Changing the Old and Designing the New

Contradictions in Visual Communication Design

Ulla Björklund
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Abstract

This study looks at visual communication design processes as part of larger change efforts and uses activity theory (Engeström 1987) for locating change and depicting the context of the design process. In order to solve complex design problems we need to draw from different knowledge areas and ensure co-operation between different actors (Seitamaa-Hakkarainen et al. 2017).

This research seeks to understand what kind of historical contradictions are present in the work of visual communication designers. This question anchors deeper study into the contradictions behind the dilemmatic visual update of The Magazine and the visual communication design of Demos Helsinki. These two ethnographic case studies provide data from interviews and observations (field notes, audio recordings, photographs, and video recordings). Change is located in the design processes by analyzing dialectical contradictions in activity (Engeström & Sannino 2011). The larger change process is depicted by using the expansive learning cycle (Engeström 2010). The Media Concept (Töyry & Helle 2009) is an additional tool used to create the context of the design process. Analysis of the design work is supported by historical types of work (Victor and Boynton 1998). The historical types of work provide a method for considering the history of visual communication design and categories for describing their manifestation.

The results of this study bring to light a historical contradiction in visual communication design – how can craft skills be successfully combined with collaborative processes and concept development? The presence of craft-type of work, where unique products, informal networks, and an individual way of working is common, is strongly present in both case studies. Not only in the way that the designer works but also in the surrounding context. Meanwhile, collaborative processes and teamwork are also at the forefront, fostering process enhancement and mass customization.

There is no single design process that is applicable to the variety of design needs. Increased understanding of and appreciation for the variety of ways that designers contribute to the success of change efforts would ensure better overall alignment between the various types of projects and designers. Those leading change efforts would benefit from information on the potential value that different types of visualizations bring to the various stages in the design process. This signals the need for new tools for the visualization of concepts in development.

This work contributes to the body of knowledge on visual communication design by presenting the idea that visual communication design can successfully contribute to larger change efforts provided that there is shared ownership of the outcome and an inclusive approach to the activity in terms of the selection of tools, rules, community, and the division of labor.

Keywords Visual communication design, graphic design, design process, contradictions, activity theory, change

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Foreword

While I am writing the introduction to this thesis, a historical change in Finland is taking place, as the society is opening up after the first wave of Covid-19. In addition to the office, I am occasionally sitting at the library or a cafe. There are hand sanitizer bottles at the library and on coffee tables next to the coffee cup. We talk with the staff through a transparent plastic window. There are signs at every entrance giving instructions on how to keep a safe distance to other people and how to sneeze safely. Meanwhile the virus is still on the rise in other parts of the world, and a possible second wave has started in China. The way we live our lives changed dramatically for at least some months. The long term effects on the society are not yet known. There are aspirations to see that this would assist in shaping a new and better society. However, the economic struggle is growing and possibly creating an even bigger split between different nations and groups of people. Change, and the dilemma of how to manage it and participate in it, is visible everywhere.

When facing global social and economic threats like Covid-19, or the more and more critical need to fight climate change, there is a call for quick adaptation and change. However, change is often not about designing out-of-the-blue, ad hoc solutions. Instead, we need to engage old and current fields with their established ways of working with the new situation. This means that we need to understand how change takes place, what the previous and the current nature of the work is, and what challenges need to be overcome.
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1. Introduction

This thesis focuses on change in visual communication design. While change can be considered a rudimentary aspect of design, it is not a straightforward process. Firstly, we locate the need to change that underpins and initiates the visual communication design process. The need to change is analyzed from two case studies: A visual update process of a publication and the visual communication design at Demos Helsinki, an independent think tank. Why do we need a visual update and why is visual communication relevant at a think tank?

Secondly, the designer is challenged throughout the design process and by analyzing the challenges in the visual communication designers' work, we see how the visual communication design work is changing. Recognizing the challenges in the design process gives information about where there is potential for development in the work of visual communication designers.

A skilled visual communication designer is able to create visual systems that are attractive, meaningful, viable, usable, and understandable (Mejía & Sauman 2014, 30). A visualization is a graphical mapping of concepts structured in a meaningful way, that can be composed of both textual and visual elements (for example lines, shapes, icons or background images) and used to organize information visually (Bresciani 2019, 92). “Visual communication is a reality as soon as a word is typed, a color chosen, or a text displayed on the screen, and any visual expression, whether it is intentional or not, communicates something to the visitor of the site (Thorlacius 2007, 63).”

The process of industrialization provided the conditions for a distinctive practice of design to emerge prior to manufacture, performed by specialists of form and function (Lees-Maffei 2010). Design practices today have various natures and are multi-sited, existing in time and space as both a practice and a product of human activity (Teasley et al. 2011). Fields of professional design that dominated the 20th century were architecture and engineering, followed by widening the scope to industrial design, visual communications design, interior design and fashion design, to further extend to service design, interaction design, and experience design, and finally encompass systems design, organizations design, and design
for social change (Stewart 2011). Both the content and the context of design are constantly changing.

Visual communication design evolved from graphic design through the implementation of human-centered design methods and the emphasis of utilitarian and practical issues such as ergonomics, communication, and usability (Mejía & Sauman 2014, 30). While this thesis was in production, the name of the graphic design department of Aalto ARTS has changed to visual communication design. Likewise, in 2020 Grafiia, the association for visual communication designers in Finland, has included visual communication designers into its name instead of graphic designers since it better reflects today’s job market (Soramäki, 2020). In the late 20th century it was possible to claim that graphic design is the creation of a concept that is approved by a client and delivered in a form to be produced by printing (Thornton 1996). Much has changed since then, not least due to the influence of new media platforms. Design thinking and service design are concepts that begin to command cultural and economic credibility also from visual communication design (Gwilt & Williams 2011, 81).

Graphic design is defined (Merriam Webster 2015) as the art or profession of using design elements such as typography and images in order to convey information or create an effect. Graphic Design, as a term referring to a discipline, was first used by William Addison Dwiggins in 1922 (Heller 1991). Graphic design focuses on the design of different types of artifacts such as books, posters, illustrations, interfaces, logos, signs, icons, or brand visuals. Sight as a sense is emphasized, and the artifacts are most often two-dimensional. The general meaning of artifacts is that they are human made for a purpose. Graphic design products are cultural artifacts, meaning that they are human made, and they give information about their creators and users. Cultural artifacts include embodied generalizations that are culturally shared (Miettinen & Virkkunen 2006).

Creativity is often mentioned as a central element of design. The creative act has even been placed at the core of the design profession: “A creative act is characterized by the imaginative and original generation with aesthetic value as high priority—of utilitarian objects, usually first expressed in figural representations such as sketches, working drawings, physical or computer models, and the like, but ultimately produced (i.e., fabricated, assembled, constructed) because they have cultural value. The provenance of a creative act is the ability to reproduce the moment of creation, or the empirical attributes of what is created, by pre-determined formulations or frameworks.” (Wang & Ilhan 2009, 8) It is simultaneously something new and imaginative while it includes a framework and pre-determination: What could be considered the design outcome is not a one-time accident, but a result of a more stable set of skills and processes.

However, while something new is created, the credit of the degree of novelty cannot be traced to the designer alone. Instead, the designers’ choices and possibilities are dependent on the surrounding context. The designer is situated in a
context that makes certain activities and strategies possible and gives legitimacy, information, and resources for designers (Björklund T. et al. 2020, 104).

In this work, visual communication design is considered an activity that produces visual artifacts, for example publications and presentations. Designers, as professionals with particular visualization skills, are participants and active members in the design process. The design process and the visual products are dependent on and influenced by the historical time and the particular design context.

Both the terms graphic design and visual communication design are in use. The term graphic design is used mostly when referring to research where this term has been used, and in the history section. Otherwise, I will use the term visual communication design, since this is the contemporary term that is used in the academic and professional field.

Outline of the Thesis

In chapter 1, the Introduction, the term visual communication design is clarified and previous research is discussed. A short description of the case studies, activity theory (Engeström 1987), and the historical types of work (Victor and Boynton 1998) are given. The advantages of ethnography for studying visual communication design are discussed and finally, the research questions are presented.

In chapter 2, activity theory is presented as the theoretical framework. The chapter begins with a short historical overview of the development of activity theory, followed by a definition of the central theoretical concepts. Contradictions provide the main analytical tool. Analyzing contradictions is first done by recognizing the manifestations of contradictions (Engeström & Sannino 2011), and secondly by identifying the different types of contradictions present in the cycle of expansive learning (Engeström 2010). Further, the Media Concept (Töyry & Helle 2009) is presented as a central analytical tool to recognize different organizational levels where the contradictions are present in the visual update of The Magazine. The historical types of work (Victor and Boynton 1998) are presented through examples from visual communication design history in order to construct a context for the historical change in visual communication work.

Data collection and the means of making observations are presented in chapter 3, Methodology: The Extended Case Study and Ethnography. In this chapter, I provide an in-depth reflection of the selection of the two case studies, a visual update process of a publication and the visual communication design at Demos Helsinki. I further reflect on how my research interest directed my presence in the field. The collected data is presented together with a reflection on decision-making during the data collection, my relationship to the people I was observing and the manner in which the data was received.

In chapter, 4 Data Analysis, the different phases of the analysis are presented. Here I explore the differences and similarities in the case studies? The focus
of the analysis is clarified, and the selection of data to be analyzed is presented. The codes that are used in the analysis are clarified by explaining where the coding is driven by theoretical concepts, and where the codes are driven from ethnographic content. Examples of how data is analyzed using the different codes is also presented.

The research questions are answered in chapter 5. Results. The chapter starts by answering the case-specific research questions by presenting the results of the analysis. The results of the analysis of The Magazine are presented first, thereafter follow the results of the analysis of Demos Helsinki. The results are summarized into main contradictions for each case study. The main research question is answered at the end of the chapter, as it draws from the results of both case studies. The historical types of work (Victor and Boynton 1998) that were presented in chapter 2. are used to strengthen the historical context.

In chapter 6. Discussion, the results are connected to the discussions present in the research field of design. The relevance of the results is discussed. At the end of the discussion, the identified limitations of this work are brought forward and further work is proposed.

In the Appendix, the reader finds additional information that is referred to in the different parts of the text, giving more detailed information on, for example, the specific interview questions or codes used in the data analysis, which might be of interest.

1.0. Previous Research on Design and Graphic Design

“A mature (or rapidly maturing) discipline also demands a reflection about itself. Not just sketches about past, present, and future but serious historical, contextual, and critical work about the development of the discipline of design. Designers are good at telling ‘origin’ stories, design researchers much less so. It is a skill we need to develop in understanding, defending, and growing the body of knowledge in our discipline (Loyd 2019, 177–178).”

When positioning this study in relation to previous research, there is no self-evident research tradition to build on. Therefore, this section gives an overview of several research traditions. Visual artifacts have been studied in media studies and visual culture studies, while design production and design processes are studied in design research. Design research is grounded on design disciplines, such as industrial design and architecture. In reality the division between disciplines and research traditions is not as clear, but it gives an understanding of the variety of traditions that visual communication design research is part of.

Visual communication design differs from other design professions, since the products are studied in media studies and visual culture. For example, communica-
tions research, journalism, mass media, and organizational communication seem to work more easily in new media, where visual communication is strongly present, while material and industrial based design professions are studied with different theories (Koskinen 2006). The theoretical presence of fields such as cultural studies or critical studies is stronger in new media, since they are not as strongly based on materials and the industrial and artistic practices (Koskinen 2006).

In the term visual culture, “visual” implies an interest primarily in the visual codes and sensory modes of an artifact, and secondly, culture points to an interest in the context, meaning social conditions, production, distribution, and use, of the artifact (Duncum 2001, 106–107). However, concepts from literary studies have a strong position emphasizing the non-visual aspects instead of media products in visual culture (Partington 2008). In the history of media research political economy of production, the semiotics of text, and socio-psychological effects on audiences have been studied extensively, while media organizations and the emphasis on news journalism and convergence developments are more recent topics (Erdal 2011). We need research knowledge about the design process that visual communication designers, who know the practices and the structures of the field, could produce (Seliger 2008, 216).

There are changes taking place in the emphasis of communication theory. Instead of looking at mass communication, the most significant change before us is the ability to see media as a more complex and situated meaning-making process (Self, Gaylord & Gaylord 2009, 40-41). The production process and context need to be considered in order to understand the look of media representations (Erdal 2011). For example, design challenges and what kind of impact they have on newspaper workflow management routines have not been explored (Giardina & Medina 2013). According to Self, communication theory has developed through the 20th century: “New technologies, new media concepts, new ownership patterns, and new marketing approaches have challenged how public communication is practiced” (Self, Gaylord & Gaylord 2009, 29). The work of visual communication designers is one part of the production processes that has not been researched.

Research on design production is gaining interest in visual culture studies. Visual culture suggests both the substantially visually meaningful aspects of an artifact, and a cultural interest that goes beyond the artifact, including the production, distribution and use (Duncum 2001). Also in culture studies the importance of production has been recognized. Empirism, ethnography, and the category of experience is a way to work against textualism which has been central in cultural studies and it is important to study the production and the people involved in production and even those who would like to work in culture (Angela McRobbie 1996, 336). The importance of studying the production process has been recognized (Soar 2002, 585-586).
Relevant Design Research

The following overview is given from the point of view of design research. Studies that can be considered science of design (Cross 2001), where design becomes the object of research, are discussed, since this work belongs to the same group of research. Science of design aims in different ways to add to our understanding of design through systematic, reliable, and scientific methods of investigation (ibid.).

Firstly, the need of research in visual communication design and graphic design is discussed. Secondly, design research is categorized into four groups that have different perspectives to designers’ work: 1. The core of design including design thinking, 2. Studies on the design profession, 3. Studies on the design process, and 4. Studies on the design context.

The history of design research is fundamentally multidisciplinary and there is a multitude of disciplinary lenses used to study design and designing (Christensen & Ball 2019, 19). Meanwhile, a research culture in graphic design or visual communication design is young, and the need to further develop it is still validated. Unlike architecture, literature or visual arts, graphic design has developed largely without theoretical reasoning (Frascara 2006, 26). In architecture education, contemporary theory is regarded a possibility to open a discussion about issues that otherwise remain silent (Coyne 2004).

