two-legged chair, with the two legs “in-line”, configured like the wheels of an in-line roller skate. The two legs made it necessary to balance sideways, like when wearing stiletto shoes.

But how the chair could convey an experience of “walking in high heels” was not clear-cut from the start and came to influence the construction: “I was investigating how I should do, that wobbly feeling how many legs I should have. I did some small models, to be able to test it, the feeling.” Strömgren started out with only one leg, but since a pair of high-heels is only movable sideways and not in all directions like a one-legged chair would be, she moved on and she thought of making two chairs, like a pair that could be hooked together to create stability. However, she realized that she could create that with two legs as well.

The seat of the chair was also important to consider when creating stability. Strömgren did a couple of prototypes and tested them. She explained that she became very good at sitting on Stiletto, but she was not sitting on the middle but on the side – creating a diagonal line – and this worked because of its rubber sole that made it grip well to the floor. Obviously the chair required some practice to master which is a rare experience in relation to sitting on a chair.

For Strömgren it was important that it would function as a chair, and it turned out very stable:
“It was somewhat, well personally I thought it was absolutely fantastic. I know that you urged me because it was too stable, that I should make it less stable, but me as a designer thought it was cool that it could even stand on two legs, that it was a little magical, not for the concept, but in that way I thought it was cool that it was so stable. But maybe to reinforce this project it ought to have been more unstable...but I thought that it was worth it, that it was more important that it was a product and that you could prove that a chair can stand on two legs.”

So for Strömgren personally, as a designer, the steadiness was not a big problem, but it did affect meaning in the wrong direction, which is also reflected in the reactions from the visitors at the exhibition.

At the exhibition, as an interactive piece of furniture, not immediately understood when laid down and passive, it had to be raised, tested and experienced. Strömgren placed the chair on a soft round carpet in front of a textile drape with the image of an intentionally androgynous person sitting on the chair (see picture 4 below). The idea was that the “active” image would contrast with the passive expression of a “resting”, or perhaps even a discarded chair.

![Picture 4: Stiletto on the floor at the exhibition with photo drape as background, Photo Marcus Jahnke](image)

For some pupils that visited the exhibition, the balancing act was perceived as implying an imbalance between men and women – if society had been equal, the chair would have had four legs. Another
reaction was that Stiletto was surprisingly comfortable to sit on, not as unstable as would have been anticipated. The absence of imbalance was commented by two boys who thought that “oh, is it this easy to walk in high heels”, which was of course not the expected response and contradicted the intention of the designer. However, even if Stiletto turned out much more stable than even Strömgren could predict before the exhibition, she never expected that Stiletto would ever convey a perfect comparable experience of walking in high heels, which she has personal experience of: “You don’t feel pain sitting on a chair...I don’t think it feels like walking in high heels when sitting in my chair – but it is fun to sit on.” That the chair invited interaction ensured many discussions and laughs.
Slothfully 2006 – An ironic observation of male sitting and the male slacker

Picture 5: Slothfully 2006 and the male slacker, from the photo drape

Going into the project, Markus Grip was interested to learn more about gender and liked the idea that the project provided a framework combined with freedom within it. Even better was the fact that the project would end with an exhibition where his artifact would be shown.

Unlike Hegårddh, who was provoked by some of the other group members’ outspoken feminist positions, Grip was not. However he still felt that they were a bit too radical in their opinions of gender equality. For instance, within the group they discussed the objectification of women in advertising particular and media in general. He did not feel this was as problematic as some of the other members did. Instead, he
thought it quite ok, as long as men are also objectified. To him, in that way it becomes more equal and that this is preferable to forbidding showing some skin: “Because some mean that you cannot sell a product with the help of a body. But, I mean, the body does sell. It’s as simple as that [laughing]. And if you should remove the body and only show the product, then it shouldn’t sell as well. But then you have to find boundaries for what is okay.”

But as he insisted, the context needs to be relevant, or it becomes silly. Even though some of his opinions were at odds with the group, or perhaps because of this, he chose to keep a low profile in the discussions that followed the early explorative phase of the project. Instead he listened—through which he learnt a lot. “I have had interesting discussions. That I believe has been rather rewarding. But I haven’t like fought for my opinions really, but more taken in their opinions and other’s opinions and new opinions. It feels as if I, now I’m much more aware of myself. I feel that I have learnt things that I can bring with me into other projects…You don’t have to work with a gender project to work with gender, or rather the intention is to be aware of this, and that I think I bring with me.” If it has not been for the project’s gender context, Grip believe he would only have designed a “cool piece of furniture” without thinking much of it.

Initially Grip had the intention to make something gender neutral, something that would be perceived as both feminine and masculine. He also knew that he wanted to do a piece of furniture, and as “sitting” became a mutual discussion topic of interest among some of the group members, he opted for making a chair. His initial idea was inspired by the function of a flipover. The chair would have several seats and back rest covers with different colors and prints. The preferred combination could be chosen by the user by flipping through these, like when turning pages in a book. Further, the idea was to base the range of covers to choose from on an investigation of patterns and colors preferred by men and women respectively. There should be a range from the most masculine to the most feminine. But even though this was a quite well formulated and realizable as well as innovative concept he felt increasingly frustrated with it. Not least was he frustrated with the need to design a neutral chair that would hold this function, as the chair itself should not “intervene” with action of choosing and with the chosen combination of covers. “During the process it was really hard to do something that didn’t feel strained, but something that felt neutral in some way. Because that was my goal, my goal from the beginning was to do a gender neutral product. That I saw as the great challenge...But then it didn’t turn out like that [laughing].” He found himself struggling but still wanted to do a product, a physical product and
preference, a piece of furniture. "It felt that it wasn’t really me, that I couldn’t stand for it." In a moment of frustration he did what he called an ‘anti-thing’: “… then I chose to just go back and exaggerate instead. That was an easier solution in one way.”

He started to sketch, mostly for the fun of to begin with, in his 3D CAD program. To find inspiration he now turned to his own industrial design preferences, not least to racing car design. He found that he could use the styles and expressions he himself preferred by tweaking and exaggerating them and connect them to a stereotypical male sitting style – sitting with legs wide apart, relaxing, taking up space. As a male designer of a male artifact, Grip could actively draw from his own feeling for the traditional male form, from his embodied experience as a man, and from social and cultural cues. By exaggerating and using irony he could combine a joy in his work and at the same time attempt to say something about a male ideal that he felt was far from his own, that of the male slacker. Grip used the image of the male slacker as a symbol to further the understanding of stereotypical male behavior on a meta-level, expressed in sitting as a power position: claiming and occupying space.

The other project members supported him in changing the direction and go with this new one. This surprised Grip, but they told him that the other idea never suited him, that he could make a deeper interpretation of the new idea than of chairs with flower patterns. They believed his ability to interpret masculinity had greater prerequisites of succeeding, to interpret “that” world, i.e. the male world.

An amalgamation of male form and male sitting emerged. The aesthetic was inspired by hotrod and racing cars; the tubular steel “frame” resembling a “roll cage” with sharp angles, a rough surface, visible welds and flat “primer” paint. These aspects helped enhance the feeling of a masculine artifact. In the early design phase, he experimented with material and form to get the expression right. For instance, he had never worked in metal before and as a result the welds were quite lumpy and obvious. But instead of grinding down the welds and make a smooth surface, which was his first thought, he saw that these welds could work as a kind of functional decoration. The way they were both sharp and a bit dangerous as well as “ad-hocish”, only helped to strengthen looked for the expression of the chair – that of rawness, crudeness and masculinity.
The concept that emerged was that of a chair which would invite you to sit down and relax, and then force you, irrespective of sex, to sit as a man. This was mediated through a groin cushion that forced the legs apart (see picture 5 above). The chair comments on the male slacker behavior, which was enhanced at the exhibition through a photo drape with a staged photo showing a man sitting in Slothfully 2006 watching TV with a beer can in one hand and the remote control in the other (see picture 6 above). Furthermore, in the exhibition, a TV set showed a film with car racing to further strengthen the message.

In this way, Grip wanted to avoid making the chair a possible travesty. He had at an earlier stage thought of adding a beer can holder but since he wanted the chair to look like a normal piece of furniture at first sight, he chose to create a contextualized situation instead. This might be related to Grip belief of possible misinterpretations of conceptual design although he does not believe there need to be any contradiction between conceptual ideas and real or usable products: “I think that my piece of furniture was conceptual but yet close to reality in a way, or just that it is possible to use it if you want to”. But since he finds it challenging to present conceptual ideas in a way that makes other take them seriously and not define them as art, this might have influenced his decision on how to present the concept of Slothfully 2006.

However, Grip believed that he achieved to mediate the intended experience he wanted. He based this on some of the reactions he got from the pupils who interacted with and tried out Slothfully 2006 at the
exhibition: “Because when the guys sat down, they sat down looking pleased with a smile on their lips and like this, aaah, groaned, while the girls sat down and tried to get the legs over cushion, thinking that well you do sit rather comfortable like this but it is somewhat unpleasantly wide [with the legs apart].”

Creating embodied experiences is an important way of opening up what is perceived as normal as this tend to becomes invisible. Visualizing, as well as making it possible to experience the difference in male and female sitting, Slothfully 2006 both reinforced male stereotypical sitting with its cushion and laid back sitting position, and opened up for alternative and other preferences of sitting for girls. Many of the young guys responded positively to Slothfully 2006. It was considered a ‘cool’ and comfortable chair, and not at all provocative. This is of course not a surprising reaction as sitting is a behavior that is social constructed like any other behavior and it is also gendered, which was revealed when boys and girls interacted with Slothfully 2006. Because, the girls had an opposite experience when trying out Slothfully 2006. Most of them felt uncomfortable and vulnerable. For some it even felt like an experiment and they made associations to a gynecologist chair. Wearing a skirt was also a problem. But a few girls experienced sitting in Slothfully 2006 as very comfortable and for one of them it was not even seen as a typical male way of sitting any longer. This attitude is also reflected in picture 7 below, the girl who sits in Slothfully 2006 does not look uncomfortable at all.

![Picture 7: Girls sitting in Slothfully 2006 at the exhibition, Magdalena Petersson McIntyre](image)

However, this was not the common reaction among girls and women. Slothfully 2006 opened up and made aware the different sitting behavior between men and women. The chair as an experience was
very strong and perhaps the most provocative of the three objects discussed in this paper, at least for women.

Interestingly, in terms of its aesthetic, Slothfully 2006 was not perceived as ironic or masculine by many of the visitors, especially not by the male high school pupils, even though Grip had attempted to make the chair as masculine as possible. To them it was just a cool and comfortable chair and several boys expressed that they wanted one. However, and paradoxically, some were put off by the flat red primer color which was thought of as “girlish”, the hot rod references completely lost in their interpretation and the close to pink tone of the paint referring to something else than intended.

Although Slothfully 2006 as a chair feels much like Grip, the actual sitting position does not, neither the male slacker concept. He comment that he does not relate to the macho style or is a slacker as he believes to be equal in his relationships if not even the “girl”, doing most of the house hold work etc.

“But then what the chair stands for is not me. I feel of course very gender equal in relationships. Then I rather feel almost, that I sometimes am the girl in the relationship [laughing]. Well, now I do all the work at home sort of, and I don’t know, well that you don’t use that mucho lingo. That is somewhat the mockery, that the man image I have constructed, he is absolutely not me. And that is rather interesting. That I sort of have created the image of a man that is in no way me. But the chair itself is me.”

The question is if the result turned out to be too normal nevertheless? Perhaps he should have exaggerated even more. When advertisers use irony as a strategy to attract interest and still remain within what is considered correct, as in the example of the Coke Zero commercials, this is a tricky strategy. Exaggerating and using irony today only seems to be another way of confirming and reinforcing traditional male norms. The result acted in two very different ways for women and men respectively. Further, perhaps the embodied experience was too good since it drew attention away from the meta-question of the male slacker ideal. This was very little discussed, obscured by the fascination of the sitting position.
Towards a Hermeneutic Perspective on Design Practice Experience

Introduction – Why bother with hermeneutics?
As was evident at the end of the previous section I was not completely content with Schön’s theory of Reflection-in-Action to describe design practice experience. I will now investigate if Hermeneutics, and how it describes the specific practice of interpretation, offers an even better fit – from “Reflection-in-Action” to “Interpretation-as-practice” so to speak.

I am well aware that I now also enter a “house of mirrors”, where different theories do not offer completely different or opposite views, but rather slightly different angles on more or less the same phenomena. But this is exactly what I need. I need to revolve around that which I seek to understand to attempt catch a glimpse of it from different vantage points.

In this part of the text I will concentrate on Interpretation informed by Hans Georg Gadamer’s Historical Hermeneutics as presented in his magnum opus Truth and Method (Gadamer, 1996). Hermeneutics can be considered a cousin to the American Pragmatist tradition in Philosophy. Both offer a more “relativist” or “constructivist” understanding of knowledge, culture, practices and social interactions etc. This is a clear contrast to the “objectivist” Positivist tradition more interested in observable and objective phenomena of the natural world. Within design research Pragmatists such as Dewey, Pierce and Schön are often referred to while one less often come across references to the European traditions of Hermeneutics, Critical Theory and Phenomenology. The few exceptions I have found include the hermeneutic perspective of Winograd and Flores on computer design (1987) and the more postmodern perspectives on design of Edeholt (2004), Coyne (2005) and von Busch (2010). One reason for the dominance of Pragmatism can be that the dominating journals, such as Design Issues and Design studies are Anglo-American rather than continental European. Another, and here I see similarities with research on pedagogy (Brusling, 2007), that the Positivist tradition has had a firmer grip on research in general in the Anglo-American research community and that the strong interest is in Pragmatism is a reaction to this. Within neighboring discourses such as art-theory, cultural theory, artistic research, critical management research etc, the European tradition is however often stronger than American Pragmatism.

35 “Constructivist”, as in socially constructed and enacted but not stable beliefs and commonly held norms and values rather than eternal truths.
In the text that follows I will attempt to make a distinction between the concepts of “Interpretation” and “Reflection”, inspired by for example Alvesson and Sköldberg (2008b). While Interpretation can be understood as directing attention and awareness towards an external *something*, a phenomena or situation, Reflection turns attention inwards, to one’s own previous experiences, knowledge etc.. Or as Janik express it: “… reflection... directs our awareness backwards.”\(^{36}\) (1991:8). Reflection is “at the heart of “knowing” but does not account for all understanding. However this does not mean that Schön used or was restricted to this understanding of the word reflection. In his case Reflection seems to be a more general understanding of thinking or contemplating that includes both interpretation and reflection (Brusling, 2007:89). However, as much as he shows the dynamic of such integrated knowing in action he seems to have set the “end points” a bit too close, at least to my liking. This is why I feel that I need hermeneutics in particular, to expand understanding a bit in both directions.

To make matters even more complicated I will also use the word and concept “Experience”. A problem with both Gadamer and Schön is that what is mostly discussed are issues that can be represented through language, even though Gadamer also acknowledge that interpretation can also be done through the arts. However the senses are of course also activated in design practice. Further, designers often act on experiences that are not always possible or even necessary to articulate through language, just as for example artists. Gadamer does not dismiss the senses or experiences, quite the opposite. In his advanced understanding of aesthetics that presuppose his understanding of interpretation, he develops an understanding of art as “Ehrfarung”, as aesthetic experience (Gadamer, 1996). Gadamer’s understanding of aesthetics is thus rather similar to Dewey’s (Bale, 2009:20). However, when discussing the practice of interpreting text Gadamer deals rather little with the senses. On the other hand, in Dewey, there is almost a sense and experience “over-load”. This was also something Gadamer reacted to, both in Dewey and the earlier Romantics. To Gadamer it was no less than “hermeneutic nihilism” to consistently understand experience as an isolated momentary event with no connection to established meaning. That both meaning and how and what we experience through our senses are cultural and social phenomena is also a rather well explored subject (e.g. Howes, 2005b). Therefore I believe that it is possible to subsume experience under interpretation as Gadamer did, at least if we are interested in the social and cultural dimensions of meaning, as I am when considering design. This does not take away the fact that the senses have often been omitted and that Dewey here is hugely important to understanding.

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\(^{36}\) My translation from Swedish.
the role of experience in all human practice. Therefore I find the combination of Dewey and Gadamer suitable and this is also why I will attempt to relate to both without necessarily setting them up against each other.

My approach is thus to naively pretend that Gadamer is actually discussing design when he elaborate mostly in relation to textual practice. I will reflect in relation to my own general practice experience as well as to the empirical cases (i.e. Duel, Stiletto and Slothfully 2006) presented in the section “Presentation of the empirical cases” above. Along the way both a possible philosophical/theoretical perspective will emerge as well as a number of characteristic experiences of design practice.

A brief historical background to hermeneutics

Historically hermeneutic Interpretation has followed two fundamentally different strategies (Todorov, 1989). The first one is the “Biblical exegesis” which was developed during the first centuries AD to instruct how to correctly interpret the Bible. It departs from the distinction that there are two types of meaning that needs to be correlated, the original meaning of the Bible (its words), which according to Paulus represents the Truth, and the expressions it has taken in the form of Christian teachings. It is the gap between these two meanings that needs to be interpreted to find the ultimate Truth hidden “behind” the Biblical text according to “biblical exegesis”. Typical such interpretation focuses lexical meanings and semantics. Biblical exegesis dominated until the 17th century.

The other main strategy was the “Philological exegesis” which was gradually introduced at the same time when modern science gathered force from the 17th century. It builds on the notion that the meaning of a text must be found objectively and outside of any belief system (e.g. religion), i.e. it builds on the hope of an objective rather than ideological truth to be found via method rather than belief. It is immediately directed to the text rather than to its context.

The Philological exegesis (Philology) was the principle that reigned supreme until German Theologian and Philosopher Daniel Ernst Schleiermacher in the early 19th century argued that Philology had nevertheless kept a division between a grammatical and a historical form of interpretation, i.e. that there were still two forms of meaning, a historical (instead of religious as in Biblical exegesis) and a grammatical. To him there must be only one meaning which would “meld together” all philosophical, 

37 Gadamer insists that Hermeneutics is not a theory but a fundamental ontological perspective on interpretation. This suits med fine.
historical and grammatical elements. Therefore one should not attempt to understand the intentions of the writer, which was the general hope underpinning Philology – these would be difficult to retain or could even be misleading. The only way to reach an objectively true meaning was instead to position oneself in the same situation that the writer was in, and to do this through scientific Method.

Enter Gadamer’s historical hermeneutics

A central tenet underpinning Hans Georg Gadamer’s Hermeneutics is that it is a reaction against Schleiermacher’s claims of finding an objective true interpretation by reaching back through a bygone history, and further that this would be possible by means of Method - hence the title of Gadamer’s book “Truth and Method” (1996). Gadamer argues that this is impossible as both the subject and the object are situated in history, i.e. it is impossible to step outside of this situatedness, no matter what scientific method is used. This view is inspired by German Philosopher Martin Heidegger’s notion that to be in the world is to already be situated in history, i.e. that both the “knower” (the subject) and the “known” (the object that is to be interpreted) “… have the mode of being of historicity.” (ibid. 252).

But in order to accord this situatedness validity concerning interpretation this also demands a fundamentally different take on Truth. What is truth if it is not in the original meaning of the text as Schleiermacher would argue? Gadamer again turns to Heidegger and introduce his concept of truth to hermeneutics. In Heidegger’s Philosophy the concept of Understanding (as a verb) is elevated to ontology, i.e. that to Understand is “…the original characteristic of the being of human life itself” (ibid 250), to being in the world - “Dasein” 38, an act “… of transcendence, of moving beyond the existent” (ibid 250). Gadamer suggests that the only way to reach true meaning is thus via Understanding 39 as a fundamental concept, i.e. understanding instead of method, and truth as situated and contingent rather than as objective and eternal. In other words, to reach this situated truth also the subject has to be situated, and this situatedness is then turned into something positive.

Gadamer further ties these notions of situated truth, meaning and understanding with the idea that historical texts “bear witness” of accumulated such “being in the world” of others before us. Here is

38 Heidegger use the concept of “Dasein” to denote this being in the world. Gadamer develops how he relates to Heidegger’s philosophy in Part II, chapter 3 - (B) Heidegger’s Project of a Hermeneutic Phenomenology.

39 “Understanding”, as a way to reach knowledge an interpretative tradition, is often in Gadamer’s and other’s texts contrasted with “Explaining” as the way to reach knowledge in the Objectivist tradition.
then where Truth as meaning is to be found, in this context of such representations, including our own ongoing act of interpreting which is also part of this context – in and of this historical flow so to speak. This fundamental principle, this context, Gadamer calls “Wirkungsgeschichte”\textsuperscript{40}, or in English “the History of Effect”.

This view is inspired by Aristotle’s concept of \textit{Phronesis} – the notion that knowledge, meaning and truth value may reside in practice. The same view is as we have seen fundamental also to American Pragmatism. Gadamer discuss how this knowledge is more relevant to the human sciences than Plato’s \textit{Episteme} - the notion of objective, static and eternal Truth (which has inspired not least the natural sciences). Not least does Gadamer regard how the Roman Stoic concept of \textit{sensus communis} (ibid 19) i.e. “... ethical and moral judgment in specific situations and circumstances.” (ibid), is relevant for hermeneutic understanding, rather than the “axiomatic knowledge of reason”, “... because human passions cannot be governed by the universal prescriptions of reason” (ibid 21).

To Gadamer, truth is in practice, and is thus reflected in “application” (in a new version of an older text for example) rather than in the “original”, moral content and all. This is something he pronounces when critiquing Schleiermacher who according to Gadamer argued that “... the work of art loses some of its significance if it is torn from its original context, unless this happens to be historically preserved.” (ibid 160) Gadamer responds that “...this view of hermeneutics is as nonsensical as all restitution an restoration of past life”, and further that “... hermeneutics that regarded understanding as reconstructing the original would be no more than handing on a dead meaning” (ibid).

A consequence of these principles is that we are always “downstream” of Effective History. And this is a good place to be argues Gadamer, as we are thus given access to the means necessary for true interpretation of meaning, and to the accumulated truth or meaning so far as represented in the texts handed down through history. Gadamer in other words accord history and historical texts “Authority” as representatives of “Tradition”. But to engage in \textit{proper} interpretation is by no means a \textit{laissez-faire} task, as we shall now see. It is time to investigate how Gadamer explains the act of interpretation and how this may be relevant also to understanding design practice. Along the way I will also have to propose some adjustments to Gadamer’s concepts to ensure an even better fit with design practice, not least of

\textsuperscript{40} In Swedish ”Verkningshistorien”.
his rather normative and heteronomous concept Tradition (Rosengren, 2006:141) which will have to be dismantled with the help of French Philosopher Paul Ricoeur.

**History of Effect - The inevitable situatedness of the designer**

**Introduction**

Let us begin with Gadamer’s concept of History of Effect (Wirkungsgeschichte). First and foremost it pronounces the situatedness of the interpreter in history and in tradition, well the situatedness of any human that is. To us it posits the relevance of, if not the necessary surrendering to this situatedness and of considering how this may influence design practice. It is worth mentioning that other authors have similar notions about situatedness as Gadamer, both within and outside the hermeneutic tradition. For example Maurice Merleau-Ponty concerning the body and Paul Ricoeur concerning language. Bourdieu’s concept of Habitus has a similar meaning connected to situatedness in practice and according to Flyvbjerg “Bourdieu recognizes Aristotle as the originator of the habitus concept, ... and he sees the practical knowledge that habitus procures as analogous with Aristotle’s *phronesis*.” (2001:60).

Therefore, when I from now on talk about History of Effect and situatedness I will include all such meanings. But *alas*, Gadamer is mostly interested in historical situatedness.

**Creating within boundaries**

So what about design and situatedness? For one thing, situatedness suggests that the designer (or anyone else for that matter) does *not* create *ex nihilo* - i.e. out of nothing. Rather, the situatedness means that the designer is *immersed* in for example history and culture, and constantly draws from this immersion by interpretation and deliberation of meaning. This may seem self evident, but in the more popular understanding of creativity there is still a persistent notion that this ability is close to divine, that acts of creativity are Goodlike acts of creating the new outside of any context (Styhre, 2007). For sure, science has for a long time entertained and enjoyed a similar status of acting objectively outside social human contexts (e.g. Latour, 1993).

An alternative (to the divine genius) understanding of the designer which better fits the concept of situatedness is that of the “Bricoleur”. The concept of the Bricoleur was first introduced by French Anthropologist Claude Lévi-Strauss in his book “The Savage Mind” (Lévi-Strauss, 1966) to describe how mythmaking and the generation of knowledge in “pre-scientific” cultures seems to be a “bricolage” of sorts of an already existing and more or less coherent or ruined heritage. He contrasted this with the
acting of the “engineer” as a symbol for modern scientific inquiry where the tools and concepts are made up especially for the task at hand, driven solely by the project, not limited to and situated in tradition. The difference would then be that “… the engineer is always trying to make his way out of and go beyond the constraints imposed by a particular state of civilization while the ‘bricoleur’ by inclination or necessity always remains within them” (ibid 19).