The need to develop a research culture in graphic design has been clarified into four points: 1. Discovery-oriented approaches allow the continuous construction of new knowledge and can both demonstrate the current potential of visual communication design and find a meaningful direction for developing the practice. 2. The perception from an aesthetic-led and intuition-based activity should be shifted. 3. Clearer pathways for career progression should be presented. 4. There is a responsibility to a growing number of students (based on the UK) to develop an academic research culture instead of reproducing industrial practices. (Corazzoa et al. 2020, 9)

One explanation for the lack of research in graphic design is that it is a relatively young profession, and therefore theory formation is scarce. Visual communication is one of the design fields that became subject of academic research only at the end of the 20th century (Stewart 2011). After World War II, graphic design became a distinct program in most art departments, and in the 1980s, the publication of textbooks and development of courses in European and American design history started, adding critical essays on the current state of graphic design and moving towards constructing design theories, adding stature to the profession (Thornton 1996).

Different fields of research have influenced design research. On one hand, technologically driven fields of design, such as interaction design, have achieved theoretical progress by drawing from fields such as ergonomics, psychology, and social sciences. For example, a user-centered perspective on design has been de-
veloped together with innovations and theoretical insights. Images, on the other hand, and texts, and their meaning have been the focus on visual communication approached through rhetoric (images and text as means to convince people), semantics (the internal structures of visuals and text), and pragmatics (process of production and reception of visual artifacts) (Raff 2013, 11).

Examples of research on visual communication artifacts show the wide range of research topics where graphic design is considered: How to find one's way on a parking lot (Mora et al. 2014), how teens interpret and respond to graphic warning labels on the packaging of cigarettes (McCool et al. 2012), tourism logos of Australia, Kenya, and Malawi (Lee et al. 2012), the reproduction of stylistic attributes (Cleveland 2010), computer algorithms for graphic designs (Sen 1999, Sen 2003), user evaluation and decision making with respect to brand visualizations (Ranscombe et al. 2012). A study on cars and aesthetic features claims that the aesthetic features are considered one of the influential factors leading towards a successful product (Ranscombe 2012).

In this study the focus is on the design work and the design process, not the visual artifacts. I have defined the following categories for design research that can be considered science of design, and relevant from the point of view of this study. The emphasis in my categories is on research that deals with challenges in designers' work, how the context of the design process has been studied and particularly, how the work of visual communication designers' has been researched. Design research that applies concepts from activity theory is presented in the theory chapter, where the activity theoretical concepts are introduced. The four groups of design research presented below are: a. The core of design including design thinking and aesthetics, b. Studies on the design profession, c. Studies on the design process, and d. Studies on the design context.

Table 1. Summary of the differences in the focus of design research.

<table>
<thead>
<tr>
<th>Focus of design research</th>
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<th>b. Studies on the design profession</th>
<th>c. Studies on the design process</th>
<th>d. Studies on the design context</th>
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</thead>
<tbody>
<tr>
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<td>Designers and design knowledge</td>
<td>Design professionals and design education</td>
<td>Aspects of the design process</td>
<td>Supporting structures and the aspect of business</td>
</tr>
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<td>The creative act as a core aspect of design</td>
<td>Comparisons of different design disciplines and skills</td>
<td>Design case studies</td>
<td>The making of design decisions</td>
</tr>
<tr>
<td>Contribution</td>
<td>Specifying designers' potential</td>
<td>Challenging design education</td>
<td>The importance of the material artifacts</td>
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a. The Core of Design, Including Design Thinking

In the core of design research, studies specify what is meant by design, what the particular aspects of design are, what kinds of differences appear within design practices and why design research is needed. One aim is to conceptualize the design practice with a professional design epistemology and ontology (Adams et al. 2011, 605). Also, “Designerly” strategies are considered relevant in the time of the spread of digital technology, rapid globalization of communication and corporate action (Stewart 2011). However, that something such as design thinking is common to all design disciplines is questioned by some (Goldschmidt 2013). Design can even be considered not to have a distinct body of knowledge at all (Wang & Ilhan 2009, 5).

By exploring the knowledge of design an understanding on the relationship between design and science is established. In the 1960’s, cognitive scientists fueled the development of the design discipline towards ‘a science of design’ (Ball & Christensen 2019, 35). Both the similarities of design and science and the fundamental differences were argued. On one hand, the cognitive aspects of design and science turned out to be similar when considering wicked problems, that have been thought of as especially suitable for design to deal with (Farrell & Hooker 2013). On the other hand, the design research classic, How Designers Think (Lawson 1990), shows the difference of problem-solving between science and architecture students (Lawson 1990, 30-32).

Finally, researchers are looking at the differences between designer strategies. Bar-Eli (2013) show three different ways designers work toward a goal. Kruger and Cross (2006) studied nine industrial designers and pointed out both differences and commonalities in their design processes and solution outcomes.

Studies that belong to this group identify designers’ way of working and the potential that designers bring to a project. Simultaneously: The ways the design context is influencing the designers’ work, or how the design work changes with time, are not considered.

b. Studies on the Design Profession

Research on the design profession can be roughly placed in two categories. Studies that look at differences between design professions, and studies that compare what it is like to study design and what it is like to work as a designer?

Differences between professional groups of designers are identified in order to identify the professional aspects of design work. A survey study in Australia looks at how design professionals are perceived by designers, design educators, and members of the public, showing, among other things, that the public’s idea of designers is very close to the conception of an artist (Smith & Whitfield 2005). In an interview study, tensions between graphic designers and software design-
ers are reported, focusing mostly on differences in their work, even though both
groups are becoming increasingly appreciative of each other’s work (Webb & Gal-
lagher 2006). Research based on 14 interviews with designers from different back-
grounds reveals differences between software development and visual design but,
more importantly, much common ground was observed (Lang 2009). All of these
studies are survey or interview studies, whereas observations could give valuable
information about the designers work, that is not possible to access verbally.

Research points to differences between design education and the profes-
sional design practice. Graphic design education emphasizes the printing pro-
cess, though web design is considered instrumental in the graphic design busi-
ness (Weaver et al. 2012). Further, when studying framing in the creative process
it has been found that professional designers use strategies that are not taught to
design students (Paton 2011). Designer strategies in relation to their clients are
studied by looking at the way designers frame and reframe a client brief (Paton &
Dorst 2011). When graphic design professionals get the chance to define the
foundation of post-secondary graphic design education, they emphasize a realistic
problem-solving experience that takes into consideration the customers and
communication skills (Weaver et al. 2012, 12).

In sum, the current design education does not prepare students for work
in the actual design field. Especially the skill to co-operate with the customers
is called for. Looking at the actual work environment through observations, and
showing more specifically the challenges that designers face when working with
clients, could give new and relevant information to design education.

c. Studies on the Design Process, Tools and Case Studies

The design process and the tools that designers use have been extensively studied.
Empirical studies on designing as an activity have started around 1995. Instead
of providing an overarching theory of design, these studies show design activity
as iterative, with requirement analysis, synthesis of solutions, and evaluation tak-
ing place in a co-evolutionary manner, which is different from the models used in
design education (Lauche 2005). One example of these early studies argues that
graphic designers working on wayfinding should collaborate with architects, and
landscape architects to create a more universal design idea concerning all features
of the built environment and its use (Passini 1996).

In the beginning of the 21st century, focus moved towards the definition of
the design criteria and initial ideas in the design process, the buzz words being
“co-creation, innovation, Web 2.0, emphatic thinking, human-centered, peo-
ple-centered, user-generated,” with confusion surrounding the practice of co-cre-
ation (Sanders 2006, 1). The user could be brought in to influence the process right
at the beginning and participatory design placed emphasis on the beginning of the
design process, the point at which the first discussions took place and the first
decisions were made (ibid.). In the figure 1. below, this is illustrated as a fuzzy front end, where the design criteria are discussed and the basis formed for developing ideas that become concepts, prototypes, and finally products.

The nature of participatory design is demonstrated as a circular process (Kakee et al. 2012). First the participants are exposed to taken-for-granted factors of a practice, such as social norms. This is followed by deviation to reveal additional information about barriers, questions, and practical requirements. Thereafter, the design phase comes in as a formulation of a new, creative practice. The prototype is then tested in a real-life context. Thereafter, the effectiveness of the prototype is evaluated and the process revisited. Finally, circulation means involving the general public for broader experimentation, and this can again reveal new insights about what can be developed further. (Kakee et al. 2012)

In addition to thinking about how to involve non-designer participants in a design process, research has investigated designer involvement in new ways, where design does not aim to develop a product. Design concepts have been used to reframe the context of a problem, such as a hearing disability, by developing different concepts of hearing loss instead of concentrating on a product solution like a hearing aid (Kelly 2014, 38). In another research project, freedom was defined as the design principle (Garduño García 2017, 21).

Designers have participated together with other professionals in investigating social conventions such as bathing, with the goal to develop a methodology for practice-oriented design and repositioning design as a catalyst for positive, systemic change (Kakee et al. 2012). In order for designers to better deal with change, research through design and concepts and tools used in foresight methodology have been combined (Ollenburg 2018).

The design field is constantly growing and changing. This raises new questions regarding the relevance, efficacy, and translatability of design processes by

Figure 1. Sanders visualization of the Design process in co-design (Sanders 2006).
emphasizing the understanding of the use of artifacts instead of the production (Stewart 2011). In co-design processes, different kinds of materials seem to stimulate different kinds of exploration (Heimdal & Rosenqvist 2012).

Research on practical working methods includes studying the tools that designers use. Materials and tools play an important role in design and in this the design studio can support a creative way of design thinking and knowledge creation (Seitamaa-Hakkarainen et al. 2016, 175). Van der Lugt (2000) looked at idea generation in product design, showing that in early idea generation it seems that variations in brainstorming tools enhances creativity.

Further, ideation-related practices help to develop and frame the design space for the rest of the design process (Laamanen & Seitamaa-Hakkarainen 2014, 212). A framework to be used by designers and managers has been created to support the choice of visuals in design thinking meetings (Bresciani 2019). Liu et al. (2003) studied the developing of computational tools for designers, investigating divergent and convergent phases in the concept formation process in order to understand how a promising concept is created.

Material artifacts, such as sketches, are important artifacts for designers. According to Kangas et al. (2013) design representations, such as sketches, are fundamental in design thinking and communication. Also, material artifacts are critical in the communication and collaboration between product designers but also critical to the design artifact itself (Vyas 2013). Van der Lugt (2005) argues that sketches stimulate creativity in the individual design process.

Moreover, the difference between sketching by hand on paper and digitally has been studied. Based on a laboratory-style experiment with student designers, it appears that paper-based work leads more often to reinterpretations and to the creation of new solutions than a digital-based method (Stones & Cassidy 2010). Garner (2001) looked at pairs of undergraduate student designers, comparing the sketching of two groups, one sketching with pen and paper and another using a computer and collaborating from separate rooms. A design experiment by Stones & Cassidy (2007) on individual multimedia students’ work suggests that paper use supports creative thinking whilst for many, the computer seemed to act as a hindrance.

Only one study of graphic designers’ work in a studio has been conducted. Martin (2012) studied everyday work in action, an ethnography where data was collected from a design studio during two separate weeks a few months apart, looking at designers’ cooperative understanding of the brief, following the way they talked about the client and the users, and how the aesthetic aspects of the design were judged in relation to these. The context is dynamically and actively produced by the designers in their discussions and engagement with material resources.


d. Design in Context

The group of research that looks at design in context recognizes the business aspect as an important element influencing the design. In fact, producers, marketers, and advertisers are some of the mediators of design (Lees-Maffei 2010, 2). Wiltschnig et al. (2013) show that co-evolution episodes are the creative engine of everyday design practices. According to Hasu et al. (2004, 31), design knowhow needs situational analysis and reflection on the newest developmental challenges that business activity faces. However, design history does not often engage with related fields, such as business history, labor history, and the history of technology, invention and engineering, or the histories of economics or even material culture (Margolin 2009, 96).

It has been found that the designers' colleagues and clients – key aspects of the designer context – can either support or hinder the designer's efforts in finding their professional sense of self within the organizational context (Björklund T. et al. 2020, 104). The information graphics design challenges and workflow management of The New York Times has been studied by analyzing infographics and through interviews. The study concludes that the development of interactive infographics requires the creation of a dedicated departmental structure that can operate autonomously to hire journalists able to master data-journalism techniques and online tools and establish new workflow routines where interactive digital news dissemination becomes an important communication tool (Giardina & Medina 2013). In fact, face-to-face encounters are considered a central part of design meetings, because the critique of the artifacts, the stories about them, and the decision-making concerning the design, are made through these meetings (Oak 2011).

The group of research that looks at design in context recognizes the business aspect as an important element influencing the design. A longitudinal research on engineering designers shows that co-evolution episodes are the creative engine of everyday design practices (Wiltschnig et al. 2013). Design knowhow needs situational analysis and reflection on the newest developmental challenges that business activity faces (Hasu et al. 2004, 31). Design history does not often engage with related fields, such as business history, labor history, and the history of technology, invention and engineering, or the histories of economics or even material culture (Margolin 2009, 96). Furthermore, producers, marketers, and advertisers are some of the mediators of design (Lees-Maffei 2010, 2).

Next we will look at design research where activity theory is used. While change in the design process and change in the designers' work are the focus of this work, activity theory provides useful concepts for studying change.
1.1. Activity Theory and Design

Following dialectics, all phenomena are contradictory, interconnected, and continuously changing. The activity theoretical perspective emphasizes the tension laden, unstable, and open-endedness of situated action (Engeström 2003). Therefore, wanting to understand a change process of an activity is no simple matter. Here a change is not measured by comparing the before and after. Instead, the focus is on the reasons why something changes the way it does and how visual communication designers participate in the change process.

Within dialectics, change is explained by internal contradictions of the entities or persons interacting (Tolman 1981, 36). This means that a contradiction is not a logical contradiction. An example of a logical contradiction would be saying, for example, that design and art are contradictory. Therefore, art is never design, and design is never art. A dialectical contradiction, on the other hand, would recognize the tension in calling a design product art and consider this tension between art and design an aspect of design. An example of an internal contradiction in a product design process is the gap between the initial understanding of the constructing of a device and the currently desired solutions in a product design process, requiring a continuation of the transformation of the object (Hyysalo 2002).

A process to work out the internal contradictions is needed in order to change to a new way of working, and this is no simple act (Kerosuo 2006, 12). What is first expressed by individuals leads to internalized critical self-reflection, that further takes shape as externalized search for new solutions, reaching its peak as a new model for activity that is designed and implemented and expansive learning (Engeström 2003, 33–34). In order to accomplish expansion in the future, the internal contradiction in the given phase of the evolution of the activity system needs to be identified (ibid., 34–35).

The activity system is a model of the basic structure of activity, a root model in which the activity system is “the smallest unit that still preserves the essential unity and quality behind any complex activity” (Engeström 1987, 39). For example, a design agency can be considered one activity system, consisting of individual workers. However, in order to instigate design, the activity of users and clients is needed, which form their own activity systems that influence the design work.

Next I will present research where activity theory has been used for studying design. Advantages in studying design using activity theory have been identified. Three main characteristics that have been focused upon when applying activity theory to design research so far are: Artifacts and the use of tools, Change and something new, User perspective, and HCI. Towards the end of the chapter I present the few studies that use contradictions to study design and elaborate on the advantages and disadvantages of activity theory that have been recognized. Finally, I elaborate on my own thoughts about the advantages of looking at design as activity.
Artifacts and the Use of Tools

There is a strong focus on artifacts and tools in design research using activity theory. In activity theory, tool use is connected to the idea of mediation, since tools connect people to the world: “all human experience is shaped by the tools and sign systems we use” (Nardi 1996, 10). Activity theory makes it possible to reflect on how tools are taken to use and how they disappear from use (Raff 2013, 18). In other words, tools control and steer interconnections between things and coordinate human activities (Miettinen 2006). Tan and Melles study the tool use of graphic designers (Tan et al. 2009; Tan & Melles 2010). They focus on the subject, the tools, and the object, leaving out the rules, community, and division of labor. The subjects are mid-weight freelance graphic designers and the goal/object are design outcomes for first client presentation. Their tools are pen and paper, design brief, computer, Internet, and telecommunication (Tan et al. 2009).

The same study is further elaborated with conceptualizations of the designers’ activity. Four general stages are identified in the conceptual process: briefing, interpretation, idea generation, and presentation (Tan & Melles 2010). These stages are analyzed into actions revealing that actions follow each other, with the outcome of the previous action becoming the tool of the following action, for example, the cover design becomes a tool for designing the back cover, inside cover, and title page, which becomes a tool for designing inside spread layouts, depicted in figure 2. (Tan & Melles 2010). The activity is described through dividing the activity into sub-actions, and each sub-action includes an operation, with tools underlying the operations (ibid.). For example, the sub-action of font selection is

Figure 2. Tan and Melles visualization of tool use actions (Tan & Melles 2010).
supported by the operations of typesetting of several fonts, for which the tools
computer, Internet, digital software tools, pen and sketchbooks are used.

According to the findings, graphic designers’ work shows multiple levels of
activity patterns and objectives, mediated by several material and symbolic tools,
with no linear implementations of strategy but rather a dynamic, iterative, and op-
portunistic process within which past experience is used to inform strategic deci-
sions (Tan & Melles 2010).

The industrial design process has been studied by combining protocol anal-
ysis and activity theory (Cash et al. 2015). Here, activity theory is argued for in
allowing the combination of micro and macro levels of inquiry, pointing to the dis-
tinction between action, task, and activity. The study finds that there is interplay
between various processes involved in design work, which constitute a number of
embedded processes over micro-, meso-, and macro scales. Design activity is a
multi-scale interweaving of processes.

The studies described above focus on the designers’ process, however the
influence of the client and the user is not considered in the process. In one of the
cases, the discussions with the client and a friend, who gives insights into the de-
sign are described in the article in a narrative way, but are not included to the ac-
tivity triangle. This might be a result of leaving out the lower part of the activity
system (rules, community, and division of labor). The activity system is explained
in the theory section. When studying industrial designers, the macro activity is
considered as sequences of activities, such as process stages, information dis-
tribution, and coordination, likewise narrowing the design process to that of the
designers.

In this way, the context of the design work is limited. The actual need for the
design, the context where the need is articulated, is not considered. The influence
of the user or client and the historical situation is not included in the analysis.

One case in particular, the focus of which comes close to the interests of
this study, looks at collaborative aspects of the design activity and the context of
the design work. Designers’ collaboration in engineering, architecture, and plant
engineering show how and with whom designers interact and how they use arti-
facts to support their work (Lauche 2005). The study follows three stages, which
move from looking at the collaboration and use of artifacts in engineering design
to comparing the findings with underlying assumptions on the design philosophy
of Build-it, a multiuser system designed to support co-located interaction. Final-
ly, the potential users are interviewed about their tasks to discover further devel-
opment requirements for Build-it (ibid.). An interesting finding is the presence of
the collective and individual aspects of the work. While the collaboration between
designers and clients, or different stakeholders in the design process, is of critical
importance in the design process, it is not the norm, as most of the time is spent
working individually (ibid.).
I have not found a study where activity theory and contradictions are studied by way of a real-world ethnographic case study on design and contradictions reflected upon from the organizational context.

**Change and Something New**

When considering the relevance of activity theory for design, it seems that the design of new artifacts, products, services, content, or situations resonates with the fundamental starting points of activity theory. The internalization and further development of apparatuses, signs, and models that are mediating objects with sociocultural character is constitutive of human activity and consciousness, and the production and use of these means a breaking away from a natural relationship between an organism and its environment (Miettinen 2006). The roots of the term activity are in Russian and German, where the term activity means, “doing in order to transform something” (Kuutti 1996, 25).

The way processes are studied when using activity theory has been considered especially useful for design. The focus on activity takes to looking at a process from rational problem solving to reflection-in-action, where standard strategies are insufficient and designers try out different possibilities, still keeping the link to the content and the process part of the design decisions (Dorst, 1995). The perspective of activity theory shows the reasons why something takes place, through the idea of the object-oriented activity and the motives of activity instead of looking at collaboration as means of coordination, management of tasks, schedules, technologies, and interactions (Nardi 2005). In design education, activity theory has been used to study how a new kind of professionalism emerges in the context of interprofessional design education for sustainability, meanwhile the academia as a platform is renewed (Marttila 2018).

The potential in design for change has caught attention in the non-design sector. The ability of designers to deal with wicked problems and design as an advocate of change has interested non-design sectors, first visible in the design research community as an interest in adaptation, complex problems and change in industrial design, engineering and architectural design disciplines (Stewart 2011). I am not convinced that design is a single source for change, but I think it is useful to recognize that it seems to be strongly proposed that change and design are interconnected.

**User Perspective and HCI**

HCI is one particular design field that has made extensive use of activity theory (see Nardi 1996, Bodker & Nylandsted Klockmose 2011, Kaptelini & Nardi 2012). Activity theory entered Human Computer Interaction (HCI) when a paradigm shift from information processing psychology moved towards understanding the social
context and individuals’ needs and frustrations when making choices, learning and using technology (Kaptelinin 2014).

From the HCI perspective, the computer is fundamental as a mediating artifact and not the object of activity (Kaptelinin 2012, 6) Activity theory has been useful in HCI for designing conceptual tools, for theoretical re-framing of basic concepts, a theoretical lens for empirical studies, and for evaluation (Kaptelinin 2012, 5–6). While activity theory is found to have the best fit with design teams’ needs (Postma et al. 2012), it can be considered to be helpful in supporting the design process in handling complex and open design spaces such as prototyping with emphasis on the user perspective (Bødker & Nylandsted Klokmose 2012). The exploration of new ways of supporting people with interactive technologies is considered a progressive use of activity theory in HCI (Kaptelinin & Nardi 2012, 5).

As an example of a specific application, I would like to mention the Human-Artifact model. Inspired by Engeström’s developmental work research, Bødker and Petersen have developed their process framework in which iterative design takes place through firstly analyzing existing practices, designing future technological artifacts secondly, followed by hands on prototyping in use-like situations, and finally, consolidating the future activity of the use of the artifact (Bødker & Nylandsted Klokmose 2012).

The Human-Artifact model is intended to, “highlight tensions between intended action possibilities in the artifacts and the action possibilities expected by the user; the assumptions of use embedded in the artifact on the one hand, and the experiences or the orientation of the user on the other” (ibid., 101). In a student design project, the focus is on providing a service to people when doing outings in the nature, and contradictions and tensions are used as steppingstones along the design process. The analysis reveals the complexity of the design, leaving the students with new realizations of connections and implications of the token design. This is considered to show the usefulness of prototyping and a systematic and skeptical approach, with identifying and exploring dialectical tensions in the design process (ibid.).

**Contradictions Go Beyond the Individual**

There are few studies that use contradictions to study the work of designers. Bødker and Nylandsted Klokmose include tensions in the Human-Artifact Model, but it emphasizes the possibility to analyze the human use of an artifact in order to identify trouble spots and areas for development of the artifact (2011). In design experiments, contradictions have been considered a driving force behind the social production of design space (van Amstel et al. 2016). Here, activity theory and contradictions are used to go beyond considering design space as a cognitive process of individuals or groups to see it as a socio-material process (ibid.).
The study concludes, that “design space is determined by multiple conditions that contradict each other: economic, cultural, stylistic, cognitive and others. These conditions are neither internal, nor external to design activity, but constitute the material base where from design activity emerges. This means design activity is not an individual cognitive activity, but a social pragmatic activity aimed at changing these material conditions” (ibid., 220). Design space is considered to be determined by the following relationships: the economic imperative of productivity, the cultural trend of knowledge co-creation, the engineering design tradition, the optimization bias of the tools used in the experiment, and the formal characteristics of the design space (ibid.).

Another study looks at paradoxes in design work. It interestingly links the ability to deal with more complex clashes between different stakeholders in a design process as a characteristic of a more experienced and skilled designer. Dorst and Hansen have studied design and paradoxes in the work of novice and experienced designers by building on the concept of discourse and framing (Dorst & Hansen 2011). Here, a paradox is defined as “complex statements that consists of two or more conflicting statements,” requiring a “redefinition of the problematic situation in order to move forward to a solution” (ibid., 1). Discourse is a means of identifying where the different stakeholder points of view are negotiated in the design process, and the paradoxes are clashes between discourses (ibid.).

The concept of the paradox is here connected with the experienced and skilled designers’ ability to carefully explore the original question that the design process is introduced with. Especially as a starting point in a challenging design process, where both what is to be designed and how it is to be designed have to be created, has been described as a paradox, meaning a situation where two or more conflicting statements are valid, but they cannot be combined (Dorst 2011).

Advantages and Disadvantages of Activity Theory

Some of the design research that use activity theory elaborate on the advantages and disadvantages of the theory. The aspect of use, meaning both users and the context of use, has been found a strength in activity theory. Activity theory is used in the analysis phase and communication phase in sharing user data with designers, and in the preparation of the preparation kit, which was the product designed. (Postma et al. 2012). Activity theory is a useful framework for creating an interdisciplinary communication about the context of use in a design process (Lauche 2005). For emphatic design in new product development, activity theory is found very useful because it addresses both the social practice and individual behavior in relation to the material artifacts. Design teams can use the social and material components when reading and interpreting user experience data.
Concepts such as mediation and object-orientation can be used to focus attention in the structuring and analysis of user experience data. Relationships and processes, themes, and patterns can be interpreted from the data. The different levels of activity support and broaden the understanding of the user experience, and future situations can be creatively built. The combination of different scales is a contribution that activity theory has to give to design research (Cash, Hicks, & Culley. 2015).

When considering studies focusing on the designer perspective and the design process, activity theory is considered both useful and applicable but also too complex.

It is found to be a disadvantage of activity theory that it requires a lot of effort to learn and put into practice for designers, who need a more intuitive translation in order to be able to apply the concepts (Postma et al. 2012). Similarly, workshop participants in a workshop in an industrial context for system development were hoping for something more easily applicable by themselves for understanding of the context, when activity theory has been introduced in a workshop (Lauche 2005). Furthermore, the need to be able to address emotions is thought to be lacking in activity theory (Postma et al. 2012). In a study (Tan & Melles 2010), activity theory is considered to have advantages in analyzing situates graphic design practices with depth of data instead of large sample sizes. The theoretically informed depiction of the interdependencies of design and problem solving and the flexibility of the language are considered further advantages of activity theory. Instead, the detailed workflow of the individual designer was difficult to distinguish (Tan & Melles 2010).

**Design as Activity**

What first awoke my interest in activity theory was the activity system as a possible tool to look at the context in which a designer works, showing the aspects of work that easily remain taken for granted or go unspoken. An individual member of collective activity is not fully conscious of the motive of shared activity and cannot alone have access to the various economic and political conditions (Miettinen 2005). While there seems to be an emphasis in studies on the design process to characterize different ways of working or the designers knowledge, I find that activity theory might have something additional to offer when connecting the designer’s actions with the surrounding context and the historical aspects of design.

In addition to seeing design as a shared activity in a context, activity theory is valuable for looking at change. Instead of looking at the design process of making something, I am interested in looking at how the design activity itself is changing or not changing or how it is challenged while a new artifact is being designed. In my opinion, this aspect – the presence of change – has been rarely emphasized even
in research that uses activity theory to look at design processes. Instead, activity theory has been more often used to define what is happening during the process, what kinds of tools are used, and what the activity system in design is like.

In activity theory, a change process starts with a need state that becomes visible as discontent with the present activity. This puts into motion the process of invention, creating a new object, which requires designing and implementing a new artifact (Miettinen 2005). Therefore, I find contradictions in the designer’s work and the design process a fruitful way to develop an understanding of steps in the design process and changes in the designer’s work. Likewise, in design processes the need has been identified as a starting point in the design process. Design practices are considered to have been developed in response to particular needs (Dorst 2011). And furthermore, the better understanding of the needs behind products and services that enters in when also consumers can participate by using design thinking can lead to better designs (Beacham & Shambaugh 2011).

**Historical Types of Work: the Historical Contextualization**

In order to contextualize the changes taking place in visual communication design activity I use the historical types of work identified by Victor and Boynton (1998). The historical types of work have been considered useful when focusing on organization and work activities (Sannino & Engeström 2018). The transition from one historical type of work to another has been used as an example of collective expansive learning taking place and the different types of work can be seen as different concepts for production activities (Virkkunen 2007).