French Philosopher Jaques Derrida has challenged this division or dichotomy between the concepts of the bricoleur and the engineer that Lévi-Strauss construct. That scientific reason attempts to move beyond existing heritage, discourse etc. does not mean that the scientist actually manages to do this. Rather science is also a myth in a sense, and the “engineer” “… who had supposedly broken with all forms of bricolage is therefore a theological idea; and since Lévi-Strauss tells us elsewhere that bricolage is mythopoetic, the odds are that the engineer is a myth produced by the bricoleur.” Derrida argues (1978:278-295).

Derrida is content with having dismantled Lévi-Strauss’ dichotomy, however to us the notion of the Bricoleur that Lévi-Strauss introduce is still valuable as it describes as an analogy the typical knowledge generation found in the arts and applied arts (e.g. design), something Lévi-Strauss also describes in ways that are similar to how Dewey describe artistic practice. Swedish Philosopher Mats Rosengren also suggests that the concept of the Bricoleur is fitting to understand artistic practice (2010). And if we also acknowledge Derrida’s suggestion, this analogy is also appropriate to all kinds of knowledge generation, including science. The “difference” is then rather one of what is articulated vs. hidden and of the character of the different taken for granted assumptions of the different fields in which knowledge is created. Either way, the artist and the engineer then always make do with what is at hand in a sense, or in the words of Nelson Goodman:

“The many stuffs – matter, energy, waves, phenomena – that worlds are made of are made along with the worlds. But made from what? Not from nothing, after all, but from other worlds. Worldmaking as we know it always starts from worlds already on hand; the making is remaking” (Goodman, 1978:6)

We will revisit this concept further on in the section “Tilting the horizon – or the experience of deliberation and manifestation of new meaning”. For now it is enough to note that situatedness is in no way an obstacle to finding new meaning, but rather the opposite, just as Gadamer argues that to be in the History of Effect is the only way to uncover meaning.


**Negotiating tensions between different levels of meaning**

That said there is more to understanding History of Effect as relevant to design. But instead of pronouncing it as solid and homogenous, as a normative and consistent “canon”, as Gadamer’s concept of Tradition seems to demand (Rosengren, 2006:141), I regard it as a kind of more fluid “meta-context” of a multitude of often conflicting, transient and inconsistent meanings which are nevertheless always involved in all interpretation and deliberation of meaning. Therefore I will from now on rather use the concept of “meta-context” to avoid the connotations of History of Effect.

Other design scholars have also mentioned this level of meaning, for example Cross who acknowledges that “… designers are immersed in material culture” (2006). Verganti has a broader view and argues that designers as interpreters engage in the “design discourse” which includes socio-cultural perspectives on design (2009). However a recurring theme seems to be that design researchers tend to restrict their perspective to things that are more or less directly related to design (e.g. trends, materials etc). I believe that to better understand how designers negotiate meaning we need to expand the scope of the meta-context to cover more complete socio-cultural, political and historical perspectives, even though arguably the practical scope is often quite narrow.

Another possible perspective is to take a good look at the examples of the rich tradition of design practice which address such a broader context, as for example projects in the Critical Design tradition (e.g. Dunne, 2005, Robach, 2005) which in different ways deal with political, social and cultural issues through design, or why not take a look at the avant-garde movements of design from the Bauhaus to Memphis and on. My belief is that we need to acknowledge the widest possible performative definition to best understand how the meta-context may influence design practice.

In the study of the three design cases we saw that this meta-context was always related to when deliberating meaning in the design process. Manifested meaning (in the chairs) thus developed via a negotiation between this meta-context and the more material and practical level of the emerging object, that which would traditionally be consider the object of the design situation, e.g. the elementary school building in the Petra and Quist case. This could be understood as an experienced tension between these levels of meaning that may very well be conflicting. I have chosen to call this a “register of meaning”.

This register of meaning was continuously deliberated in the design processes of the cases and could be seen as an expansion of the “design domains” that Schön defined as the “… names of elements ,
features, relations and actions and norms used to elevate problems, consequences and implications.” (Schön, 1983:96). The expansion we make also includes gender norms, values, political positions etc. Further these are not related to in order to “evaluate” or set and solve problems, as how meaning is engaged in Schön’s case, but to help deliberate meaning of the emerging artifact or other designed result as such.

**Directing attention through experiencing and reflection**

Further, in the very first part of the project, when means for representing meaning (the chairs) and ways of manifesting meaning (irony, Verfremdung, provocation etc.) had not been established yet, this meta-context could also be understood as the “design situation” as such – a wide-open situation in which the design students engaged with very little “to hold on to” but with at trust that something would emerge.

This begs for the question about how the designer direct attention to such an open “something” which does not necessarily have to be a problem but rather an interesting area of engagement. What is it that draws attention? Traditional problem solving discourse would say – “a problem”. And when Schön discuss such things he often uses the word “anomaly”41. To me this carries a connotation of something being wrong or “out of order”, rather close to the notion of the problem in other words. At the same time he says that when the practitioner directs attention to “the stuff at hand” it is because “There is some puzzling, or troubling, or interesting phenomenon with which the individual is trying to deal.”(Schön, 1983:50) - a more open understanding if one focus on the word “interesting”. But “interesting” also connote a restriction to intellectual phenomena. I would rather keep the understanding of what this “something” might be wide open so that it also may include an interest in for example, “something beautiful”. An alternative perspective is offered by Dewey who instead pronounce “Experience”, in the sense of having “an experience” of something and drawing from this in the practice of art (2005). To him this is what artistic practice starts with and is fundamentally about – i.e. the transferring of experiences from one domain or situation to another via the media chosen by the artist, 41 Spinosa, Flores and Dreyfus, when discussing how entrepreneurs and others engage in social action from an interpretative perspective also use the word “anomaly” as a contrast with “problem”. This is their way of saying that they engage in action on things that cannot be solved like puzzles but seem to be pervasive in one sense or another, but from a social perspective. These things they also call “disharmonies”. The “entrepreneurs and culture figures” they discuss in the book detect and act on found “…disharmony between their understanding of what they do and what they in fact do” (Soinosa et al. 1997:193n25). This is to me an understanding still too close to a normative negative understanding of what may attract interest.
for example painting, sculpture etc. Both experiences (to a large extent sense oriented) and interesting phenomena (intellectual properties) can however be subsumed under meaning. However it can at the same time be useful to keep these different dimensions separated.

In the design cases it was clear that the design students had a quite fluid relationship with the open situation. They both drew from problematic areas of gender issues in society and reflected on these in relation to previous experience. Articulated meaning and embodied experiences were thus intertwined. Further the reflections of the design students tended to direct attention to areas that were paradoxical, had the character of a dilemma or mystery and where both the problematic and for example the attractive were intertwined. One such example is Strömgren’s reflection on stiletto shoes. These were attractive and problematic at once as an embodied experience. But they could also be related to similarly complex and dynamic issues of meaning in society, far beyond being seen as solely problems or anomalies. Grip also drew from both experience and more articulated gender perspectives in combination. In his case it was the experience of a privileged position as a male white person that became interesting in relation to a deepened gender perspective. This was something that was both problematic and ironic. What we observed was that the designers did not shy away from inherently complex phenomena, rather the opposite. And it was not until complexity had reached a certain point, a “critical mass”, that they found it interesting to engage and start to deliberate meaning through their practice. This resonates well with Heidegger’s “Dasein” in that there has to be something to interpret for the human being to engage at all. Resistance is vital.

One could argue that this was an especially meta-context oriented project as it concerned gender issues, but all design projects more or less involve rather complicated deliberations between artifact (or for example the meaning of a service) and some kind of meta-context. That meaning is mostly delimitied to what the commercial situation allows and that this often restrict more free interpretation does not take away this dynamic. There are always at least fashions and trends to relate to and they are certainly part of a meta-context of cultural and socio-political significance. And further, even though design rarely breaks with hegemonic and stereotypical norms and values, but often confirm them, they are at least related to. Even to confirm a gender norm by making a pink mobile telephone “for girls” is to relate to it, right or wrong.

**Understanding the user as the Other**
In all this deliberation the designer relates to the situation and it, almost without exception, involves a user. While design is often said to be “user-oriented” or even “empathic to the user”, I would suggest that this is a misleading way to understand the perspective of the designer. The designer interprets and deliberates meaning. In the situation that the designer is asked to interpret the user is a prominent part. The preferences, needs, values etc that the user holds is thus part of the meaning of the situation. In other words, the designer doesn’t have a kind of “add-on” user perspective as a sort of “check-list” or method, nor a normative position vis-à-vis the user as “empathic” connote. That users are given attention to is because they are part of the situation that designers interprets. In other words, as Wetter Edman suggest, the way the designer understands the user is probably quite different than for example how the user in other discourses (Wetter Edman, 2010). I will return to this issue in section “Working with prejudice” below.

It could be good to here once again relate to Dewey: “The artist embodies in himself the attitude of the perceiver while he works.” (2005:50). When the designers in the design cases negotiated meaning as emerging in their artifacts, they then “by default” related to such a perceiver, in this case of the imagined visitors to the exhibition. For example Grip used the strategy of irony by exaggerating a masculine expression, sensing that this would go down well with the audience consisting of mostly younger high school pupils. He related to this audience throughout the work and the full aesthetic experience of sitting in the chair as well as its appearance was a direct result of this. However, to his surprise the response was clearly divided in different interpretations. Some of the pupils immediately “got the point”, i.e. reacted positively to the intended exaggerated meaning as an interesting provocation, while others took Grip’s proposal of a very masculine chair literally, with the unintended result that the stereotypical norms that he tried to challenge by irony were instead reinforced. We regarded this phenomenon as a kind of “dynamic of reception” that any experienced designer is well aware of. Meanings are always transient and fluid. To relate to the “perceiver” and embody intended meaning does not mean to “get it right” or that the meaning is final. But it does mean that a dialogue with an intended user has taken place, something which was absent in the Petra and Quist case.

**Experiencing the meta-context**

The meta-context thus seems to spur two types of dynamics or tensions. One “vertical” and more or less intense tension between the general socio-political, historical, cultural situation – i.e. the meta-context,
and the concrete situation at hand (for example the emerging chair). And one “horizontal” tension
between the situation at hand and the expected meaning as received and/or deliberated by the user.

To connect these observations of the meta-context to design practice experience, I would suggest that
interpreting is felt like perhaps an “oscillating movement” between the meaning of the emerging object
and the applicable meaning of the meta-context, and that this interpretation also has different tempo
depending on what is given attention.

We saw in the Reflection-in-Action case of Schön, and also in Pirsig’s examples, that certain intensity was
typical and necessary in the sketching situation of Reflection-in-Action to remain focused. Cross for
example notes how important speed is to the reflection of the designer to keep up the focus (Cross,
2006). Others pronounce it as “Flow” (e.g. Csikszentmihalyi, 1991). When you are engaged in a
conversation, the conversation has a certain tempo that needs to be held. It may intensify, it may slow
down, but if it stalls, if the thread is lost, or if the response takes too long, the meaning that may emerge
in the conversation with the situation may be lost, just as with any conversation between people.

The interpretation of the meta-context which is more or less pronounced in the design process also has
a tempo, but it does not at all have to be intense like in sketching. Rather it is a kind of ongoing
attention perhaps, instead of an outright and focused interpretation. It has to have its own tempo.
Could it even be slow and lingering?

I can’t help thinking of the “slowness” of Admiral John Franklin (1786-1847). As Sten Nadolny writes in
his autobiography on Franklin (1985), when Franklin was young he was judged more or less
“simpleminded” by family and friends. He could not catch the simplest throw of a ball for example. Fast
movements went straight past him. Nadolny describes how Franklin one day tried to catch the
movements of a chicken from the corner of his eye:

“Immobile they stood there, then scratching and pecking, and then immobile again, like they had not
pecked at all, shamelessly pretending that they had stood still for several minutes. He first looked at the
chicken and then at the clock in the church tower and then at the chicken again. She stood there
immobile again, but during his glance at the clock it had pecked, scratched, jerked its head, turned its
neck, eyes glaring in different directions, nothing but mischief and cheating – it was indeed tormenting.\textsuperscript{(42)} (ibid 13)

But Franklin loved the still objects, for example the headstones in the cemetery,

“... they detected movements that were too slow for the human eye: when the clouds danced past when the wind was calm, when the shadow of the church tower turned from west to east, when the flowers turned their faces to the sun, even when the grass grew."\textsuperscript{(43)} (ibid 14)

The church-yard was Franklin’s kind of place, and the sea. Against all odds Franklin became one of Britain’s most important admirals under Nelson, not because he was quick to respond and decide in a battle situation, which he wasn’t, but because he had a superior ability to detect the slower movements of the battle and the sea, those that mattered in the longer run – the strategic and emergent developments in the meta-context.