The historical types of work identified by Victor and Boynton (1998) clarify for the distinct characteristics of an organization: the process flow, the type of knowledge used in the organization, and its limitations. A more extensive presentation of the historical types of work is given in the theory chapter. Here a brief description is presented.

The different types of work can be illustrated using examples from the history of graphic design. The Gutenberg Bible is an example of craft work: the work process built on tacit knowledge and an adaptable and informal process, compared to the printing houses of the 21st century. The process was independent and slow work, and the quality of the product had a degree of variation.

The second stage, where printing became mass production, made it possible to print books for ordinary people. A mass printing process required an organization that is functionally defined and hierarchical. Here the production process is serial and linear, following a clear plan in order to keep up the fast speed of production and the knowledge used is articulated, making multiple exact copies possible. The mass production process aims to eliminate variation in the products.

By creating teams within organizations that share information and practical knowledge from bottom up, process enhancement leads to differentiation be-
tween products. For example, newspapers follow a tight schedule in order to print daily editions and small adjustments in the production process can equal to savings in production costs. Corporate identities is an example where design is used directly to implement certain characteristics to all corporate communication in order to develop a certain image of quality to users and customers. Branded goods are another example where packaging can be used to differentiate between products that appear similar to the consumer.

Mass customization and co-configuration take the production process further towards user collaboration. When mass customization develops an even more dynamic network that is quickly renewable, co-configuration organizations are living constantly. In order to make the products adapt to user needs quickly and to build a long-lasting relationship between the user and the product. For example, Tinkercad was a product that was designed to allow people to design their own 3D prints through a program online. When processes bring in users to create content, knowledge is collected in networks. Here visualizations are a kind of co-creation made by the user and a brand. Or, brands might provide a platform for users to create their own content.

The historical types of work are used to contextualize the possible change that is visible in the visual communication design processes. The historical types of work give a framework for understanding the possibilities and demands of different ways of organizing work. Further, they help to generalize the found contradictions by recognizing elements in the work of the visual communication designers that go beyond the particular case studies.

### The Methodology: Ethnography and Case Studies

Here I shortly present the methodology of the study, while an extensive clarification of the relevant concepts, the two case studies, and the data collection can be found in the methodology chapter.

Methodologically, this qualitative research contributes to the stream of research that is related to ethnomethodology and conversation analysis, where the analytic sensibility and interest is in the ways that people organize their practical actions, analyzing for example the way design gets done in order to present for discussion or in order to question the current practices (Luck 2012). In this thesis, the two case studies (the visual update of The Magazine and the visual communication design of Demos Helsinki) are unique processes. The data is collected using interviews, observations and subjective reflections. Theoretical concepts from activity theory such as contradictions, the expansive cycle and the historical types of work by Victor and Boynton, support making generalizations about changes taking place in visual communication design work.

The most central difference between ethnomethodology and activity theory could be that activity theory emphasizes thinking and reflection as functions
in orienting and anticipating new forms of activity, whereas ethnomethodology emphasizes culturally available legitimating interpretations (Miettinen 2006). This means that the concepts of activity theory are aiming at depicting possibilities for development and change. Here the aspect of reflexive science means that the case studies and the data collection are partly driven by the theoretical concepts. This study is reflexive science (Burawoy 1998), meaning that the goal is not to establish a definite truth about an external world but to contribute to existing theory by improving it.

In this study activity theory is used to direct the ethnographic data collection by focusing on disturbances, innovation, and contradictions can be used as intermediate theoretical concepts that fall between the specific data and the general model of an activity system (Engeström 1999, 177–178). They are especially useful for studies on organizational communication as they direct the analysis towards scripts and boundaries of the status quo of the activity, which are invisible disruptions and creative efforts that often remain unacknowledged (ibid.). There is a clear choice of focus in the signs of change, instead of aiming at giving a rich description of all the different aspects of visual communication design.

Ethnography often provides rich, ground-level detail that can be considered a window into a larger changing or hidden world, showing less visible structures and processes, that can be contextualized within a historical moment and geographic area (Wynn 2011, Martin 2012). The work of visual communication designers can be considered a partly hidden world, since design is silent. Research on new technology-based firms suggests, that design is mostly silent, making it unclear how designer participation and/or defined aesthetic design roles influence the service innovation, if they do so, and raising the need to examining service innovation also from the perspective of designers and/or design firms (Candi 2008, 112). Ethnographic practices are mostly linked with exploring the nature of particular social phenomena instead of testing a hypothesis about them, working primarily with “unstructured” data that has not been collected using a closed set of analytic categories as a starting point (Atkinson 1994, 248–249).

Ethnography can question taken for granted assumptions and show new design possibilities and needs (Luck 2012). For example, an ethnographic study on skateboarding in Los Angeles counters the commonly held negative perception of skate boarders’ relationship to the city by showing a courageous and imaginative use of space with creative opportunities for young people to play and for economic sustenance (Snyder 2011, 327). Another study on graffiti culture shows that, contrary to being illegal and/or criminalized as previous scholars have often claimed, since 1990 it includes members who spray paint with permission and that the painters who produce legal graffiti tend to have so-called conventional values (Kramer 2010). The beauty of ethnography becomes visible in the detail from the everyday practices. For example, an editorial office published highly international news content while the only travelling they did was for lunch: “Almost the entire
staff only physically leave the editorial offices situated in the outskirts of a major French city (Lyon) to have something to eat or to drink coffee or smoke (Baisnée 2006, 114).” At Euro News a change in the functioning of the organization showed how the production of news stories and images became more heavily sourced from external journalists, who in some cases never went to the ‘scene’ themselves (Baisnée & Dominique 2006).

The perspective challenged by this study is the idea of visual communication design as individual practice, where the designers are the creators of something new. Instead, the focus is on visual communication design as collective activity, whereby organizations and networks have an impact on what happens within the design process. Based on ethnographic fieldwork and interviews, we can look at how macro-level general changes affect the everyday work practices.

Real world settings have become a general approach to studying design. While design research has been engaged with design processes and the actual making of design, it has moved from staged experiments towards real world settings. Design research has moved from studying practice towards looking at different aspects of design practices in their actual environments (Matthews & Heinemann 2012). Before the empirical turn, design research was more programmatic, consisting of staged experiments with artificial design tasks with specific time limits, often conducted with students instead of professional designers (ibid.).

In this work the real world settings of visual communication designers are two different case studies. The first case study focuses on a visual update process of a publication I have here called “The Magazine,” which took place in 2011. The visual update included changing all the visual elements of the publication, such as typography, logotype and color scheme, while emphasis was made to keep the content similar enough to the old in order for the readers not to notice the change. Why was the update hidden to the readers? The reasons for the particular character of the update were explored by shadowing of the Art Director (AD from now on) who designed the visual update. The shadowing included working in the office and participating in different meetings where the visual update was negotiated. Furthermore, interviews were made with upper management and members of the editorial office. The work of the AD and graphic designers was observed when they were trying out the new layout elements and making the layout for the first updated edition of the magazine to be published.

The visual communication design at Demos Helsinki, an independent think tank, in 2012 is the second case study. Demos Helsinki was interesting since it is not a design agency, but their use of visual communication design had caught my interest. It seemed that they placed emphasis on using professional visual communication designers for designing posters and publications, and their presentations included well-designed visualizations. What drove my preliminary research interest was to understand how they worked with visual communication designers and what design meant for them. I came to learn that Demos Helsinki was about
to facilitate Peloton workshops where designers were invited to participate in developing low-carbon business models. The group work at two Peloton workshops became my design case study at Demos Helsinki. The groups in the workshops were called Feisty Journalism and Low-Cost Railways.

The case studies of this thesis date back to 2011 and 2012. While a lot of time has passed since the data was collected, the results of the analysis give valuable insight into the dynamics of different contexts in which visualizations are being designed and bring forward analytical tools for studying design further.

1.2. Research Gap and the Research Questions

Here I present the research gap that this study is addressing and present the analytical research questions.

According to the overview of design research, there is a tendency to view design as a somewhat stable practice, or emphasize the core of design as something recognizable across different design practices. Meanwhile, meaningful experiences of designers are tied to the organizational actors they interact with instead of the design practice itself (Björklund T. & Marel 2019). Research on how organizational and institutional changes influence design is needed (Murto 2017, 14).

Change is fundamental in design work, where basically something new is being developed in every design project. Designers create and test possible interventions that propose interpretations of truly complex problem situations (Dorst 2019, 61). The design of social transformation is seen as the latest step in the development of design (Marttila 2018, 27).

Design is considered a central tool in developing new products and processes in a changing world. However, we know little about the actual challenges in the real life design processes where something new is being developed. Changes are difficult to make. Even though the design artifact or the design processes contributed to change, studies on design processes do not often take into consideration the influence of the changing work context or historical situation. In order to develop the existing design processes, research on how change in visual communication design processes takes place is needed – or why it does not.

Activity theory has been recognized as a promising framework for graphic design research and has been used to outline factors that influence the graphic design process (Tarbox 2006). “Activity theory, and especially developmental work research, analyses disturbances as a way to find deeper structural and historical contradictions in work practices (Helle 2000, 87).”

Where this research differs from other examples of design research using activity theory is that it attempts to use the expansive learning cycle to connect the tensions and manifestations of contradictions in the designer’s work. When connecting the manifestations of the contradictions to the context of work, we can begin to understand the broader picture of how and why graphic design work
is changing. In other words, contradictions and the expansive learning cycle show the limitations of the current work and the issues that would require change in order for them to be solved.

Research question 1. What kind of historical contradictions are present in visual communication design work?

The historical contradictions are analyzed from two design processes, which represent two different contexts for visual communication design and different ways of organizing work. The main research question includes two case-specific analytical questions. As this qualitative research addresses two different case studies, each case study is met with its own research question. This is a usual approach for case studies, where the research questions can be stated in terms of the particular case (Maxwell 2013, 78). Answering the main research question requires an interpretation of the results from the two analytical research questions.

The first case study can be considered to show a traditional work environment of visual communication design: an editorial office of a large media company and a publisher of magazines. The second case study shows visual communication design as part of concept design, driven by design thinking, which is a context that can be considered a more recent development in the profession. Research questions 1.1. and 1.2. are written directly with these two case studies in mind.

Research question 1.1. What kind of contradictions lie behind the dilemmatic visual update of The Magazine?

A visual update is being designed at The Magazine. What begins as a renewal of the publication's logotype, color palette, and fonts, becomes an overall visual update that, it is emphasized, should go unnoticed by its readers. The dilemma of the visual update becomes apparent, for example, when a visual communication design consultant characterizes the update to be similar to a newspaper update: the readers consider the magazine to be “sacred” and any changes might mean turbulence in the editorial office. The Editor-in-Chief replies by saying that the structure of the magazine remains the same because changing the structure is what readers would usually panic about. The conclusion is that the story types and the content will stay the same as before. Changes are made in visual elements in a manner that does not affect the other content.

Excerpt 1.

AD: “Here [in the magazine update] the conformity to law is close to newspaper renewals.
Editor-in-Chief: Exactly, yesterday when we talked about this the graphic design consultant proposed that this is more of a newspaper renewal than a magazine renewal.

AD: They [newspapers] are considered so sacred that touching them is dangerous, or not dangerous but they cause a lot of... you have to prepare yourself so that you don’t panic immediately because it [the turbulence] always passes, it passes in two weeks.

Editor-in-Chief: People get used to it. And we are in reality not talking about big changes.

AD: Not at all, it is always exciting, the reaction you get. In principle everything is almost exactly as before but the shapes are a little bit different.

Editor-in-Chief: The structure of the magazine stays the same as before, [changing] that is what readers usually panic about.

AD: Story types and content are exactly the same (January 28, 2011, meeting between the Editor-in-Chief and AD).

In 2011, when the data was collected, The Magazine had a large readership and visual changes are made rarely. The brand included a print and an iPad magazine, a web page, and content sold to other magazines. The brand belonged to a large media company and a large editorial office was responsible for the content. The editorial office consisted of an editor-in-chief, three managing editors, two editorial secretaries, an AD, two graphic designers, a photographer, a web producer, journalists, and assisting staff. The update of the magazine took place during spring of 2011 and was designed by the AD, who negotiated the decisions with the editor-in-chief and was assisted by a graphic design consultant. The two graphic designers participated in some meetings where the update was discussed and in some testing of the new visual elements.

Research question 1.2. What kind of contradictions are present in visual communication design of Demos Helsinki?

When I collected the data in the fall of 2012, Demos Helsinki was a think tank consisting of 12 researchers working with various projects focused on societal change. The organization was chosen because I became interested in its emphasis on visual communication though not being a visual communication agency. The publications and presentations were visually interesting and often designed by professional designers. Demos Helsinki valued DIY when producing its own pre-
sentations, and there were no designers working full time for the organization. Further, design thinking was used in the work coming out of the organization, and it had a so-called “in-house” designer who often worked with Demos Helsinki.

When contacting Demos Helsinki, I expressed my interest in researching their use of visual communication design and collaboration with designers. I was invited to follow two Peloton workshops, during which designers were included in developing business concepts for a low-carbon society. The Peloton workshops were weekend workshops organized by Demos Helsinki in order to bring people together to create new business that is both profitable and tackles climate change by creating a society with less carbon emissions. Peloton refers to a phenomenon that takes place in a group of cyclists when the leading cyclist creates a pull that makes it easier for followers to keep pace. Demos Helsinki facilitates the workshops and chooses the concepts that are further developed. Like the concepts, the participants are chosen from applicants who have applied to take part in the workshops. The participants in the workshops typically do not know each other and come from various backgrounds. The workshops end with judges choosing a winner to receive assistance in developing the concept further.

The next chapter introduces you to activity theory and contradictions. Contradictions are the key theoretical concept used in this work to study change in visual communication design and to see how design processes are influenced by their context. Further, the theory chapter presents similarities and differences between design research and activity theory.
2. Activity Theory

“The idea is that humans can control their own behavior – not ‘from the inside’, on the basis of biological urges, but ‘from the outside’, using and creating artifacts.” (Engeström 2003, 28)

Design is collaboration between multiple actors and different disciplines. In this thesis, cultural historical activity theory is used to study change behind the visual communication design process and change in visual communication design activity. Activity theory is not a theory is the sense of a fixed body of accurately defined statements (Kuutti 1995).

In general, activity theory can be considered to refer to two traditions, the original Soviet tradition or the international multi-voiced community that applies and further develops the original ideas (Kuutti 1995, 26).

Here the use of the theory follows mainly the so-called Helsinki school of activity theory. This tradition has been found well applicable to design research: Finnish developmental work research, “has been found the most complete methodological approach to activity-theoretical work analyses and design, emphasizing the continuous development of work (Bertelsen & Bødker 2003, 323-324).”

This chapter starts with a short historical overview of the development of activity theory, followed by a clarification on the central concepts of activity theory: the activity system, contradictions, and expansive learning. The media concept is introduced as it is based on activity theory and developed especially to understand media organizations. Research that uses activity theory to study design work is considered. Finally, the historical types of work (Victor and Boynton 1998) are presented with examples from the history of visual communication design.

2.1. Historical Overview on the Development

“human mind comes to exist, develops, and can only be understood within the context of meaningful, goal-oriented, and socially determined interaction between human beings and their material environment.” (Kaptelinin et al. 1995, 190)
The origins of activity theory can be traced to the period after the Russian Revolution of 1917 as a result of the development of a new psychology based on Marxism. The emancipatory possibilities are emphasized in activity theory by the claim that it is a theory that can methodologically support humans to control their artifacts and thereby their own future (Engeström 2003, 29). Yrjö Engeström connects the internationalization of activity theory in the 1980s and 1990s with events such as the fall of the Berlin wall and freeing of Nelson Mandela from prison, stating that these kinds of manifestations of activities come from below, instead of from the elite or political decision making, and they are sudden and unexpected (ibid., 19).

In work practices, artifacts can embody the stable and structural, as if they represent the unchangeable reality, but in fact, they have been invented, purchased, and put into use; they don’t last forever and will be replaced by new ones (Engeström & Middleton 1998). Activity theory suggests that the interaction between man and his environment constitutes the foundation of knowledge, with tools and language as mediators (Miettinen 2006).

Three generations of activity have been identified (Engeström 2001). The theoretical concepts that are mentioned now are clarified further in this chapter. According to Engeström, the first generation of activity theory builds on Vygotsky’s central idea of human action as object-oriented and mediated through cultural artifacts. The perspective widened from individuals to understanding the importance of the collective level of activity and the division of labor in Leont’ev’s work, pointing out how the tasks are divided between people in order to gain a shared object. Individual actions constitute shared activities (ibid., 2001).

The second generation of activity theory refers to the period of internationalization and a widening in the topics of research. This meant that the previous research focus on children’s learning and play in Soviet psychology changed and the theory was applied to different fields. As has been mentioned before, the Helsinki School developed with a focus on work and organizational research. At this point also contradictions were brought into the focus of empirical research. The third generation of activity theorists expands the perspective on activity from single activity systems towards multiple activity systems. (Engeström 2001)

In the beginning of the 21st century, Engeström defines the five principles of activity theory (ibid. 2001) that I use to clarify the theory I am using: 1. Collective, artifact-mediated activity systems, 2. Multi-voiced activity systems, 3. The history of the tools and the activity system, 4. Contradictions are the source of change and development making (5.) expansive learning possible

**1. Collective Artifact-Mediated Activity Systems**

Collective and artifact-mediated activity systems are part of networks of activity systems that make sense of goal-directed individual and group actions and automatic operations that reproduce and realize the activity system (Engeström 2001,
From the cultural-historical perspective, all human activities are mediated by used and modified artifacts that are grounded in everyday activities (Moen et al. 2012).

In order to get an idea of what kinds of perspectives activity theory opens up when used to look at visual communication design, Raff (2013) makes the important recognition that in order for a poster to become a tool, it must exploit existing activity systems. Perception or the readability of the poster are not enough to understand how the artifact is perceived by the user. For example, location of the artifact needs to be considered in the design in order to contribute to a change of social activity systems (Raff 2013). A poster becomes understood in relation to its surroundings and by being meaningful to the activity of the people in that context.

In the tradition of cultural historical activity theory, the activity system consists of subject, object, tools, rules, community, and division of labor (Engeström 1987, 2000). Activity theory considers the use of language and meaning making as means of coordinating and making sense of shared human activities and concerns (Miettinen 2006). The subject is an individual or group whose perspective is the focus of the analysis; an object is the target of the activity; the tools used are mediating artifacts that support the subject in achieving the outcomes of the activity; the community are the people who share the objective with the subject; the rules regulate actions that take place within the activity; and the division of labor defines the critical organizational tasks for achieving the objective (Levänen & Hulkkinen 2013).

The object gives longevity to the activity while a different form of the object can be available for the different participants of activity (Engeström et al. 2015). The object of the activity is being realized and reproduced in varied forms such as services or products, depending on what kind of activity is considered (Miettinen 2005). The outcomes following the pursuit of an object have exchange value that can be traded for goods and services and relieve the original need (Hyysalo 2009). Project-objects are subordinate to the long-term activity of a company but last longer than a single action or operation and are not as clearly goal oriented (ibid. 2009).

Long term collective activity consists of individual and cooperative actions and operations (Kuutti 1995, 30). Kuutti (1995) gives concrete illustrations on the difference between these concepts that correspond nicely to the design context. He illustrates Leont’ev’s formulation of the hierarchical levels of activity, action, operation, and their corresponding motive, goal, and conditions. Kuutti uses the examples of building a house, completing a software project, and carrying out research into a topic. In the activity of building a house, the individual actions that take place when building a house are fixing the roofing or transporting bricks by truck. On the operations level, this means looking at hammering or changing gears (ibid. 1995). When looking at graphic design, the operational level could be the use of In Design software for selecting fonts and designing paragraphs. The action
Figure 3. The Activity system applied from Engeström (1987).

Table 2. Following Kuutti's definition of the difference between activity, action and operation, using the example of book design.

<table>
<thead>
<tr>
<th></th>
<th>Motive – Book design department in a publishing house including several designers working on various projects. Neighboring activities can be editors and marketing department.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Goal – Design of one book where different actions take place.</td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td>Conditions – Designing the typography to be used in the book as one step towards completing the layout.</td>
</tr>
</tbody>
</table>
level could be the design of a book, which could include actions such as getting the brief, getting to know the content, meeting with the author, making sketches by hand, and doing the lay out. The activity level could be the design department at the publishing house, where neighboring activities are editing, marketing, and so on.

Engeström makes a distinction between action and activity time, saying that action time is linear, anticipating a finite termination, and activity time is recurrent and cyclic (Engeström 1999, 2003). Therefore, talking about individual actions does not necessarily refer to the individuals taking action but rather the collective action that is not continuous. However, the actions of an individual do affect the development of the shared activity system (Engeström et al. 1996, 11).

Another term that is grounded in activity theory and refers to a specific kind of short-term collaboration is knotworking (Engeström 2000). Knotworking is already referred to in the chapter on different historical types of work; however, here, we can explain it in terms of activity theory. A knot refers to a pulsating movement of tying and untying separate activities together temporarily, without a long-term shared object and without becoming shared activity (Engeström 1999). Some types of design projects can be described as knotworking. For example, when designers participate in workshops in order to develop a service that they are not committed to long-term but might give some insights to what could be further developed. Participants from different sub-cultures might view the same artifact or word very differently and in conflicting ways (ibid.12).

When considering visual communication design products and the design process, there are many different materials present, and the end result is traditionally a physical product. It is relevant to ask where in the activity system should the materials and products be placed. This depends on which activity, action, or operation you are studying. Same products and materials can be tools in one activity and objects or outcomes in another activity. A web page can be the outcome of design activity, whereas the same web page can be a user’s learning tool. Concerning the case of The Magazine, I see the update as the object of the project and the updated publication the outcome. The presentations of Feisty Journalism and Low-Cost Railways are the outcome of the workshops, but for Demos Helsinki, the presentations are tools in the Peloton strategy for creating a low-carbon society.

2. Multi-Voiced Activity Systems

Secondly, an activity system is multi-voiced, consisting of different positions and histories of participants (Engeström 2001, 136–137). An object of activity is not a distinct entity, instead it is complex and contradictory, as individuals participants in the activity develop different professional identities and career expectations as their capabilities and motives related to the object of the activity differ (Miettinen 2005). It is common, that the different motives between the actors of an activity
system are radically different, which is important to recognize when conceptualizing shared activity, because otherwise we are looking at collections of individual activity systems when we look at collaboration (Nardi 2005).

Research has shown that people inside a newsroom can have quite different conceptions of the object of work. The ideas, e.g., about what is good journalism or visual design are changing over time and across platforms (Helle & Töyry 2009 b.). The challenge of the development of a shared object is that its nature is complex and contradictory, including varying individual motivations during its creation, and coordinating the actions of the individual participants (Miettinen 2005). Engeström goes as far as to say that the object is “a moving target, not reducible to conscious short-term goals (Engeström 2001, 136).”

The different layers of The Media Concept are a way in which the different perspectives in the activity can be distinguished. Virkkunen's work on the concept of activity is the base that the media concept is built on. “The principle and the logic on which the relative coherence of the elements of an activity system are based can be called its concept (Virkkunen 2004, 44).” The concept can be implicit or consciously planned and formulated into documents and tools (ibid., 44).

The central idea of the concept is that, for an individual to be able to reflect on an action, it is pertinent to create distance from the object of the individual action, making it possible to reflect on and pay attention to the structure of the shared activity (Virkkunen & Ahonen 2011, 231). This is the idea of a theoretical concept. “A theoretical concept that discloses essential functional relationships makes it possible to assess possibilities that have not yet been actualized (Virkkunen & Ristimäki 2012, 276).” A theoretical concept makes the argument that when, for example, most management tools are based on empirical generalizations, it is difficult to really expansively re-conceptualize the business activity (ibid). A theoretical concept is firstly an analysis whereby the current concrete reality moves to the abstraction of central inner contradictions in the activity system that are connected to the empirical problems in the daily work, secondly, a theoretical abstraction needs to be found in order to overcome the contradictions, and thirdly, the abstract new idea should be worked through to become concrete activity (ibid).

The Media Concept, is a theoretical concept developed specifically to reflect on the object of work in media organizations. It is based on activity theory especially for studying and developing media production. The media concept is a tool for both analyzing and developing media products and understanding their use (Töyry & Helle 2009 a). In a similar way, as the analysis of the interconnectedness of different activity systems, or the different motives connected to one activity, the media concept aims at understanding the production of magazines, websites, newspapers and mobile media services, from different perspectives (ibid.). The media concept has three levels, firstly, the purposes and values of an activity system, secondly, the artifact or service produced and thirdly, the production in the daily practice (ibid.).
According to Virkkunen and Ristimäki (2012), a concept is an important cultural mediator of human action as a crystallization of a culturally evolved idealization and a generalization of human experience. Each medium has a unique media concept that it is built on, and the media concept is thought as manifested both on an individual level and a collective level (Töyry & Helle 2009 a). For example, an Art Director might be responsible for the visuals of an artifact but the whole editorial office and other collaborators influence the details, for example, the photographers or the editor-in-chief who chooses the cover story, making it impossible for one person alone to decide what the artifact looks like.

The media concept is collective knowledge that helps individuals and groups grasp the shared object and commit to the goals and values of the organization (Helle & Töyry 2009 a). All three levels of the media concept need to be analyzed in order to understand the whole picture, depicted in figure 4. The first components are the purposes, values, and needs of publishers, audiences, and journalists. Understanding the needs of the reader and the media behavior of the reader is a central part of the first component (Helle 2011). The publisher’s values can be both financial or ideological, and the objects can be contradictory, such as the question of profit and quality connected with low newsroom costs. The business model shows where the revenue originates, whether it is from the state, a political party, or market based, relying on subscription fees and/or advertising. This affects the content directly.

Figure 4. The Media Concept (Töyry & Helle 2009 a) with added illustrations.
The second component refers to the architecture of the whole and its parts. Here the organizational structure, the management, and the production principles are included, showing how the organization is tied together. The product architecture is part of the structure, showing the repeated structures and standards that guide the work. The third component is the daily work practice. The daily work practice shows the negotiations between different members of the organization, the planning, and selection that happens in the everyday work. This is the place where disturbances and manifestations of contradictions show the challenges and needs for development in the work.

3. The History of the Tools and the Activity System

The problems and prospects of an activity system can only be understood through the history of both the local activity system and the tools used (Engeström 2001, 136–137). Long-term activity cannot be understood without understanding the elements of the activity that are continuous or the ways it is changing. If we only look at short-term actions, we don’t get an understanding of where the need for the new actions came from and whether the actions are influencing the more permanent structures of the activity. The ability to address the wider context and continuities beyond the transient actions is one of the strong advantages of activity theory (Hyysalo 2009). The challenge is to show and analyze this history making, which implies capturing the discursive creation of new forms of activity (Engeström 2003).

The history of activity has been constructed in different ways. In change laboratories, the history of activity can be constructed in collaboration between participants of the change laboratory and researchers who are running the laboratory, as in the case of a change laboratory process within a newspaper in Finland (Helle 2011, 79). When a newsroom started using a new tool – the pagination system – the users of the tool needed new expertise, and the division of labour changed between the newsroom and the typographers as did the look of the newspaper (Helle 2000). Another study on the treatment of patients with multiple or chronic illnesses constructed the historical perspective using both literature on organizational and social context of health care for chronic illness and a case specific history in the Finnish healthcare context (Kerosuo 2006, 117). A historical analysis of a product design project shows how the motive of the professional changes; there was a change from a restricted professional motive towards a unified motive combining multiple domains of expertise around a particular new technology (Hyysalo 2009, 33).

In my research, the main historical perspective on visual communication design is constructed in section 1.3 by using the framework of Victor and Boyton (1998) of different historical types of work. These are connected to visual communication design using examples from research on visual communication design.
and literature on graphic design history. In the case descriptions, there is some reference to the history of the organizations studied. The focus is on connecting the contradictions that are found with the current changes in visual communication design activity, and to discuss how the contradictions found in the case studies resonate with the historical types of visual communication design.