I’m offering this story to propose that tempo is important in both the direct Reflection-in-Action situation, such as sketching, and in the more long term relationship with the “meta context”. Further, that these tempos may be very different. The designer, I believe, experience these different tempos and know when to go into which “tempo mode” depending on the design process. We observed that for the design students to immerse in the meta-context took an extended time before it was possible to begin to relate to it through practice. This was a time of intertwined investigation, interpretation and personal reflection. It seemed that matters had to “sink-in”. I believe that most designers at times engage in a similar period of immersion before deliberation through practice can take place. Further, I also believe that most designer also keeps up a kind of continual longitudinal scanning process, perhaps with a tempo like Franklin’s, detecting the slower but important movements of the socio-cultural context.

If we now compare such understandings to the case provided by Schön in the Petra and Quist case, we soon realize that Schön never really considered such a socio-cultural and historical meta-level other than implicitly, and neither the tempo of such an attention. In the table in which Schön listed the observed “Design domains” that were discussed and handled in the case, i.e. the “… names of elements, features, relations, and actions, and of norms used to evaluate problems” (1983:95), for example “building

\textsuperscript{42} My translation from Swedish.

\textsuperscript{43} My translation from Swedish.
components”, “technologies”, “Dollar cost” etc., none of these relates to what I would consider a meta-context from a historical or socio-cultural or political perspective, except perhaps “Precedent” – Reference to other kinds of buildings, styles, or architectural modes” (ibid 96). We have already discussed the lingering objectivism in “The Reflective Practitioner” that Molander has noted (1996).

**Drawing from “Bildung”**

Another perspective on this investigation of the meta-context, is to regard it as “Bildung”. In the context of History of Effect Gadamer discuss the importance of “Bildung”, the in this day and age of instrumentalism and specialization slightly “dusty” foundation of the Enlightenment tradition. The notion anchored in Humanism of the importance to free oneself from the shackles of despotism and other powers that holds the human being down. The broad study of, as well as practice in, many subjects such as the Arts, science, music, philosophy etc., including the idea that to be “broad” and to have wide perspectives means to also breed understanding. It was echoed in the “Wahlspruch” or motto of Kant – *Aude sapere*\(^44\) (Foucault, 1984) – to have the courage or even audacity to know. It was not least a call to use reason, but also the ability to discern and assess proportions. Gadamer holds, following Hegel, that Bildung means:

“... keeping oneself open to what is other – to other, more universal points of view. It embraces a sense of proportion and distance in relation to itself, and hence consists in rising above itself to universality. To distance oneself from oneself and from one’s private purpose means to look at these in the way that others see them.(1996:15)

According to Gadamer, to properly position oneself in the Effective History and to be able to interpret means to develop such an awareness of tradition as called for in the tradition of Bildung. Only then is it possible to accomplish a “correct” or relevant interpretation, i.e. by immersing in the accumulated meaning of texts, music, art etc. Further, Gadamer also pronounce that this Bildung had to also be anchored in the now - For example “… that discovering the meaning of a legal text and discovering how to apply it in a particular legal instance are not two separate actions, but one unitary process.” (ibid 310).

\(^{44}\) Or “*sapere aude*” - Latin for “dare to discern”. 
If Gadamer thus pronounce the tension between the past and the present, I believe that in design the tension is rather between the present and the future. But this does not mean that historical Bildung, at least in a less pretentious sense of having a clue about the history of ideas, philosophy etc, is unimportant, quite the contrary. Further, a kind of “present-oriented” Bildung seems essential, beyond knowing about specific design materials, methods, but of course also including such aspects. It is rather the ability to such directly design related matters in relation to a wider socio-cultural context, i.e. to gain perspectives on aspects of design. When for example deepening the understanding of form, materials, colors, ornament, function etc. in relation to a gender perspective often taken for granted assumptions are revealed and can also be deliberated through a more informed design process. Such increased awareness “through Bildung” can never be replaced by methods or procedures.

In the design cases, in order for the design students to be able to engage reflectively and creatively in the present they also had to start to ask question about how we have arrived at current meanings concerning gender, i.e. the often stereotypical and dichotomous notions of men and women in the extreme as coming from Mars and Venus respectively. To do this they explored academic texts, books, popular media as well as the current market place etc. They gathered a widened perspective, a Bildung of sorts in relation to the project at hand.

Through this process most of the students began to, if they did not already do this, regard meaning as constructed rather than as essentially determined (biologically for example). Furthermore, and equally important, through this understanding of history the present became a fluid, shifting flow of meanings to possibly engage in, and even subvert. They began to see this flow as a situation as such and they also found different strategies appropriate to this understanding, such as “bending” norms, making taken for granted norms visible by exaggeration, and opening up for reflection through “Verfremdung”– i.e. strategies much more appropriate to an ambition of opening up possibilities for the future and in line with the whole range of post modernist strategies, e.g. deconstruction, queering etc.
The dialectics of interpretation - The primacy of the disturbing question

**Introduction**

To Gadamer the practice of interpretation is truly *dialectic*, i.e. it is a process consisting of and characterized by active questioning and answering, the “... art of entering in dialogue with the text.” (ibid 368). Further, it is a dialogue that moves in a spiral pattern centrifugally towards understanding. This concept of the “hermeneutic spiral” Gadamer borrowed from Heidegger. Indeed the concept had had a longer tradition in Hermeneutics but then describing a movement back and forth in the text. What Heidegger did was to instead construct the circle as an oscillation between meaning projected on the text by the interpreter, and the meaning of the text, or rather of the situation, itself. This movement became a kind of spiral when evolving meaning would converge into understanding. To Heidegger this was a description of understanding the world as an ontological concept, as “Dasein”. To Gadamer, who bought Heidegger’s ontological understanding, Hermeneutics could then be considered

“... a radicalization of a procedure that we in fact exercise whenever we understand anything.” (ibid 270)

It is no coincidence that we recognize the same notion in Schön and in his expression – a “conversation with the situation at hand”(1983). How this process is engaged in practically was what Quist showed Petra “by doing”. So is there really anything more to add here than what has already been so well described by Schön in relation to design? Not really, but with the help of Gadamer we may further pronounce this concept and give it some more weight.

A distinction between Schön’s notion of the process as a conversation and Gadamer’s notion of Dialectics is that the latter, by drawing directly on Socrates dialectics, pronounce that the essence of the process is an attempt at “closing in on” “meaning”, while Schön with his more pragmatic agenda pronounce “problem finding”. Perhaps not such a big difference, but what Gadamer does when being more concerned with meaning is that he more explicitly than Schön pronounce the primacy of the Question.

**Questioning to understand and open up possibilities**

Gadamer turns to the dialectic of Plato and the notion that “... we cannot have experiences without asking questions.”(ibid 362), or, as it were, without experiencing something new – the experience of negation – something that is not what we supposed it to be (ibid 354). Immediately one feels an intuitive recognition that this is where we find much of the arsenal of an interpretative design practice
methods such as cultural probes, interviews, provotypes etc. Indeed the sketch is also as a representation a way of posing a kind of question to others, as a proposal.

“A question places what is questioned in a particular perspective. When a question arises, it breaks open the being of the object...” (ibid 362).

In other words, and what has been clear since Socrates, what is difficult is not to answer but to question, and to question in a way that opens up possibilities.

This is an attitude which seem to “fly in the face” of current epistemic and rationalist knowledge. To pronounce open-endedness and suggest the need to complicate rather than simplify reductively (like science since Descartes) is to fundamentally challenge the notion of optimal and “true” solutions to problems. Even though this understanding of the need to question rests on Platonian episteme – the belief in ideal and eternal truth, Plato was more pragmatic than most current neo-positivists and as he was inspired by Socrates understood that for the human being to reach such eternal Truth is near to impossible. The only way to possibly come close is through probing questions. In other words, we can still trust in dialectic probing to help us better understand a “something” even though we might not believe in finding eternal Truth.

The consequence of according the question primacy is well worth to consider also from a power perspective. Socrates was sentenced to death because of his insistence to pose questions that were difficult to answer and thus, according to the authorities of Athens, corrupted the minds of the youth of the city, and not to mention made them look foolish in the process. According to Slovenian Philosopher Slavoj Zizek, to question, in the critical sense, is within a society where problem solving is the dominant modus operandi perhaps the most subversive and provocative act there is – and it is an act that has to be muffled and censored if it hits a critical nerve (BAVO, 2007). The dominant strategy of the holders of power is to simply turn the tables and ask for a solution. The critic is then caught off guard and is thus exposed as a “…cowardly, impotent figure deriving some sort of hysterical satisfaction from asking critical questions for the sake of asking them.”(ibid). Here a most problematic situation is revealed. To ask questions does not mean that you will immediately know the answers. To ask the really radical questions is to challenge the existing order and to at the same time offer an alternative is near to impossible. This was probably why Socrates was executed as his questioning disturbed the stability of the state.
In less dramatic settings, in firms that are introduced to a design perspective, the “incessant” questioning by the designer is often experienced by the “non-designerly” organization as characteristic of the designer and also problematic and sometimes difficult to relate to (Johansson, 2008a). This has also been shown empirically by Persson when observing how engineers in a high tech company experienced the introduction of an industrial designer (2008), and also in a study on the integration of design in engineering organizations by Persson et al (2007).

I believe that this notion of the question, in its many forms, and through the dynamic it makes possible, is indeed the very “epicenter” of this whole reflection about design practice. It is for any interpreter, including designers, a necessary skill to be able to pose questions, from naïve to critical I believe. Not least is it the critical question that threatens to overthrow the existing order that at the same time hold the key to new meaning. But Gadamer is not interested in overthrowing meaning, “only” in understanding the meaning of something existing (for example a text) better. In section “Adding a Critical Dimension - Negotiating tension between critiquing and making” I will look for a way to expand hermeneutics to also embrace new meaning.

**An oscillation between the parts and the whole**

The dialectic of asking questions to search for meaning has an important movement that both Gadamer and Schön express in a detailed way. Schön propose that is a kind of “… oscillation between the unit and the total,” (Schön, 1985:49). Gadamer express it similarly:

“… we must understand the whole in terms of the detail and the detail in terms of the whole. ... The anticipation of meaning in which the whole is envisaged becomes actual understanding when the parts that are determined by the whole themselves also determine the whole.” (ibid 291).

And as Schön observes, the sketching of the designer is a “… conversation with the situation.” (Schön, 1985:43), where the sketch concerned is a kind of proposal that “talks back”. To me this corresponds directly with Gadamer’s notion that:

“We learn that we must “construe” a sentence before we attempt to understand the linguistic meaning of the individual parts of the sentence. But the process of construal is itself already governed by an expectation of meaning that follows from the context of what has gone before. It is of course necessary for this expectation to be adjusted if the text calls for it. This means, then, that the expectation changes and that the text unifies its meaning around another expectation. Thus the movement of understanding
is constantly from the whole to the part and back to the whole. Our task is to expand the unity of the understood meaning centrifugally. The harmony of all the details with the whole is the criterion of correct understanding. The failure to achieve this harmony means that understanding has failed.” (ibid 291)

What the first part of the quote highlights (I will get back to the part about harmony further on) is the curious propensity of humans to propose or project something (of meaning) and then act on it. Gadamer relate this to Heidegger’s concept of “Throwness”45, of projecting something that we do not fully understand to have something to act on, to interpret in relation to the situation. According to Heidegger this is the fundamental way of “Dasein” – of being in the world, i.e. of being by understanding where we can only understand by suggesting something to interpret. A professional practice of interpretation, like design, does not wait for things to appear that may be interpreted. Instead the interpreter in an on-going process “throws things forward” to interpret. This is thus what Gadamer means when he calls this practice a “… a radicalization of a procedure that we in fact exercise whenever we understand anything.” (ibid 270). What we project, throw forward, may be a word, a question, an object, a metaphor, an act, a shape etc. Or why not a “pigment of ink” as in Simon’s observation of the act of painting:

"In oil painting every new spot of pigment laid on the canvas creates some kind of pattern that provides a continuing source of new ideas to the painter." (1996:162)

But instead of attempting to use this observation as an insight into design or artistic practice, he used it to discuss how in planning it is paradoxical that one outcome, e.g. a building, will lead to the necessity to device new goals inspired by the failures of the previous results, e.g. new but different buildings. With Schön’s and Gadamer’s understanding you don’t wait for such insights. Instead, you may build as many buildings as you like in the virtual process of sketching and Reflecting-in-Action. Thus “Throwness” is the cutting edge of the process of interpretation.