4. Contradictions are the Source of Change and Development

"Most importantly, contradictions are the driving force of transformation. The object of an activity is always internally contradictory. It is these internal contradictions that make the object a moving, motivating and future-generating target. Expansive learning requires articulation and practical engagement with inner contradictions of the learners' activity system." (Engeström 2010, 77)

In order to provide a well-articulated understanding of contradictions in keeping with the way Engeström (1987) developed his theory, I combine the clarification of the idea of contradictions and the idea of expansive learning. They are interconnected, even though contradictions and expansive learning were presented as separate points in the five principles of activity theory (Engeström 2001). Contradictions are the source of change and development (Engeström 2001, 136–137) (Engeström & Sannino 2011, 368). And, there is a possibility for expansive transformation when the object and the motive of the activity are re-conceptualized (Engeström 2001, 136–137). The reconceptualization of the object and motive can happen by working with contradictions.

Contradictions are central in activity theory when wanting to understand the challenges in the current activity and the need for creating new solutions. If an organization wants to transform its way of working, the reason can be the presence of inner contradictions and a developmental dead-end in the current way of working (Virkkunen 2007). Activity theory sees contradictions as sources of developments manifesting themselves as problems, ruptures, breakdowns, and clashes, and all activities are constantly in the process of working through contradictions (Kuutti 1996, 34). A need becomes visible as recurring problems that express a historically formed relatively persistent internal contradiction in the activity under study (Miettinen 2005).

2.2. Manifestations of Contradictions

Contradictions are historically emergent and systemic phenomena to be approached through their manifestations, which cannot be equated with the contradiction itself (Engeström & Sannino 2011). The manifestations of contradictions are verbal cues or observations of disturbances in the activity. Now the relevance
The concept of contradictions identifies qualitative differences in the manifestations of contradictions. These can help in pointing out situations and topics that show a possible aggravation of a contradiction, and a proposition of a current need for change. Contradictions can be conceptualized by analyzing disturbances and innovations within and between activity systems (Engeström, 1999, Helle 2000). “Disturbances can be characterized as deviations from the normal flow of work and they can be tied to underlying developmental contradictions of the activity systems involved (Helle 2000, 91).”

There is a difference between experiences of conflict and developmentally significant contradictions (Engeström 2010). The difference is whether the tensions are on a short-term action level or the longer life-cycle of activity. It is possible to make the move from the action level to the activity level and to expansive learning when a need meets a motive in a new object of activity (ibid.).
Contradictions can be identified as everyday dilemmas, conflicts as resistance, as critical conflicts, and finally double binds, which indicate a real crisis (Engeström & Sannino 2011). These are discursive manifestations of contradictions. Dilemmas are the incompatible evaluations found in our everyday thinking and conduct. Therefore, they are more often reproduced than resolved. Conflicts are present when people are obstructed by others and express resistance, disagreement, argument, and criticism. Compromises and submission to authority are ways of resolving conflicts. Critical conflicts are identified as a difficulty in acting when people are confronted by contradictory motives, inner doubts that they cannot solve alone. Personal, emotional, and morally charged accounts illustrate the working out of critical conflicts that are resolved by finding a new meaning for the initial situation. Double binds develop when, despite multiple attempts at a solution, no acceptable alternative can be found for a pressing need to act. The resolution needs to be a practical transformation of collective action. See table 3.

Developmental work research (Engeström, Virkkunen et al. 1996) and the theory of expansive learning (Engeström 1987; Engeström 2010) emphasize contradictions as central in understanding development. The developmental aspect has been advanced into an interventionist methodology called the change laboratory, where researchers and practitioners develop work practices together (Engeström et al. 1996). Formative or developmental experiments have been found adequate and characteristic for activity theory with expansive cycles as a concept for studying transformations where people formulate desirable culture (Engeström 1999 a, 35).

The development of the methodology for formative interventions answers the demand of facilitating the resolving of contradictions in work communities and reaching new modes of work activity (Engeström & Sannino 2010). These formative interventions emphasize practical testing of the validity of concepts of activity theory through co-constructing new models of activity with local participants, based on historical and empirical analyses of the activity in question, instead of idealizing practitioners so-called spontaneous ideas and efforts (Engeström 1999 a, 35–6). The change laboratory has a relatively compact structure; an entire cycle usually consists of 6-10 laboratory sessions and follow-up sessions (Engeström et al. 2014, 126).

The time span of the expansive cycle and historical contradictions varies depending on the study. The expansive cycle and historical contradictions have been used to look at dynamics that play out for decades. For example, an expansive cycle of a newspaper development is depicted in five stages, starting from the 1970’s changes in journalistic culture to the 1990’s (Helle 2011, 80). Another study traces the changes in the object of healthcare from 1663 to 1944 to understand the boundaries of complex healthcare organization for multiple and chronic illnesses (Kerosuo 2006, 38–39). These are examples of slow historical development of activity. On the other hand, expansive cycles can be used to look at a shorter devel-
development process such as the change laboratory sessions in a library context for which eight sessions were conducted during fall of 2010 (Engeström et al. 2013). In this thesis, I use the expansive learning cycle as a tool to look at two design processes that vary in length from a several month update process of the visuals of a magazine, to two workshops that last one weekend each. The focus is on the need for change in the current visual communication design activity and the contradictions that are present in the data during the design process.

In developmental work research activity of people is historically, empirically, and theoretically analyzed by looking at locally and temporally concrete activity systems that can be work processes, organizations, and institutions where individuals meet the society and the rich activity of people is present (Engeström 2005, 74). Researchers are actively involved in providing a historical perspective of the activity system by pointing to contradictions and by using the activity system as a tool for finding new possible solutions (Engeström 2005, 125).

An example of a basic contradiction in media production can be the issue of profit versus quality, which affects the everyday practices in the media organization, showing itself differently from the different perspectives, such as journalists aiming for important information and managers aiming for lasting readership contracts (Helle & Töyry 2009 b). Developmental work research emphasizes the possibilities individuals have to change their work. “Developmental work research was born largely from the need to position the active thinking worker, the subject, into the analysis of the work process and into the centre of practical development (Engeström 2005, 36)”.

The identification of different contradictions is visible in the expansive cycle, as the different steps of the expansive process are seen as likely to develop by working through the different types of contradictions. The starting point for differentiating contradictions in activity theory has been the division into primary, secondary, tertiary, and quaternary contradictions (Engeström 1987, 87-88). These types of contradictions are placed in different phases of the expansive learning cycle (Engeström 1987). These steps are actions called questioning, analyzing, modeling the new solution, examining and testing the new model, implementing the new model and reflecting on the process (Engeström 2010). These are clarified in detail in the following sections.

“The process of expansive learning should be understood as construction and resolution of successively evolving contradictions” (Engeström 2010, 79). When looking at work practices, the theory of expansive learning and the ideal-typical sequence of actions that are depicted in the cycle are not to be found in their ideal-typical sequence. Instead, these appear in odd combinations ” (Engeström et al. 2014, 86). The expansive learning cycle and contradictions are used in this thesis as an analytical and reflective tool to help us better understand the dynamic forces that influence the direction of the two empirical design processes. Next, I describe the steps of the expansive cycle and the corresponding contradictions.
The Primary Contradiction Expressing the Need for Change

The first phase of the expansive cycle is the questioning phase, indicating the need state that is marked by the primary contradiction, manifested as different kinds of disturbances and ruptures. “In actions of questioning, primary contradictions appear as increasingly troubling but diffuse tensions and disturbances in the activity system (Engeström et al. 2014, 86).” In ordinary work practices, the primary contradiction becomes visible as disturbances and tensions that reveal a need state (Kerosuo 2006, 11). The shape of the primary contradiction is particular to the historical phase of each activity system and the content is different concerning each activity system (Engeström 2010). The primary contradiction is embedded in all the nodes of the activity system. It is important to realize, that the primary contradiction is different from other types of contradictions, because it is always present as fundamentally embedded and generally not resolved, but instead forms the ground for other levels of contradictions (Joo 2014).

The primary contradiction is the basic contradiction between use value and exchange value, continually present in any activity (Engeström 1987, 87). The primary contradiction is built on Marx's theory of commodity production, understood in the following way: “An object to be built in capitalism is a commodity, a contradictory unity of use value and exchange value. The term use-value refers to
the capacity of a product to satisfy human needs. The term exchange value refers to the price of a product in the market and it is in competition with other alternative products (Miettinen 2005, 60)."

The primary contradiction can be visible as a question: “How far can we go in cutting costs and expenses without the service quality suffering too much?” (Pihlaja 2005, 205-207). In the development of cellulose technologies, the primary contradiction was identified as one between the social usefulness and the practical value of renewable raw materials (Miettinen 2005). The contradiction can be present already in the process of developing a new product. In an application design process, the tension between the best possible solution and the solution feasible to design with the time and resources available is considered an example of a primary contradiction (Bertelsen & Bødker 2003, 303).

As in the examples of business activity, also in education and health care, which are more use-oriented services, the primary contradiction is present as the need to reduce the cost of providing the service. In the particular case of education, the primary contradiction is found as part of the dual principles of the education to simultaneously offer both inexpensive tuition with minimal requirements for entrance to accommodate as many students as possible and in-depth, quality higher education (Joo 2014).

In home care work, the primary contradiction is visible as a personal conflict of the home care manager, who simultaneously tries to provide help yet contain costs. The use value of home care is the foundational purpose of providing care to the elderly who suffer from illness so that they can remain living at home, and the exchange value is the municipal home care services that generate costs and have tight budgets (Engeström 2011). Or, simultaneously, as newsrooms are emphasizing professional independence, democratic values, and true investigative reporting, they are affected by the corporatization and commercialization trends taking place within media companies (Almiron, 2011).

Secondary Contradictions and Double Binds

In the analysis phase in the expansive cycle, a double bind is formed that often takes the form of a secondary contradiction between elements of an activity system that prevents development of new possibilities (Engeström 1987, 87 Kerosuo 2006, 11). The double bind is a situation where a collective effort is needed to find a solution (Engeström 2011). The contradictions could take place, for example, between the tools and the object. In order for expansive learning to take place, collective effort and a change of activity is crucial, including a new object.

The implicit primary contradiction becomes conceptualized in the secondary contradiction, and a specific problem can be addressed (Foot & Groleau, 2011). The secondary contradiction is more clearly activity specific, demanding a change for a more specific issue that can be considered changeable within the activity system.
One secondary contradiction in an editorial office of a newspaper came about between the established work process that emphasizes the use of information from official sources and a new approach that places importance on more specific topics and the perspective of lay people (Helle 2011, 79-80). This is a contradiction between the tools and the object. Another secondary contradiction is between a new pagination system that resulted in a lot of technical problems in the newsroom and the publishing of the paper (Helle 2000, 104, 106). In this case, a new tool caused secondary contradictions between the community and the object. In an educational program one secondary contradiction arises from the alienated position of students when emphasis is placed on high academic credentials. When a new educational program is presented, the new ways of evaluating the quality of learning contradicted with the old approach to knowledge that was superficial and memorization centered (Joo 2014, 56).

A secondary contradiction, and possibly a double bind situation, can lead to a phase in the expansive cycle called Modeling the new solution, and a possible breakthrough (Engeström 2010). In the historical cycle of an editorial office, part of this phase is the new content of the paper, the new object that resulted in, for example, change in leadership and experimentation with new organizational models such as rotations of lay-out (Helle 2011, 79). These can be considered concretizations of the new model and situations where tertiary contradictions between the new and the old activity might arise.

**Tertiary Contradictions Showing the Difficulty to Change**

Tertiary contradictions appear in actions of implementing the new model of activity (Engeström et al. 2014, 86). Tertiary contradictions are visible between the old and new activity systems (Engeström 1987, 87-88). Tertiary contradiction in some cases take place between existing activity and potential new activity and can be deliberately generated when a community is developing a new practice (Bertelsen & Bødker 2003, 303). Tertiary contradictions follow the changes and new solutions that result from the analysis of the secondary contradictions causing tension between the old way of doing things, and the challenges that change presents. It is a big change when collective effort has taken place and the whole activity alters, including the object of the work. For example, an editorial office focused on a print magazine might not be ready to change the activity in order to include web publishing and tablet production (Steensen, 2009).

A concrete example is the already mentioned historical cycle of an editorial office that changed the content of their paper due to a secondary contradiction, resulting in a change of the management and a new organizational model (Helle 2011, 79). These are implementations of the new model and situations where tertiary contradictions between the new and the old activity can occur. A tertiary contradiction became visible as a new pagination system was taken into use, meaning
simultaneously that the visual production entered the editorial office (ibid. 80). The contradiction became visible as the workers wrote complaints about a shortage of vacancies (ibid., 79). This tertiary contradiction became identified as a contradiction between the old and the new idea of what is good journalism and lead to a discussion about aspects of a new type of object, including, for example, the content of stories, the lay out of the pages, and the organization of work (Helle 2000).

In research, tertiary contradictions have shown that they can lead to further development of the activity or bring development to an end. In an educational context, new technology failed to support the type of learning that students wanted, and they searched for extracurricular activities in order to complement their education and transformed their previously individual way of learning into a more collaborative and interactional approach (Joo 2014). It is also possible, that the development or the expansive cycle ends in the tertiary contradictions of the implementation phase. In a change laboratory process at the Finnish Post ltd, some of the new product design was stopped during the implementation phase, as the required new collaboration did not take place (Pihlaja 2005, 271).

Quaternary Contradictions Between Different Activity Systems

After the new model is examined and tested, there might be quaternary contradictions, that exist between different activity systems, requiring the neighboring activity systems to be considered in the process (Engeström 1987, 88). Newsrooms can be considered activity systems that are connected to other activity systems within the media companies such as marketing. Simultaneously, as newsrooms are emphasizing professional independence, democratic values, and true investigative reporting, they are affected by the corporatization and commercialization trends in media companies (AlmironRoig, 2011). It is important to deal with the quaternary contradictions, as a completion of change requires that the activity of the neighboring activity systems is taken into consideration.

Quaternary contradictions are found in research on education. One study shows contradictions present between different activity systems that Azita, an adult English language institute, encountered. One quaternary contradiction connects the learning activity called “critical thinking” and the activity system of the Iranian government. The government shut down many of the institute’s facilities in Teheran, hindering face-to-face meetings and forcing classes to go online without much preparation. Another quaternary contradiction emerged between all activity systems that were part of the critical thinking course, and a computer company that Azita worked for (Madyarov & Taef 2012). Another study finds a quaternary contradiction between an educational institution and a company concerning alarm engineers, who are educated to become natural scientist, yet the work emphasizes skills in cooperation and decision making (Bertelsen & Bødker 2003, 303).
Neighboring activity systems can hinder change, but also the lack of one can do the same. Research on the change laboratory case at Finnish Post Ltd. concludes that the main reason for why new type of learning did not develop into new long term activity was that the expected competition, the motive behind changing the work, did not materialize. Therefore, no real secondary contradiction took place, change was not needed, and the solutions remained hypothetical and took place within the activity (Pihlaja 2005, 230).

Dealing with quaternary contradictions happens through actions of consolidating and generalizing. Stabilizing the new activity is accomplished through consolidating and generalizing that lead to the end of a cycle and a temporary resolution of contradictions (Engeström et al. 2013).

It needs to be mentioned, that when looking for examples of discovered contradictions in existing research, the division between primary, secondary, tertiary, and quaternary contradictions is not much used. Either there is talk about contradictions in general, without using the more specific types, or most of the time not all types of contradictions are found. This makes sense especially when a change laboratory process is not considered and there is not expansive learning taking place. Furthermore, it might be a question of analysis; what do you choose to depict as one activity system?

2.3. From Craft to Co-configuration

A helpful framework to look at different types of work, that combines the business aspect to the organizational aspect of work are Victor and Boyntons’ (1998) historical types of work: craft, mass production, process enhancement, mass customization, and co-configuration. The step from one type of work to another can be considered collective expansive learning, where a new type of activity is developed (Virkkunen 2007). These types of work can be viewed as historical, meaning dependent on cultural and technological surroundings that create a demand for certain types of goods and products. However, the different types of work can be considered to co-exist in the here and now, as different companies offer different kinds of products to users. All types of work can be legitimate if a customer, user or reader base exists.

In reality there are practices that are mixtures between these logics, and some might not fit this picture at all. Victor and Boynton present the different historical types of work as a kind of developmental path for a company. Their perspective emphasizes the company or business perspective, what takes place within the company, what kind of transitions take place when moving form one type of work to another, and what type of knowledge is needed in the different types of work.

Users or customers are a central part of the historical types of work, since according to Victor and Boynton the transitions from one type of work to another are motivated by new demands from the customers (Victor & Boynton 1998).
Therefore, the changes in visual communication design activity are seen as driven by changes in users demands. The customers' demands are connected with different kinds of value, and how the different kinds of value for users, customers or readers, affects the organizing work. “Figuring out what your customers want and value is the foundation for assessing whether your capabilities today can meet your customer's demands tomorrow. And it is consequently the basis for figuring out whether you need business transformation.” (Victor & Boynton 1998, 216).

**Crafted Unique Products**

The type of visual communication work, which emphasizes the personal skills of the designer, a unique style, or the excellence in a particular technique is craft work. The result could be a limited edition, screen printed record cover. Craft work is the first historical type of work which roots extend to the beginning of human history and the making of useful objects by hand: “People armed with experience, intuition, insight, and tools of a trade, such as carpenters, wheelwrights, masons, blacksmiths, and weavers, created the wooden structures of churches and forts, elaborated armor and ironwork, and fine textile of unequaled quality, intricacy, and utility (Victor & Boynton 1998, 19).”

Craft work knowledge is tacit, residing in the craftsman and transferred through on-the-job training with an independent work process (Victor & Boynton 1998, 41). Whereas designers use of artifacts might not seem relevant to an outsider, while they are important to designers and their creativity and innovation (Vyas, Veer & Nijholt 2013). Craft type of work corresponds with the role for the designer as a creator.

The craft orientation can be considered strong in visual communication work, especially if it is referred to as graphic design. The individual perspective on the design process from the designer's point of view is visible in the following quote: “The graphic designer’s materials are fonts and pictures. She uses a structured process of selecting them to provide herself with the constraints that she needs to be creative in her process.” (Eckert et al. 2010, 32). Also, a qualitative study on graphic design education in Britain showed, that in the education of graphic designers the idea of the students as naturally and instinctively competent was promoted (Logan 2006). These kinds of statements and research emphasize the importance of the individual process in design.

What makes craft particularly important is that it can be considered a component of transformation for companies, by making renewal possible through making the invention of something new (Victor & Boynton 1998, 182.). For example, design thinking has been loaded with expectations for innovation. Design thinking that is part of designers routine work is seen to generate innovative ideas and to be a key driver for success: “the often idiosyncratic motivations, strategies, tools and priorities designers utilize that help them shape their design processes and,
in turn, the future visions of the world that they project” (Rodgers 2013, 434). In craft work, machines and repeatable processes are not yet used (Victor & Boynton 1998, 41). This way it supports the trying out of new ideas and solutions. Products of craft work are unique (ibid, 41).

Pure examples of craft type of work within visual communication design, would be handwritten letters, hand bound books, unique wall paintings, or prototypes built by hand. However, it is possible to work in a crafty manner even if you are using computers and design software. Information technology needs to support the craft workers freedom to make changes and follow trends (ibid, 27). I would emphasize the aspect of the non-repeatable system, which leaves much room for experimenting and getting surprising results, as one way of generating unpredictable and new solutions that might be developed further.

The organization of craft work is fluid and informal (Victor & Boynton 1998, 41). This aspect of craft work can still be considered to be at the core of a designer’s way of working. Designer practices that are considered as specific to design studio culture do not serve functionalist or a task-based perspective as they are not meant to assist in solving design-related problems but support communication and collaboration within groups of design teams by enriching the design and stimulating creativity (Vyas, Veer & Nijholt 2013).

Firstly, the Use of body is mentioned, meaning both ways of communicating about the design artifacts such as sketches and techniques for understanding the user experience, such as role playing. Secondly, Thinking by doing draws attention to design representations such as visualizations and prototypes as central tools for the designer when developing new concepts. Thirdly, Creative social practices refers to a broad range of practices that are not formal and pre-specified but include brainstorming techniques, the recognition of the importance of team work, and creating ad hoc ways for the designers to themselves experience a situations in order to relate to user needs. Lastly, Ephemeral collaborations, shows that designers prefer informality and ephemerality in the collaboration and communication with each other, which becomes visible in the arranging the design space in a personal and flexible way that promotes influencing each other’s work. (Vyas, Veer & Nijholt 2013)

The limitations of craft work are variation in quality and slow pace of production (Victor & Boynton 1998, 43). This is self-evident when considering commonplace occurrences like regular updates to the advertising campaigns of grocery store items. Rapid change and consistent brand image are only possible thanks to the speed of digital layout and printing, which allows for identical posters go up overnight in various cities. One can only imagine the challenge of executing such an overhaul by hand and as an individual designer.

The transition towards mass production starts when we identify more discretely the various parts of the craft process with the aim of making them repeatable through mechanical reproduction. When the knowledge of craft type of work
becomes codified and articulated, knowledge is developed and a step towards mass production is possible. What seems to be non-structured and ad hoc, might be surprisingly systematic upon closer look and form a basis for an increasingly industrial method of production. For example, an analysis of slipware design from North Staffordshire circa 1720-30 shows that in a small production unit producing the pottery tasks were divided and the production process specialized and described in very similar terms to much later production methods referred to as industrial (Dean 2010).

Alternatively, the amount of craft type of work can also increase while mass production technology develops. In both the Dutch and preceding Italian capitalist patterns of cultural products, the patronage of the arts heightened thanks to surplus capital (Arrighi 2010, 139). Likewise, when English industrialism started to take over, high value-added activities were luxury and armament industries (ibid. 199). Furthermore, in the case of the United States, the rise of mass marketers, including the advertising agency, were able to internalize a high volume of market transaction within a single enterprise as a result of the reorganization and innovation that was caused by the internationalization of transaction costs in manufacturing enterprises pioneered by railway companies (Arrighi 2010, 248).

In the 18th century, the industrial revolution in Europe resulted in an increase in print communication, such as books and posters. However, this did not simply mean a larger amount of products but an increase in specialization: “Those affected include the designers of type and layout, founders or punch cutters who carved and cast the matrices for the font, and the printers who oversaw typesetting, the presses, and the preparation of paper (Raizma 2003, 24).” Like in this example, as processes became more mechanical in the 18th century, it did not mean that craft type work disappears, but the aspects of craft becomes emphasized by increased specialization. First steps in the development of printing technology in Finland was moving from the laborious, slow, and expensive letter press, to lithography, where text and pictures could be made simultaneously, creating more time to concentrate on the visuals (Kuusela 2004). Meanwhile, mass production did arrive.

**Industrialization, Mass Production and the Definition of Design**

It might be difficult to differentiate between craft work and a mass production process, if the designer is, on one hand, very tied to a certain predetermined solution, but yet the work is not automatized. A designer might be needed to make aesthetic and style-related decisions within a production process, even though the choices to be made can be very limited. Here we could continue using the same example as the advertising signs for grocery store items. There is no need to create big changes in the campaign approach or the content of the advertising, but some consideration is needed to select the photographs used in the advertisement. We
need someone who has the type of practical knowledge useful for choosing an appropriate photograph. For example, how the photograph of the product should be taken in order to fit the frame of the advertisement, what other elements need to fit into the ad, and how they are placed, and what colors on the product support its recognition, if the background color of the ad is always yellow, for example. In this regard, the craft-work skills of a designer can be applied to support a mass production process.

As I see it, there are two main factors that separated the manufacturing process and the design. Firstly, the design of new artifacts became separated from the manufacturing process as the industry grew and the processes emphasized mass production instead of unique products. Basically, there was no need for design within a manufacturing process focused on mass production. Design in the modern context means for most historians the separation between design as a conception and the subsequent production of the design, which took place when the division of labor accelerated and mechanical production was introduced in the nineteenth century (Raizma 2003, 11). A crucial step was the separation of the production and the design of the product.

Whereas the Gutenberg Bible from 1455 is one well-known example of a first step in moving from craft work towards mass production through the development of moveable type in print technology, the birth of the modern design profession did not happen until a lot later. It has been said that the profession of graphic design came into existence through the change, when the “task of designing printed material was separated from the task of printing it” (Eskilson 2007, 29). As the population during industrialization increasingly concentrated around large cities, the consequence was the rising of mass culture as different kinds of products, including the increase of visual arts (ibid, 24). In Finland, the first graphic designers made their living by designing ads, brochures, posters, and by illustrating books and magazines (Kuusela 2004, 11-13).

It is important to notice, that the same design can first be a unique craft product, but later when copied and produced more affordably, it can become a commodity. Mass production creates commodity value (Victor & Boynton 1998, 47), which means that products such as books, which used to be unique and extremely valuable, can become accessible to larger numbers of people. Our everyday life includes several commodities from breakfast porridge to smart phones. Anything can become commoditized when the products become undifferentiated and the price is determined simply by supply and demand (Pine & Gilmore, 1998, 5). The underlying value for the user is the knowledge that he or she can rely on the consistent quality of the product. Each item is not unique or special, but rather identical to all other units of its kind.

The organization of mass production is functionally defined and hierarchical with a linear process flow (Victor & Boynton 1998, 57). This is visible is an editorial office of daily news, where the speed of production is so fast that you need tools
that make the publishing of the news as fast as possible. There is no time to make changes in one single posting of content. A hierarchical organization makes decision making faster than one where constant negotiations take place.

Even if the design of a news site, paper, or application is done by an editorial designer, in the everyday working process it is the journalists who paste their stories into already existing layouts. The changes need to be made in the layouts. For content that is published with less frequency, it is possible to pay more attention to a single story. Therefore, a monthly magazine looks different from a daily newspaper. How this translates to the Web and to smartphone applications, is a relatively new concern. The quality of content, in terms of the editing of videos, photos taken specifically for the particular content as opposed to stock photography, and the use of more elaborate illustrations, create contrast between the visuals of a constant news stream and less frequently published content.

Mass production knowledge stays within the organization and is articulated to workers according to their tasks (Victor & Boynton 1998, 57). Since the production process is very streamlined, the tasks are very specific to the product that is being made. This means that the focus cannot be on making use of the personal skills of an individual worker, but on the ability to fill the need of the task that makes the larger process possible.

Information technology can be used to maintain a steady and predictable outcome. In mass production, information technology focuses on cost efficiency with automation of manual processes, which are separate for each product and service (ibid., 57). An example of mass production type of work could be a media company where publication-specific stylebooks contain the visual guidelines and any visual communication designer can step in and follow the guidelines in order to provide the layout for any type of publication.

The limitation of mass production is that variation is difficult (Victor & Boynton 1998, 58). The process is streamlined in order to secure a fast and cheap production of identical products, and, in so doing, becomes very product specific. Since the process is difficult to change, also the outcomes are difficult to change. This serves the mass production process, but it does not make it easy to create new products. If news or other media products become commodities, and the efforts in production are placed on making the process as streamlined and as predictable as possible through big media institutions, the role left for the audience might be the one of the consumer. The consumer chooses what commodity to buy, since the product or the production cannot be changed.

If a company wants to go from competing with other commodities to competing in terms of product quality, the transition is towards process enhancement. The learning process that is needed is to use the practical knowledge that has been developed during mass production to develop higher quality products through process enhancement (Victor & Boynton 1998, 73). This requires change also from the perspective of design work.
Using Teams to Enhance the Design Process

Instead of judging products mainly by price as in mass production, the quality of a particular product can make it stand out from others and become more valuable to the user. In process enhancement, commodity markets become quality markets (Victor & Boynton 1998, 73). In my opinion, this is a further crystallization of the definition of design in the industrialization process, since the role of design is not only in creating new products that become mass produced, or an almost automated slice in a mass production process, but design can be used in different phases of the production. The 1890s can be regarded as the point when consumers started buying individual packages of branded goods, instead of large quantities that were packaged for consumers in the stores (Moor 2007, 18).

The development of corporate identities in the 20th century in post-war Germany meant presenting a unified design to consumers. According to Eskilson, “During the 1950s, the profession of graphic designer finally came into its own” (Eskilson 2007, 320). The idea of design as increasing the quality of a product is here considered fundamental to the meaning of design. Likewise, in the late 20th century, the newspaper became designed, meaning design was considered both in the visual details and the distribution of the content (Mervola 1995, 294). Process enhancement becomes important when it is no longer enough to deliver the commodity that the user is expecting to get to an affordable price, but to be able to better respond to changes in the production field by changing the product and making it stand out from the other products. This means changing the organization of the work process.

The process enhancement organization is team-based with knowledge overlap and bottom-up processes (Victor and Boynton 1998, 76). This is clearly different from mass production that was task specific and hierarchical. In traditional graphic design work, book publishing or magazine publishing would be contexts where the Art Director (AD) is a sign of process enhancement taking place.