Terry Winograd and Fernando Flores offer a hermeneutic perspective on computer design in the book “Understanding Computers and Cognition” (1987). They have “translated” Throwness to the typical design situation and suggest that by it you will find yourself in a situation where you experience that:

45 “Geworfenheit” in German.
1. You cannot avoid acting

2. You cannot step back and reflect on your actions

3. The effects of action cannot be predicted

4. You do not have a stable representation of the situation

5. Every representation is an interpretation

6. You cannot handle facts neutrally; you are creating the situation you are in

In such a situation typical questions are “What does this situation mean?” and “What action can/should I take in this situation?” (ibid 34). We see how most of this corresponds to Schön’s descriptions although the ability to “Reflect-on-Action” is challenged, by proposition 2.

Both Gadamer and Schön pronounce the tension between what is being projected and the understanding of it. This tension which might be experienced in many ways, the stress or the “insanity” as described in section “The process of Reflecting-in-Action”, as uncertainty, as intriguing, as open - always experienced. This is fundamental. The skilled interpreter, as the designer, feels that when such tension is not there he or she will be “stuck”, to turn Pirsig’s concept around. The interpreter has to have a situation that is possible to interpret and it has to have a minimum level of complexity for bricolage to be possible. This is why questions open up the situation for interpretation. This necessity for tension is also why for example mistakes work so well. Or as Isaac Asimov is supposed to have said:

“The most exciting phrase to hear in science, the one that heralds the most discoveries, is not ‘Eureka!’ (I found it!) but ‘That's funny’”

Voluntary or involuntary mistakes also trigger “what goes on here?” type of questions. In the empirical design cases we observed several such situations. One poignant example is when Grip was provoked by how his rough welds on the tubular frame for the chair. These were a clear deviation from his slick 3D renderings. At the same time they seemed to help strengthen meaning by being sharp and provocatively

46 Can be found anywhere on the internet as a quote.
“ad-hocish”, i.e. these rough welds actually pronounced the masculine expression he was looking for. So instead of grinding them down to make them smooth he kept them rough. This experience also helped him see that “roughness” could be achieved in other ways as well, for example through flat paint instead of glossy.

But experiencing or understanding meaning in the design situation does not have to be articulated meaning through language, as is the case with Gadamer’s interpretation of texts. The meaning of artifacts are first and foremost in their use, how they fit their purpose but also in how they fit for example the body and even more what affects they provide or make possible, i.e. a complete range of possible meaning from symbolic meaning via experiencing to meaning as invested by the user, for example his or hers dreams, memories, hopes etc.

Strömgren departed from an experience that she wished to investigate in relation to the meta-context - that of balancing in stiletto shoes. A complex experience of having to balance in order to please according to traditional gender norms which demand that female attributes tend “to tuck in, straighten out and push up in order to beautify” (Jahnke, 2006), but also of a sensation of feeling beautiful. After having deliberated how to transfer this sensation of wobbly shoes to those with no such previous experience at the exhibition, i.e. most men, she came to the conclusion that a chair could do the job. Thus experience and meaning were transferred from one situation to a very different one in a Deweyan sense.

But this was not without conflict. Strömgren also experienced a potential conflict between meaning and practical functionality. In her case the result clashed between making a functional chair and a chair that was inherently unstable, i.e. was poignant with regards to meaning. But this did not bother her much. To her, the investigation conducted into the phenomena of the chair “as such” was still worthwhile because she managed to push the limits of what a chair can be. So even though she did not convey clear meaning from a gender perspective, she certainly communicated something interesting about chairs as she facilitated an experience of sitting as a different and strange experience – a “Verfremdung” of sitting” i.e. she had devised an object that demanded to be interpreted.

47 I’m thinking of Dutch Philosopher Baruch Spinoza’s concept of Affect – how everything, bodies, matter etc. are tied to other bodies, matter etc and how it is the affects that act between them, these relationships, attractions etc that are at the center of existence, not the bodies, matter etc in themselves (Spindler, 1975). What designers does is fundamentally to engage in these affects through artifacts, rather than make objects as isolated objects entities.
Sketching beyond visual matters

It is often discussed how the designers “think visually” and that the designer “represent” visual ideas with the sketch which then supports communication between people (e.g. Martin, 2004b, Boland, 2004). However this is a fallacy or a restricted understanding I believe. It is like “… vision is the only sensory show in town.” (Howes, 2005a:12). In the design cases it was obvious that all kinds of sensory matters went in to the interpretative sketching process, not only visual cues.

Swedish Philosopher Johan Asplund offers a thought provoking story. In his book “Så Låter Åskan” (Asplund, 2003), he notes how children without effort engage in interpretation of a phenomenon and also offer their manifested interpretations with ease. Asplund asked a number of two to nine year-olds to draw rain. He then compared these to drawings of rain made by grownups. The reason for the interest in rain is that rain as a phenomenon is rarely represented other than by established signs, on the weather map for example, and that it is inherently difficult to depict. According to Asplund, representations of rain, for example in the arts, is a rare phenomenon and almost always is made as a secondary representation, for example of a wet surface. The result of this exercise was that while the grownups resorted to sign-like representations mostly on the format of lines and sometimes drops, the children showed a markedly more wide and vivid range of sketches of rain. Not least did they connect quite directly to sensory experiences of rain, to the point of one child identifying himself with rain, with raining – “Look, I’m raining!” he said.

To Asplund, the difference is so fundamental that while the drawings of the grownups could be considered as conventional signs, the drawings of the children were rather simulacra of rain - the drawings were on the one hand quite different in their expressions, in how they represented rain, but all shared that they were strikingly like rain. Designed artifacts embody meaning in much the same way and to design means to be able to deliberate meaning way beyond signs and visual cues, even when sketching. In other words, sketching may be an embodied act which also triggers other senses to be

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48 The title can be translated to something like Thus Sounds Thunder (my translation from Swedish). To the regret of many Swedish fans of Johan Asplund he refused to be translated to English as he felt that this would alter the meaning of his text in a detrimental way.

49 My translation from Swedish.
engaged in the reflection and interpretation. However this more complete experiencing is rarely “seen” in the sketch. It is the resulting artifact which carries all intended meaning and experiences and also those possible meanings and uses that the user will further deliberate with the artifact in use. I remember how this dawned on me when I presented my master thesis, which was a collection of less stereotypical children’s clothing through “queering”.50

I showed sketches, prototypes etc. I showed how I had worked with children at a Kindergarten. I showed all the methods I had used. But I never talked about the meaning I had deliberated other than in abstracted ways. At the end of the presentation I got perhaps the most important question in my whole career, from late ethnographer Magnus Mörck “But how did the boys experience the glittery clothes” he asked. Of course it was all there, in the resulting collection. But I had not written about it and I had not talked about it. At first I had to think back a little but then I vividly remembered the pivotal moment when the boys at the Kindergarten had flocked around the experimental glittery and the same time “boyish” clothes I had made to test their reactions, how these clothes drew all attention and how the boys had revelled in the experiencing of glitter when wearing the experimental clothes – “Look at me, I am glittering!”. Of course I knew, but it had all been “inside” the process, and in the artifacts to be experienced, not talked about or visualized.

50 Instead of working on the conditions of the traditional dichotomy of gender and as a strategy try to reduce away everything that can be problematic from a gender perspective (e.g. pink, skulls, glitter etc.), something which the traditional unisex approach does, I instead mixed different expressions, e.g. glitter and skulls or pink and utility etc.
Fusing Horizons - The matter of the inevitable prejudice

Introduction

We have already seen that the interpreter, the subject, is always situated, i.e. can never step out entirely of his or hers position - he or she has a limited “possibility of vision” – this Gadamer metaphorically denotes “horizon” drawing on Husserl’s and Nietzsche’s use of the metaphor. Also the work to be interpreted, the object, has a “horizon” of meaning. For interpretation to work these horizons needs to be fused into a harmonic unity Gadamer holds. This was what Gadamer meant with the quote I used in the section “An oscillation between the parts and the whole” above, which ended: “Our task is to expand the unity of the understood meaning centrifugally. The harmony of all the details with the whole is the criterion of correct understanding. The failure to achieve this harmony means that understanding has failed.”(ibid 291)\(^5\). In other words the gap in understanding has to be overcome. For the interpreter this amounts to two things:

Firstly, to acquire an appropriate historical horizon for a given task. This is not easy, but necessary as a foundation for interpretation:

“To acquire a horizon means that one learns to look beyond what is close at hand – not in order to look away from it but to see it better, within a larger whole and in truer proportions.” (ibid 305)

This was why not least Bildung was so important.

Secondly, that the interpreter has to be aware of, and draw from, one’s own prejudices. As we have seen, Gadamer propes that we work with the fact that we are situated in history. Then our prejudices, our “foremeanings” are not necessarily all that bad. On the contrary, these are fundamental to being able to interpret at all. But does this not this imply total relativity? No insists Gadamer. A historical perspective means to be connected to the text through history, i.e. to have accumulated historical meaning by being situated in History of Effect. Thus there are “legitimate” prejudices that will reflect the History of Effect. In this way it is possible to reverse Enlightenment’s and Positivism’s critical understanding of any prejudice. Prejudice can instead be instrumentalized to aid the reaching of a valid

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\(^5\) Dewey as well as Pirsig have similar notions of “harmony” as characteristic of when a work of for example art, craft or understanding is done.
interpretation of meaning – or in other words, prejudice is “tapped into”. But at the same time one have to

“... be aware of one’s own bias, so that the text can present itself in all its otherness and thus assert its own truth against one’s own fore-meanings.” (ibid 269)

The fusing of horizons is an ongoing movement which is constituted by an ongoing projection of new understandings on the text. In other words – there is no objectivity or neutral position here, and that is the point – what makes this process possible is instead the fluidity of meanings in relation to awareness made possible by constant “... questioning of things...” (ibid 269).

**Working with prejudice**

In the study of the design cases we saw this dynamic clearly. It seemed that whenever the designers attempted to do something that was outside his or hers horizon or way of understanding, outside “foremeaning”, the process of interpretation and deliberation of meaning fundamentally broke down.

For example Hegårdh’s first notion was to design a chair that would pronounce traditional cross-legged “female” sitting. However this did not correspond with her own “foremeaning”, it clashed with her own views of the importance of avoiding stereotypes and her interest in the individual, regardless of gender. Therefore she left this strategy and found herself much more at home in a concept that would avoid traditional gender norms and instead focus on the individual. Similarly Grip first attempted to make a chair which would enhance unisex properties. But this did not give him any inspiration. Instead he went in a more stereotypical direction via irony. In both cases the group also supported these shifts in direction and expressed them as more “fitting” and more in harmony with the personality of the designers.

This dynamic and the matter of prejudice was not really discussed in Schön’s Quist and Petra case, although the notion “repertoire of domains” (Schön, 1983:98) seems to be similar. Similar aspects have also been discussed by for example Darke as “primary generators” (Lawson, 2006:46) and Buchanan as “placements” (Buchanan, 1992). However these concepts have been described more as instrumental perspectives or tools to engage when faced with a wicked or “indeterminate” problem, instead of as an unavoidable aspect of interpretation.
This tendency to depart from one’s own prejudice or foremeaning has been observed by Science and Technology Studies researcher Madeleine Akrich. She has labeled this tendency “I-methodology” (1992a). This is argued as one of a number of “implicit methods” used by designers, in contrast with more explicit methods. Oudshoorn et al describe how the young male designers of a new IT-system were meant to take into account the needs of the elderly users, but how they anyway departed mostly from their own needs (2002). This is not uncommon. If understood from an interpretative perspective, rather the norm.

However to construct this as a problem to be overcome through the use of explicit methods, or even to call this tendency an “implicit method”, is to play down the fundamental reason for this phenomena – that to interpret one have to depart from some sort of foremeanings, i.e. norms, values, preferences etc. and work with them. There is no fundamentally objective position here. However such an understanding is of course no excuse, on the contrary, but it pronounce the need to, as Gadamer say, treat foremeaning more instrumentally and be willing to expand and learn continuously to reach meaning that is relevant, in this case for users. To use explicit methods is important, but it does not replace the fact that when we interpret we also engage the self, prejudice and all.
Adding a critical dimension - Negotiating tension between critiquing and making

Introduction

As we have seen the historical hermeneutics of Gadamer does not seem to help us understand one of the most crucial components of design, namely the potential for offering critique through practice. There is a kind of disaccord between Gadamer’s understanding of Hermeneutics and both design history in general with its many movements of avant-garde, but also with the study of the design cases at hand where the design students challenged stereotypical gender norms in different ways. However we are not alone in having identified a problem with Gadamer’s focus on Authority and Tradition. Indeed it was the specific point of critique posed by Critical Theorist and sociologist Jürgen Habermas on Gadamer’s theories, and a reason for a famous debate between the two in the 1960:s (Ricoeur, 1992).

Introducing a critical perspective

Critical Theory departs from the notion that ideology must be made concrete and visible by explanation, i.e. through a more rational perspective. By making the negative workings of authoritative ideology explicit it would also be possible to break with tradition if need be. Habermas considered this a better “approach” than Marxist revolution that would only replace one ideology with another. To Habermas change must come about through “communicative reason”, i.e. in an ongoing exchange between people that together make up better terms. Considering Habermas’ suspicion of tradition it is no wonder that he reacted against Gadamer’s reliance on Tradition and Authority. To Habermas it was indeed in tradition that ideology “hid” from view and from where it systematically distorted open communication which could be considered as an illegitimate use of power and violence (ibid 103).

The reliance on reason in Critical Theory, as a direct heir of the original ideas of the Enlightenment is to me a bit too far detached from the core of a more aesthetic and interpretative design practice, however the general ambition to visualize and subvert existing power rings true with any Critical Design practice, or indeed with any design practice that is willing to question existing norms, whether political or more practical. Indeed, Critical Theory has inspired not least artistic practice (e.g. Hannula, 2003) and also design practice, for example Critical Design (e.g. Dunne, 2005). Johansson and Svengren also argue that the critical perspective, which is similar to Critical Theory is vital to any design practice that wish to propose solutions outside the existing ones (2008a:41).
But despite the strengths of acknowledging the critical perspective of design in relation to Critical Theory, as far as I am concerned, too little instructs how to understand the dynamics of design practice from this perspective. So for this specific purpose I would very much like to stick with Gadamer and hermeneutics. But is this possible considering the problem with Gadamer’s Historical Hermeneutics? Ideally I am looking for a merger that would keep the best elements of hermeneutics and Critical Theory in a kind of fusion that would fit design practice.

Fortunately French Philosopher Paul Ricoeur comes to my rescue. Ricouer is famous as a philosopher for his insistence on building bridges between concepts that are otherwise seemingly incompatible and between which there might be controversy. In his essay “Herméneutique et critique des ideologies” from 1973 (Ricoeur, 1992) I find an attempt at exactly this fusion, between the critical attitude of Habermas bent on explaining and the interpretative approach of Gadamer’s aiming for understanding. Ricoeur acknowledge that Gadamer has indeed established a foundation for a more radical hermeneutics, even though he himself didn’t take Hermeneutics in this direction. Ricoeur’s discussion is rather detailed but I will attempt to account for the more fundamental notions of the essay, to see if these may be valid for my attempt to “lure out” something more about design practice experience via the attitude of Critical Theory.

**Ricoeur’s expansion of hermeneutics**

First of all, Ricoeur argues that a fundamental reason why Gadamer’s version of Hermenutics does not seem to correspond with a critical position and practice, is that he has, as we have seen, elevated the practice of interpretation to Ontology via Heidegger’s concept of “Dasein”. Gadamer did this to establish credibility to his understanding of situated truth or meaning - the link necessary to bridge the historical with the current. This was his way of combating the Romantic tendency to reconstruction of a long lost past without falling in to the opposite position of demanding a rational truth in the positivist tradition, one which he detested because of its insistence on objectivity. To Gadamer objectivity meant an alienated distancing or “Verfremdung” which was in total disaccord with his notion that to interpret one have to be close to that which is interpreted (Gadamer, 1996:104)(i.e. the closeness of interpreting when sketching for example, the zen, flow etc.) – through objectivity “Zugehörigkeit” (belonging) is lost. This was also why he had to reestablish Prejudice or “foremeaning” as a not entirely negative kind of

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52 In Swedish “Hermeneutik och ideologikritik” in the anthology “Från text till handling” (Ricoeur 1992). All quotes in this section are my translations from the Swedish text.
understanding. What he then built was a hermeneutics that favored tradition through an ontology of interpretation where the situatedness in history was inevitable. Here there was no real room for critique other than to try to draw out relevant existing meaning, i.e. no way of stepping outside of a tradition which carries hegemonic ideology - no room for change. No wonder Habermas was frustrated.

When Ricoeur begin to look for common ground between Gadamer and Habermas, he first directs attention to the concept of “communicative reason”. This he argues has to build on the same premises as hermeneutics, of understanding where foremeaning is subject to traditional meanings which are always present in a process of interpretation. Here is where common ground can be found.

He then focuses an area of disaccord. While Habermas departs from his fundamental concept of “human emancipation” and connect this to the Sociology, Gadamer builds his theory on the more conserving Humanities which pronounce tradition and cultural heritage according to Ricoeur. In Gadamer’s theory the critical position is thus, as we have seen, subordinated to tradition. To Habermas it is the independent critical position and self reflection which sets the human free from the force and suppression of hegemonic institutions. To him this position must be superior to hermeneutic experience – i.e. the ambition to be a ”... dissolving project in relation to the constraint that is not ‘governed by natural law’ but emanate from institutions.” (ibid 136). This is the abyss between Gadamer and Habermas.

But this is not enough, as mentioned above, Habermas by drawing from Marxism challenges hermeneutics to see that which is made invisible in ideology. To him oppression occurs in the “sphere” of communicative action where language is distorted on the terms of the dominant power. As hermeneutics stay in meaning through language it will not detect this distortion if it cannot develop an explanatory critical perspective.

This is worth considering in relation to design. In the case of design, which works beyond language, stereotypical and hegemonic structures, norms and values are also “solidified” in objects and other actions. Objects thus embody “scripts” for use (Akrich, 1992a), i.e. how to use something is limited or partially limited to follow the script. Objects may then restrict in ways far beyond language. However, as meaning is always contingent, users can also subvert and renegotiate the script and do “de-inscriptions” and in this way may create new meanings and uses of the object, regardless of the designer’s intention.
In other words, and in accordance with Habermas’ views, it is indeed a problem if a practice, such as design, is not able to position itself in a critical position vis-à-vis itself.

This may seem as insurmountable obstacles. The more interested Ricoeur gets. He asks “Under which conditions can a hermeneutic philosophy on its own accord deal with the requirements of criticism of ideology - What will have to be renegotiated or altered? (ibid 144). And further “Under what conditions is critique of ideology possible - Could it even be accommodated without hermeneutic conditions?” (Ibid). If he can answer the first question I will be “home free” in my attempt to use hermeneutics to frame design practice experience.

**Building a bridge between critique and deliberation of meaning**

Ricoeur argues that what is fundamental is that Gadamer’s elevation of Hermeneutics to ontology, and of promoting intimacy, is at the cost of the possibility of distancing (through method). This is the dichotomy which disregards the possibility of a critical position that demands distancing. Would it not, suggests Ricoeur, be possible to add another tension, and thus another dialectic, that between experiencing intimacy and experiencing the alienation of distancing – and even let the tension between the two be key to “the inner life of hermeneutics” (ibid).

This is indeed the dialectic, the tension, which I have experienced in several of my own design projects and which I recognize in others, for example in the study of the design cases. In these we saw observed how Strömgren, Grip and Hegårdh all managed to both be immersed in a design situation close to the emerging artifact, and at the same time deliberate and manifesting new meaning that was not least a critical reaction to stereotypical and taken for granted meanings in the meta-context of consumer culture and society in general. But could hermeneutics accommodate such a tension? Ricoeur suggest four themes that would complement rather than contradict Gadamer’s Hermeneutics:

1. Accepting distancing as fundamental to interpretation

2. Displacing hermeneutics from text to work

3. Allowing poetic redescription inside the process of hermeneutics

4. Surrendering the notion of an inert self

I will now describe these moves in some more detail.
1. Accepting distancing as fundamental to interpretation
Gadamer understood “distancing”, or “alienation” as an abomination, is actually a prerequisite for interpretation. Already the fixation of the text is a kind of distancing from “original” meaning. The text also distances itself against the cultural situation as well as all sociological conditions. Already the first instance means that “... the world of the text fundamentally expands the world of the author” (ibid 150). But also in the sociological context the work transcends the terms of its genesis which makes an infinite number of readings or interpretations in new socio-cultural contexts possible. This resonates well with how we understand designed objects as open to interpretation. Ricouer wrote his essay at the dawn of a more postmodern understanding of text. This position is perhaps not so radical today. But nevertheless, to accept the notion that the very text offers a critical distancing at the core of interpretation, sure helps. And Ricoeur notes that Gadamer had already accepted that history also means distancing, so in a way the possibility was already there.

2. Displacing hermeneutics from text to work
Hermeneutics has to overcome the devastating dichotomy between explaining and understanding Ricouer argues. This is possible if hermeneutics moves its discourse from the work to the practice, i.e. from the text to the act of writing, or discourse, in the case of traditional hermeneutics. This also works well in relation to design practice – nothing stands in the way of a critical position in design practice as we have seen.

3. Allowing poetic redescription inside the process of hermeneutics
When questioning the text, this is not to get hold of a “kernel of meaning”, it is the opening up of the meaning the text makes in relation to what is external to it – i.e. how the text opens up a kind of “world” (or many), “in front” of it (ibid 153). But this opening of meaning also means a critique against all understanding of reality as given. To me this is indeed the very point where the possibility of new meaning springs – the resonance between the experienced practices of design as engaging in making new worlds of meaning a la Nelson Goodman. Ricoeur indeed refers to the poetic discourse as the most subversive power and to how it builds on both the “annulment” of the references of everyday language and the opening up of a reference of “a second order” (ibid 154) – the new world that is opened up by the work. We saw that in for example Strömgren’s Stiletto how a “Verfremdung” of sitting was accomplished – such results of design practice which challenge norms, conventions and behavior is in
my mind equal to a subversive poetic power. Ricouer holds that “... fiction is what leads to new meaning.” (ibid)

Indeed Gadamer discussed this power of fiction in his section on “The question of truth as it emerges in the experience of art” (1996) and it fundamentally correlates with Heidegger’s notion of Thrownness – that something radical must be suggested to provide means for interpretation beyond what is already understood. It is just that we have to take this critical perspective to its outer limits, argues Ricouer, so that we can insert a critical position into Hermeneutics, i.e. a radicalization of a perspective which was already there. In other words, what we then do is to expand the idea of Thrownness. If Gadamer saw Thrownness as an essential part of interpretation, i.e. as a necessary part of the practice of interpretation, we may also relate the concept of Thrownness to the result of the practice. The design, the poem or whatever is also something that is “thrown into the world” as a proposal that needs to be interpreted and thus have the capacity to open up new worlds. This is in my mind where Schön missed the point – he never really considered a process in which the result was about meaning as such, when discussing the architecture case of fitting a building to a “screwy slope”.

If we then combine the poetic reference, the ability to rewrite reality, with a critical position we gain a subversive “could-be” perspective (ibid 154), something which for example resonates with design practice as understood by Swedish design theorist Håkan Edeholt who suggest that the innovation potential in design is to propose how things “might be” (Edeholt, 2004).

4. Surrendering the notion of an inert self

Finally, Ricouer offers that we also need to rearrange the subject in relation to the text, to open up for critique of subjectivity and still retain the hermeneutic position. As Ricoeur puts it “To understand is not to be mirrored in the text, but to be subjected or exposed to the text” (ibid 155), i.e. if the texts open up new worlds of understanding in front of itself this also means that the self, the subject, is opened up, the “self” is not inert – it means to receive a richer self (“un soi plus vaste”) by acquiring the possible worlds that interpretation develops (ibid). To acquire thus becomes the dialectic counterpart to distancing - to acquire means also means to surrender the self. In essence – to interpret is to learn.
Tilting the horizon – The experience of deliberation and manifestation of new meaning

Introduction

When we have now dealt with the lacking critical perspective in Gadamer’s historical hermeneutics and have seen that by adding a perspective inspired by Critical Theory we also gain, through Ricoeur’s bridge building, an understanding of how new meaning is possible in interpretation, or rather, have found a hermeneutics which seem to fit experienced practice. By dismantling the subject-object duality that was still more or less intact in Gadamer’s hermeneutics we see that change is possible between the subject and object through distancing (the critical position), i.e. that in a sense both are in a “flux”. The object can have infinite meanings “before the text”, or before the “situation” as we would say. Possible meanings are infinite. And also the subject change when involved in interpretation by being exposed to the possible meanings of the text when interpreting it, and accepting this. Indeed the latter is fundamental to Heidegger’s ontology so here is no real controversy with Gadamer.

What opens up is a space for possible subversion or critical positions through the practice of interpretation. In other words, it is possible to interpret the existing without having to be “slave to circumstances” – that which seemed to be the case with Gadamer’s authoritarian understanding of the History of Effect. This is a position which echoes a more post-modern understanding found in for example Foucault. It is the narrow “gap” in all human practice and understanding which also design can “bend” and “lever” to open up for other possibilities for the future. It is not a wide gap. The opportunity for radical change is small. But perhaps it is rather the little devices that matter. When Bourdieu discuss that humans are not predestined to ever and ever repeat the same rituals, as would be the case if rituals followed strict rules of nature like the Post-structuralist seemed to hold, he at the same time reminds us that the Habitus, the “… cultivated dispositions, inscribed in the body schema and in the schemes of thought” offers resistance to change (2009:15). Even so, change is possible. Humans may insert their own strategies in rituals, “… the agents [of gift exchange] remain in command of the interval between the obligatory moments…”, and they may for example play with the “tempo” of exchange. Artifacts are also actors in the rituals of everyday and may therefore also be seen as such spaces for possible intervention through which new meaning may unfold.
The experience of emerging new meaning

But how can this notion of possible new meaning be understood as a experience? A scholar who has taken an interest in hermeneutic in relation to artistic practices is Swedish Brazilian Philosopher Marcia Sá Cavalvante Schuback (2006). She describes a similar understanding of hermeneutics as that of Ricoeur. She also challenges Gadamer’s concept of “fusing of horizons” as too abstract from an experience point of view.

“... to talk about fusing of horizons distracts the gaze from the meeting with Nothingness [intighet] that characterize this in-between of being in the spatiality and temporality of transition.”53 (ibid 159)

Cavalvante Schuback claims that what really defines this moment, when the object and the subject are dissolved, is that Nothingness54 is created. This is related for example to the experience of interpretation and improvisation in music. It is in this sensation that the new meaning may emerge she holds, not out of nothing, but in an “... agonistic55 battle between not having the past any longer and not yet having the future.”56 (ibid 172). We recognize this experience as the same as was already discussed in relation to Schön’s Reflective Practitioner, the experience of “Zen” or of nothingness, but now also with the friction of the “agonistic battle” - whatever feeling that may provoke, from agony to relief. If this is as close that I get of a fundamental experience characteristic of when new meaning may occurs, how is new meaning at all possible?

Deliberating the in-between

Here I feel that I need to go way back in reflection, to one of those fundamental experiences.

I recall that when I was young and lived by the sea, or well by Öresund, the narrow strait between Sweden and Denmark, I liked to take the bicycle in the evenings to go and watch the sun set over

53 My translation from Swedish.

54 “Intighet” in Swedish.

55 Agonistic means a kind of combat between opponents that recognize each other’s right to have an understanding but were hopes for consensus are not realistic. At the same time all parties also avoid Antagonism which builds on disregard of the “Other” to have a different understanding. (e.g. Mouffe 2008).

56 My translation from Swedish.

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the “sea”. Somehow I found out that by tilting my head, the experience of the setting sun became much more colorful and dramatic. I used it when painting and perhaps I had learnt it in Art School, I don’t remember now. Whatever the reason, it worked wonders to sharpen the senses; it made it possible to experience the situation differently I felt.

Recently, and to my great surprise (I thought I was the only one doing this crazy thing), I came across the same phenomena in Dewey’s “Art as Experience” (Dewey, 2005):

> It is a familiar fact that colors of landscape become more vivid when seen with the head upside down. The change of physical position does not cause a new physical element to be injected, but it does signify that a somewhat different organism is acting.” (ibid 260)

Dewey relates this phenomenon to the importance of letting go of the idea of a separation between subject and object and to understand that the subject “… denotes a factor which interacts causally with environing things to produce an experience.” (ibid). The experience is not found in the object, the painting is not beautiful, nor in the subject – I do not carry the experience of beauty – the experience is “in-between”, just as Cavalcante Schuback holds. However, it might sometimes be purposeful to “… treat the self as bearer, Dewey argue; we have to acknowledge the causal efficacy of the self in order to secure responsibility.” (ibid 261).

This I think is yet another tension that I believe that the designer feels – sometimes the designer has we “an experience” a la Dewey – and sometimes the designer has to act instrumentally on experience (for example when in an extended process attempt to manifest the experience in or through an artifact). Further, when the designer has to take such responsibility to keep the often fleeting experience alive in the design process, even when the “experience is not immediately experienced”, it is often felt like a sensitive balancing of something precious. Further, immersing in the situation also takes a kind of “trust” in it – at trust that comes with experience, that things will be revealed, that the situation, however complex or convoluted will begin to mean something.

**Metaphorical deliberation**

Having an aesthetic experience a la is then one of the fundamental “components” of design practice (Rylander, 2010). In the empirical cases it was quite evident that another component was also at work and interacted with experience and meaning - metaphor. Through metaphorical deliberation it was possible to expand meaning and to fixate and hold new emerging meaning. This came across in at least
in two of the three cases. Grip’s case was the exception. His strategy of irony, instead of offering new meaning, built on exaggeration of existing meaning, i.e. of the male stereotypical slacker which inspired the design of his chair.

Strömgren, who wanted to convey the experience of walking in stiletto shoes found that she could regard sitting as balancing, as a balancing act instead of traditional static sitting. This was experiencing made articulate, as a kind of tool. This understanding of sitting was kept right to the end and was thus embodied in the artifact, even though as we saw, the actual experience was still too stable in relation to the intended experience.

In the case of Hegårdh’s Duel, she actually devised two conflicting metaphors, of sitting together as “struggle” and as “cooperation”. This was not instrumental; it just came out like that in her reflections or interpretations. Nevertheless, the artifact that she made also seemed to embody both understandings and was thus also more open to the interpretation of the audience. It opened up a register between her two metaphors, between the notion of struggle and cooperation. It was inside this register that the experiencing took place.

In both cases the metaphors used were meant to transform the meaning of the chair. In a sense metaphor seems to have the same effect as “tilting the head”. When metaphors do their jobs right they intensify the experience of language. The way words or sentences are connected to certain meaning is “loosened up” and new connections and meanings become possible – it is that “mechanism” which poets utilize, and as described in the well-known definition in Aristotle’s Poetics: “Metaphor consists in giving the thing a name that belongs to something else.” (Ricoeur, 1977:13). Aristotle further considered the ability to metaphorize important and to be “master of metaphor”, the greatest skill - a skill which takes the ability see resemblance, i.e. to be able to see something as something else.

For a long time metaphor, as well as rhetorics, was regarded with disdain. Metaphor was at best considered an “ornament of language” by for example John Locke, and was because of this as dangerous as the “fair sex”. Just as the “fair sex” will deceive with beauty, according to Locke:

“… the artificial an figurative application of words eloquence hath invented, are for nothing else but to insinuate wrong ideas, move passions, and thereby mislead the judgment, and so indeed are perfect cheat: and therefore however laudable or allowable oratory may render them in harangues and popular
addresses, they are certainly, in all discourses where truth and knowledge are concerned, cannot but be thought a great fault either of the language or person that makes use of them. ...” (de Man, 1978:13)

This understanding which departs from an understanding of language as representing Truth has only lately been challenged and in more recent years Metaphor has gained a huge interest with several new theories by for example Max Black and Donald Davidson. Also in design research metaphor is often referred to as important to expanding meaning and even finding new meaning (e.g. Verganti, 2009, Lawson, 2006, Krippendorff, 2006, Kelley, 2001). Schön has also crafted a theory of metaphor – “the generative metaphor” (1993), but it is of a little less interest to us as it more or less deals with how metaphor can aid an alternative understanding of an existing object to aid problem solving.

I will from here on relate to an understanding derived from Ricoeur’s (1977) notion of metaphor as assisting “speculative thought” beyond “seeing-as” where he also understands for example images as part of metaphorical deliberation, and where he consider metaphor as acting on a discourse level rather than on the level of the word. I also relate to Lakoff & Johnson’s (1980) notion of “experiential metaphors” as deeply connected with experienced practice and embodied behavior.

When trying to “snap away” from the notion that metaphor only have to do with language I can’t help thinking of how surfers, as depicted in the skateboard documentary movie DogTown and Z-boys (Crowder, 2001) and the book “Dogtown – the legend of the Z-boys” (Stecyk 3rd, 2000) transferred the experience of wave surfing to skateboarding, and in this way turned the up until then traditional upright skateboarding practice on its head so to speak, or in its side as it were - Their skateboarding moves were directly carried over from the sea, the leaning into the waves, cutting them low and circling back, to skateboarding as an act of embodied metaphorical deliberation.

This radical invention of a new skateboarding technique was not intentional though, as in the sense that there was a problem that had to be dealt with – “hmm, I wonder if we can like find a new way of skateboarding „cause the old one is getting a bit stuffy?” No it “just” happened when the surfers were playing around with a couple of old skateboards outside the surf shop when the surf was down. There was a concrete slope there going from the shop down to the sea. The Z-boys, and girl57, rolled down the slope but after a little while it suddenly made sense to roll down fast and then cut, sharply and low to the ground, up against the slope with the same embodied

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57 Skateboarder Peggy Oki
move as in wave surfing - skateboarding as surfing, but not as language metaphor but as an embodied practice transferred from one situation to another.

Further, this metaphorical experience then spurred another typical device – analogical “seeing-as”. When going to school they suddenly saw that in the schoolyard there were similar kinds of wave-like concrete slopes or banks. In the school yards in the LA area schools were flood-protected by being surrounded by basins or bowls constructed by concrete banks. These could be “ridden”. Then when California one summer in the 1970’s experienced the most extreme draught in many years all the swimming pools were emptied due to water shortage. Suddenly there were “frozen waves” to be seen everywhere in the back-yards, the swimming pools, with their rounded sides could be “seen-as” perfect standing waves, i.e. they took their embodied metaphor of skateboarding as surfing to these new sites – “because the pools had to be ridden man” (illegally when house owners were on holiday or when houses were up for sale) and they there and then began to fundamentally transform skateboarding.

**Engaging in the space of possible new meaning**

In the case of Lillit and Axel, the case that confronted my understanding of innovation, something similar was at work. Perhaps there was some certain property that stood out as especially interesting, inspiring or distinguishing in Lillit’s conversation with the materials at hand, something that caught her attention. Perhaps it was “elegantness” (I don’t know. Lillit didn’t have time for strange questions like that...). Perhaps this was the same property that Axel saw in the emerging Gestalt of the toilet paper roll with glued matchsticks in different colors. Maybe this was what he acted on when he was about to suggest or interpret this as bracelet.

But let’s hold that moment - the moment before it “became” a bracelet”. Exactly here, in this situation between the object as perhaps an elegant toilet roll with matchsticks, and the object with the meaning “bracelet” attached to it, Philosopher Ernst Cassirer’s thoughts about *symbolic pregnancy* fits perfectly (Cassirer, 1957). According to Cassirer there is no fundamental meaning behind our symbols and signs. No “Platonic” world of Form. Instead symbols are pregnant with possible meaning, i.e. meaning is not entirely fixed even though we come into a world which “seems” real and more or less eternal. This is just a trick of the light however. What we experience and interpret are such *symbolic worlds*:

“The specific content and form, intertwined and inseparable as they are, of experience is given to us embodied in the different symbolic forms – languages, myths, art, knowledge, etc. – through which our
cultures, our worldviews, are shaped, transmitted and entrenched in us by way of habit and training.”
(Rosengren, 2007:264)

Cassirer meant that our symbolic worlds are immanent with possible meanings. Most meanings are fixed through tradition. But there is also room for new meaning to emerge. The meaning of things can be challenged and deliberated. According to Nelson Goodman this is not least through accomplished through “Composition” and “Decomposition”:

“... all worldmaking consists of taking apart and putting together ... Such composition or decomposition is normally effected or assisted or consolidated by the application of labels: names, predicates, gestures, pictures, etc. Thus for example, temporally diverse events are brought together under a proper name or identified as making up ‘an object’ or a ‘person’; or snow is sundered into several materials under terms of Eskimo vocabulary. Metaphorical transfer – for example, where taste predicates are applied to sounds – may effect a double reorganization, both re-sorting the new realm of application and relating it to the old one (Goodman, 1978:7)

It is within such action I understand both the acts of skateboarding as surfing and a toilet roll becoming bracelet. These are acts of Bricoleurs in a world, or in worlds, pregnant with possible meanings, where interpretation is fundamental to the process. The toilet roll with matchsticks could have become any of a number of things – however through the act of interpreting that is fundamental to our being in the world, it was constructed as a bracelet – meaning was given, not found. This is how our entire symbolic universe has emerged Cassirer argued, and it is always pregnant with other possibilities. It is a world of “becoming”.

Swedish Philosopher Mats Rosengren suggest that we may connect Cassirer’s understanding of symbolic pregnancy with Greek-French Philosopher Cornelius Castoriadis’ concept of “radical imagination” to better understand how new meaning or symbolic forms may occur (2007). We have stated that we cannot create “ex nihilo” – out of nothing. At the same time it is obvious that we can create new meaning and things that were not there before, for example new skateboarding practice, things that cannot be causally reduced to what they were constructed by, otherwise:

“We would, for example have to accept that everything that now is, is out of necessity and therefore, in one sense or another has been with us ever since the Big Bang.” (ibid 269)
Even in the case of Lillit and Axel they together engaged in autonomous and radical imagination, but not autonomous in the sense that is was completely free or arbitrary, it was after all conditioned on the situation, but it was not determined by it. In that sense we possess certain autonomy in relation to that which we interpret – something which seems to fit with our already expanded hermeneutics.

Lillit, Axel and I are now bound by our understanding of this specific object as a bracelet. Lillit wears it and experience it as such. By wearing it she also confirms to us the act of radical imagination of her and Axel. It is now difficult to imagine this object as something else. But there was a moment when, if not everything, but at least a lot was possible.

“These shapes are all out of someone’s mind. That's important to see. The steel? Hell, even steel is out of someone’s mind. There is no steel in nature. Anyone from the Bronze Age could have told you that. All nature has is a potential for steel. There is nothing else there.” (Pirsig, 1981)
**Epilogue – So what about problems?**

But weren’t there any problems to solve, was everything about meaning?

Of course the design students solved problems in the cases. They even invented new functional features, for example the groin cushion in Slothfully 2006, the twin-leg configuration of the Stiletto and the turning backrest in the Duel sofa. The point is that these innovations, these solved practical problems were dealt with within a process of deliberating and manifesting meaning. When something needed to be solved to express the intended meaning, it was.

I find solace in how this is similar to how Dewey understands problem solving in artistic practice. He connects problems to “technique” – the skill with which the elements constituting form are managed (2005:146), i.e. the fundamental ability to manifest meaning through a medium (e.g. painting). The skilled artist never stops experimenting with technique; if he or she did, he or she would become “aesthetically dead” (ibid 150). However advances in technique always “... grow out of the needs for new modes of experience”. (ibid 146)

What this suggests is reversing the relationship between problem solving and meaning. Italian Innovation researcher Roberto Verganti has proposed the concept of “design-driven innovation of meaning” where the “... novelty of meaning and design language is significant and prevalent compared with novelty of functionality and technology.” (2008). Verganti further builds on Krippendorff’s definition of design as fundamentally about “making sense of things”. Verganti argues that innovation of meaning has been overlooked in traditional innovation theory which has mostly been occupied with technical and functional innovation, often as applications of findings in the natural sciences.

One example he use as an example of innovation of meaning is the Sony Wii game console which mediate a completely new experience and practice (ibid). True, the experience is made possible via the use of gyro-sensors, something which traditional static gaming consoles do not use. A critical question would then be – what is cause and effect here? Was it not that Sony saw the existence of this technology and then came up with how to use it? No argues Verganti. Sony knew that they had to provide a new experience, and what that should be, i.e. an interactive gaming experience, and then began looking for ways to realize this intended meaning. So, was not this a realization of an “idea”? No it was fundamentally an act of interpreting and challenging the gaming experience – then ideas came about new possible meaning, and then came the technical “solutions”.
Sony knew what they needed and found it. And had they not found it perhaps they had invented it. This is exactly what happened in the cases we studied. Hegårdh did not start with thinking – “OK, what shall I do with this turning backrest idea?”. Hegårdh reflected about gender related issues in relation to design. She found that sitting was an interesting phenomenon and possibly connected to issues of struggle and cooperation in gender equality development on a socio-cultural meta-level. The notion that this dynamic could perhaps be manifested in a chair to be experienced emerged gradually, and with it also some practical problems to solve. She drew from different experiences and also managed to find a relationship between practice experiences of negotiating space as a kind of dynamic with another experience of a clever backrest she had come across in Thailand. These notions were merged into the idea of a turning backrest which fitted or resonated with the meaning she wished to manifest. In essence, this was a process of “making sense of things” (Krippendorff, 1989), of interpreting, deliberating and manifesting new meaning – i.e. a process ending in materialized meaning. Within it, problems were solved, but problem solving did not define the process.

And even if Hegårdh had had a more well defined “problem” in the beginning of the process, and a more clear cut “solution” at the end – it is the dynamic process of “making sense of things” that needs to inform the understanding of going from “problem” to “solution”, not a reductive, linear, sequential problem solving process - after all, who solves problems that way?

“The real nature of the sudden idea is perhaps less that a solution occurs to us like an answer to a riddle than that a question occurs to us that breaks through into the open and thereby makes an answer possible. Every sudden idea has the structure of a question.” (ibid 366)
PART FOUR – THE EMPIRICAL STUDY
Introduction to Part Four of the Thesis

Background to the experimental empirical project

The aim of SVID, the Swedish foundation for industrial design, is to “improve the awareness within the private and public sectors of the importance of design as a competitive tool and to encourage the integration of design methodology into their activities.” (Webpage, 2009-02-12). As part of SVID’s tasks, regional and national projects are conducted in collaboration with partners in which design methodology and knowledge constitute the forces that drive developments.

One such project was “Companies and Employees in God Shape (Företag och anställda i god form) which was part of the Swedish Government’s bid program “Design as Development Force 2003-2005”. In this project a number of organizations explored workplace related health and safety issues through a design process facilitated by SVID. SVID engaged external designers that led “Participatory Design” inspired design processes in these organizations involving different teams of internal stakeholders such as employees, union representatives, users etc. The outcomes were concrete designs and innovations as well as in some cases organizational change. However, as interesting as the outcome often was, the projects within the “Design as Development Force” program were never studied by Academia. This was also critiqued by the independent evaluator of the program (Johansson, 2006).

The experimental empirical project

The empirical experimental project is a direct consequence of this situation. It departs from the critique of the lack of academic studies and also actively builds on the experiences of SVID. The project is set up with the double ambition to expand SVID’s approach to also include how designers may assist in developing innovation capabilities of firms explicitly, and also to study such a development processes in action. SVID’s representative in this work is Marie Loft, the regional officer of South Sweden, who was also the project manager of “Companies and Employees in Good Shape”.

The project, which is financed by VINNOVA, involves about four active firms (see appendix 1.) in the period between the fall of 2007 and the fall of 2010. Most of the participating firms are part the SVID network of mainly industrial companies. Care has been taken to find firms explicitly interested in the idea of the design process as a possible model for innovation. Another ambition has been to find firms with little or no previous design experience in-house, both to mirror the current assumptions about design thinking of leading scholars, i.e. that design thinking can be beneficial for “non-designerly” firms,
but also as this accounts for a large part of Swedish industry and thus potential for design. Further, an ambition has been to find a range of sectors and sizes of firms to provide an as rich opportunity for the studies as possible.

The purpose of the experiment is to try-out an approach of transferring design thinking to firms to possibly strengthen innovation capabilities. This is done through a learning process, or “journey” based on two overlapping “tracks”. The first track consist of as a series of workshops and events aimed at providing experiences, insights and knowledge to strengthen the innovation capabilities of the firm. This track is explicitly modeled on design thinking and design’s methods. The second track is a more concrete innovation case established by the firm about mid-way into the project. Here the experiences of the first track are instrumentally employed. The first track is planned and facilitated by an external designer. He or she also coaches the second track throughout the project.

The external designer, one per company, is financed partly by VINNOVA through the project, and partly by the firm he or she is involved in. The designer is chosen in accordance with the SVID strategy of working with self-employed designers or smaller design studios to support their development. Further, the designers are chosen considering several different projects related criteria. That the designer seems to have the ability to facilitate processes and articulate design is fundamental. The match between the designer and company regarding both for example sector, “mind-set” etc is also important as well as the ambition to obtain an even division of men and women.
PART FIVE – REFLECTING ON THE RESULTS OF THE EMPIRICAL STUDY

Introduction to Part Five of the Thesis

50% Comment: I will here collect my final reflections on the study.
APPENDICES

Appendix 1 - Presentation of participating companies and designers

50% Comment: Since the 25% seminar another company has joined the project, Macro Showers in Laholm. Cecilia Nilsson worked for Macro. In the end it is Macro, Tranemo and Alfa Laval that have fulfilled the processes. Idesta left after two workshops as is described below. In the fall of 2009 Forbo got message that it was going to be folded and only two workshops were made before this message.

This section will briefly describe the firms and the designer that participate in the empirical project. Each firm constitutes one separate study. I will also attempt to describe some key events below; although to date no empirical material have as yet been analyzed.

Study 1 - Tranemo Workwear is a family owned manufacturer of work wear. The company has a semi-formal product development process, however no formal innovation process. Most design work is done in-house. An external designer has been consulted from time to time to do mostly graphic design. After the initial review we were hesitant if the company was ready for the project. We could detect a clear conflict of attitude between the person responsible for product development and the newly appointed CEO, the son of the person responsible for product development. Our critique was of a low level of interest in innovation in the person responsible for product development. A quite straining negotiation resulted in the clear shift of responsibility which we had proposed. At the moment this case develops rapidly. This seems not least to be the result of a match between the company and the external designer Charlotta Schill.

Designer Charlotta Schill, Atoll Design - Charlotta is a self employed designer with a long training and experience from the fashion and textile industry. This seems to have been an important foundation for the establishment of trust in the employees and management of Tranemo Workwear. In the process she draws from both her own practice and her experience of teaching at The Swedish School of Textiles in Borås.

Study 2 - IDESTA Foodtech AB develops and manufactures products for the catering and restaurant field such as stainless steel equipment and cabinets. Idesta Foodtech AB has previously been a part of the Electrolux Group and still to a large extent relies on the product portfolio which followed with the buy-out of the company. Development is restricted to the improvement of existing products. The company had some positive experience from previously participating in a design project with SVID. However the
company left the project in the fall of 2008 after two workshops. The reason for this remains to be analyzed.

**Designer Cecilia Nilsson, White Cloud Design** – Cecilia is a self employed designer with an expressed interest in design management issues. Here background is in both interior design and engineering design.

**Study 3 - Alfa Laval Heat Exchangers** is a unit within the Alfa Laval group. It develops heat exchangers and home appliances for district heating. The unit has a product development organization with a formal stage-gate process as well as a concept development organization which is less formally controlled. The innovation approach is quite advanced. Visualizations of radical concepts as models have for example been successfully attempted. To date a couple of projects involving external industrial designers have been made. The project manager is well versed in the design thinking approach and seems eager to try it as a way to further develop the innovation capabilities of the concept development organization. However it has been difficult to grasp the possible contribution and find a suitable approach. In addition to this the process was put on hold when the first external designer had to leave the project due to family reasons. Fortunately this happened before the process was properly started. The new designer Olof Kolte is currently working on a new approach focusing sustainability as a specific innovation area where design may provide new insights and perspectives.

**Designer Olof Kolte** - Olof Kolte, is a civil engineer, designer and lecturer at Lund University industrial design with a strong focus on sustainable design.

**Study 4 - Forbo Vinyl Flooring AB** is a production unit within the global Forbo group. It develops and manufactures flooring solutions for public buildings. The unit shows a lively creative climate centered on the “innovation lab”, a mini representation of the production process. Most innovation work is clearly production oriented and external factors have so far been little explored. The unit wishes to both retain and improve the strong creative climate of the organization. As part of this ambition design students from HDK were invited to explore and develop possibilities of a new innovative flooring solution in 2007. This workshop was lead by designer Thomas Laurien. The workshop was successful and Forbo Vinyl Flooring AB wishes to continue the exploration of how design could contribute to innovation together with Thomas, and in cooperation with the internal designer. The process is currently being planned.
Designer Thomas Laurien – Thomas is both self employed as a textile designer as well as lecturer and PhD-student of HDK.
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