One could say, that the arrival of ADs in magazines is a sign of process enhancement because the role of the art director is to be responsible for the development of the overall visual design. In magazine design, graphic designers implement the visual guidelines that the AD supervises and is responsible for. The AD participates in planning meetings with other members of the editorial office or the media organization. The AD is a link between the everyday work processes, and the strategic teams, who can make changes in the larger processes. In this way, process enhancement becomes possible.

In process enhancement it is central that the process flow is intensive and includes constant micro-transformations (Victor and Boynton 1998, 76). A practical example of how technology supports process enhancement and becomes visible in new types of co-operation comes from news graphics. Improvements in com-
puter technology increased the popularity of info graphics in news, leading to both increased authority of the graphics staff and cooperation between the graphics department and the newsroom concerning the use of info graphics (Utt & Paster-nack 2000). Another example is often team-based campaign design, where each design process can add to the knowledge of how to better design the next campaign. Before work is presented to clients, the project manager, account manager, and creative director might all require changes to be made to the design, and the composition of the teams might change between projects (Dorland 2009, 110).

Information technology in process enhancement uses cross-functional design of information and communication systems that support micro-transformations throughout the enterprise and open information access (Victor & Boynton 1998, 76). In a media company, this could mean the information on shared tools, such as a shared photo studio, that is accessible directly through a shared booking system. Or if direct feedback is available on what kinds of situations in the work process cause extra working hours for the workers, it could be easier to address those situations directly and make the process more efficient. As process enhancement requires, practical knowledge flows constantly from employee to firm as the processes change (Victor & Boynton 1998, 76).

The limitations of process enhancement are in the difficulty of product innovation and creation of variety (Victor & Boynton 1998, 87). On one hand, it can be argued, that mass media led to the institutionalization of content production, and audiences became passive (Napoli, 2009). On the other hand, the demand for more choices might have reached a point, where more radical changes were needed to survive on the market. “Indeed the development of digital technology was itself driven by the failure of ‘mass markets’ and the need to respond to consumers’ demand for more and more choice (Partington 2008).” In mass production and in process enhancement, the process is still focused on improving the quality of an existing product, instead of being able to create significantly different products. When we consider the change in media production from paper magazines or television to the type of interactive content that works on the Web, we easily see the limitations of process enhancement. The publishing processes, content creation, and revenue models that have been designed for paper or television, do not easily change into publishing content on the Web. It is not enough to enhance the existing processes when new elements and possibilities are needed. In order to interact with users, mass customization type of work provides more possibilities.

**Closer to the Users by Customization of Products**

It has been argued, that starting in the late 20th century, globalization and the revolution in information and communication technologies challenged the graphic arts and media industries more than other industries (Enroth 2006, 89). Whether media production is the industry that was affected the most is not relevant. The
point is, that media production is influenced by technological possibilities and cultural changes, affecting visual communication design, whether you work in a media company, advertising, or a design agency. First typesetting machines industrialized publishing with standardization of type design and fonts, but a completely new kind of logic followed when the transformation to individually customized new media took place, running by the logic of the post-industrial society (Manovich 2001, 30). One example of this change was the arrival of Macintosh desktop computers. The design process was changed by Macintosh from slow, careful planning to allowing designers and users the freedom to continuously edit and update, at their own personal computers (Phillips 2007, 10).

The development of computer technology made visual communication design less exclusive and simultaneously offered professionals more alternatives and more control of their creative work without the limits from typesetters and printers (Thornton 1996). The book had a fixed form with a linear progression from the first page forward, whereas electronic publications are completely different with links from any word or image with limits for text imposed only by the publisher and the designer (Jensen 1996). In mass customization, new skills are needed especially in the production and management of digital workflows, cross-media publishing, and digital printing (Politis 2004, 8). For example, simultaneously as journalistic work moves from individual towards a user-oriented way of working in magazines, the role of the visuals and art direction is growing (Helle & Töyry 2009 b). The arrival of the electronic environment was experienced as more options and interactivity in the design process together with savings (Musgrave & Cooper 1996). Mass customization can be considered to be the type of work of the 21st century (Victor & Boynton 1998, 93).

The major change in the logic from process enhancement to mass customization is that the relationships with users is much more interactive. Mass customization means that the process needs to become modularized, resulting in a larger variety of customized products (Victor & Boynton 1998, 164). The process flow includes modularized linkages integrated for customer/product-unique value chains (Victor & Boynton 1998, 104). Precision value is the goal of mass customization and it is achieved with an organization consisting of dynamic networks that are easily renewable (Victor & Boynton 1998, 104). The design processes in industrial design changed form process enhancement, emphasizing product definition in the 1970's, to roadmaps and strategy, which can be considered more in line with mass customization (ibid., 104). The roadmaps and strategies, where design is integrated, can lead to making different kinds of partnerships.

As a designer in these types of projects, it is helpful to stress the understanding of design strategy and the ability to take into consideration the needs of the client first. “Design is often seen to be central to competitiveness and delivering value to customers in the ‘new economy’. It is understood as including a range of activities that firms perform in the development, branding and marketing of
new and improved products, services, and processes. Thus design, in its broadest sense, is where the intellectual content for value-added in production processes is created (Whyte et al. 2003).” I do not believe that design alone can be the value-added in a production process, but the quote demonstrates that design can be thought of in a very broad sense, not only in relation to a final product but a variety of a company’s processes.

Architectural knowledge is used to structure the organization’s work process, through understanding its interconnections and seeing the possibilities for development (Victor & Boynton 1998, 104). Designer’s skills can be applied to multiple organizational activities (Kimbell 2009, 158). For example, visual cartographers, graphic consultants, or graphic recorders can be used for graphic recordings (Tyler et al. 2005). Graphic recording means transcribing information into visuals, such as summarizing the key points of a company presentation strategy into a picture live, in the presentation situation. These in-group facilitation graphics can be used to shift attention from individuals to small group processes or from reflection, to dialogue, to action. Finally, large-scale, whole system change processes can be supported (Tyler et al. 2005).

Information technology in mass customization means integration of constantly changing communication requirements, using short-lived applications for fast-changing customer needs (Victor & Boynton 1998, 104). For example, convergence in newsrooms and production for different channels is changing the conditions for newsroom organization and journalistic work, creating a need for co-ordination and more co-operation, in order to be responsive to changes in the audience and new company structures (García Aviles’s 2009). In advertising, the client base or the consumers vary, and one has to be able to design a campaign for the Web, television, or using street signs. One has to know which type of medium reaches the right crowd and when. If you are working with a company that cannot afford buying space from big media organizations you need to find ways to effectively communicate through the channels that are available. Perhaps making some changes to the campaign if it becomes apparent that the message is not reaching the right audience.

Swarming is a type of production that can be connected with mass customization. It is open-ended and the community or participants are loosely defined. “In social production or peer production, mobility takes the shape of expansive swarming and multidirectional pulsation, with emphasis on sideways transitions and boundary-crossing (Engeström 2009 b, 1).” This kind of social production, such as skateboarding and bird watching, have the following characteristics: 1. Even if the object of actors engaged in social production is open-ended and unpredictable, there is a clear motivational force that drives towards achieving and producing something. 2. The swarming movement of peer production is collective. 3. There are no pure forms of new social production but rather hybrids that connect also with vertical and linear structures of mass customization. (Engeström 2009 b).
Mass-customization in Finnish media production is a fairly recent phenomenon. Finland has been traditionally a newspaper country (Herkman 2008, 89). New media did not easily override established media (Nieminen and Pantti 2004, 187). A reason for being careful in entering the new media markets might be its financial instability. The new media bubble of the beginning of the 21st century caused at first a lot of investment in new media but ended in huge financial losses when development didn’t happen as quickly as had been hoped for (Lindblom 2009, 27). Further, the emphasis on old media was visible in the professional titles amongst the members of Grafia, a Finnish organization for graphic design professionals (Grafia 2007). But, a change in the media consumption has taken place. While the overall size of media markets in Finland has been approximately the same, the there has been a rather quick change from printed media towards digital communication (Statistics Finland 2019). In the beginning of the 21st century the Internet was increasing and replacing some of the traditional means of communication (Statistics Finland 2011), and the trend is continuing. For example, Internet advertising in Finland has increased 9% in year 2019 compared to the previous year. The total sum in 2019 is 460 million euros, of which nearly 60% goes to Google and Facebook. Meanwhile, the sales declined in the publishing sector including newspapers, periodicals and books (Statistics Finland 2019).

The limitations of mass customization is that precision is not always the best position from which to create value (Victor & Boynton 1998, 179). On the one hand, some users will still buy items based on commodity value, such as a toothbrushes or toilet paper, even though there might be mass customized versions that also have a market. Or they want to be able to make an easy choice on a large market, a high-quality product that they can trust. On the other hand, it might not be enough for a user to have a customized fitted product. The user might want to be involved in the design process more as a co-producer than as a target consumer. Also, in order for a product to really work and adapt to the changing needs of the user, it might be necessary to go into an even more inclusive, long-term relationship with the users.

Networked Environment and Co-configuration

When the relationship with the customer or user is even further extended from producing customized products into developing adaptable relationships, we can call it co-configuration. Co-configuration is used for creating customer value through an intelligent and adaptable product (Victor & Boynton 1998, 196). This is visible in content production today. Users have become active in producing content in the 21st century, the content produced for one medium is used in other media, and the difference between the producers and the receivers is blurred (Jenkins 2006, 243). For example, Lily, a commercial Internet community for young women in Finland, offered blog space for their readers and paid some of them for
their posts. They also used their own blogs to try out and scout possible ideas for stories in dialogue with their audience, that influence what will be published in a paper magazine. The blogs were used as a way of connecting with readers, getting feedback on intended content and to edit the intended content of the magazine. The relationship that brands have with their users, as Lily had with blog writers, is taking into consideration the DIY (do-it-yourself) movement. It is an example of change in post-industrial manufacturing in the 21st century, showing potential towards a collective decision-making process that includes the user (Atkinson 2010).

There is a rise of the producer-consumer, skilled not only in consuming but most importantly in producing, making production accessible not only to professionals but anyone (Phillips 2007). Most people have access to the tools used by designers, and many people are interested in making their own designs. In co-configuration, this is central, since the process flow is a continuous chain between customer, product, and company that adapts itself continuously (Victor & Boynston 1998, 197–198). Collaboration can be considered necessary for all creative practice, instead of focusing on designer-specific knowledge, with meanings being defined by the relationship culture/media forms have for the consumers and audiences (Partington 2008).

The restructuring of societies – meaning differentiation, diversification, and distributed systems – challenges graphic design, as the human dimension of communication is enhanced (Barnes et al. 2009). The designer is no authority on co-configuration type of work but yet needs to be very open to respond to users and audiences and their needs and opinions. In some instances, the design work previously performed by the graphic designers is transferred to the hands of non-professionals (Harland 2011). This has been challenging for graphic designers.

Graphic design is not considered a field where, for example, users or audiences would easily be included into the design process. Even though client and designer driven communications is being questioned, including audience members to the graphic design process is at an experimental stage compared with design fields such as architecture, human-computer interaction, information design, product design and urban design and planning, where recipients of design are more and more often invited to contribute to the design process (Barnes et al. 2009). Co-configuration work might be the type of work that offers most challenges for visual communication design, but most likely this type of work will be growing.

Actually, it can be argued, that the big change in the field of design is that the current historical situation is pushing market-driven design to give space for a more people-centered era, meaning: design done by people without design education, distinction between product and service becoming blurred, boundaries dissolving between design disciplines, action and development with emphasis on experiential instead of material issues and emphasis on needs and dreams of people, but simultaneously the business community show an interest in design research and thinking (Sanders 2006). Here design can come to mean ways of bringing peo-
ple together to have a meaningful discussion and to exchange ideas about a social issue. For example, collective articulation of issues can be considered a design practice. This means using design as a way of engaging people for collective articulation of some issues as an event that takes place in a place and time, enabling and constraining participation and making articulation of issues possible in different ways (DiSalvo et al. 2011). A need to integrate social innovation into participatory design, keeping the process open and participatory, including interaction between several small, diverse, and participated initiatives that aim “to promote and sustain the social conversation on possible futures” (Manzini 2011, 214). In addition to participatory design, co-design is used when referring to processes that include additional roles than that of the designer. Perhaps in more general terms than participatory design, co-design means a process whereby both designers and persons not trained in design participate (Sanders 2008).

There has been an interest from non-design sectors to engage with design partly through applying design emphasized design as a strategy for addressing wicked problems, and using design as an agent of change (Stewart 2011). One aspect to this is how craft is visible in the economic press as part of the design discourse, connected to themes such as communal interests and individual makers, but the traditional economical arguments are missing, and a need for thinking of economics more broadly is recognized (Ryynänen 2011).

The Millennials, the generation born after 1979 expect a greater array of products and services. They learn by doing and interacting as in multiplayer gaming, computer simulations, and social networks. They expect customized and personalized features. Impatient digital natives, they enjoy the constant interactivity of the game environment and communicate independently form geography or distance using instant messaging, text messaging, cell phones, and more traditional communication channels (Sweeney 2006).

In order to respond to these changes, the organization of co-configuration includes expanding partnership networks that include the customer, product, and company (Victor & Boynton 1998, 199). As in the case of Lily, where blog space from the Lily platform was offered to their readers. Or in the case of Google, where free services are offered to people, such as e-mail, shared workspaces, and search engines, but we do not know how they use the information that passes through their service. Because the service is free of charge, it is easy to understand that there needs to be some way of making a profit, but it might change with time, and the user might be less aware of the relationship.

Knotworking is a type of temporary collaboration that can support co-configuration. By being flexible and without authority fixed on one single actor, knotworking is applicable for co-configuration (Engeström et al. 1999). Knotworking is a concept used first in health care intervention studies, when new ways of working were developed collaboratively by patients and practitioners from different care-giver organizations together, resulting in a shared plan and monitoring of the pa-
tain’s trajectory (Engeström 2010). From a design perspective, knotworking can be considered a more collaborative constellation of co-design, where work is carried out in more collaborative constellations instead of single design offices, (Kerosuo 2018, 145). The temporality of the knot creates collaboration where changes happen ad-hoc as the demands change, the membership definitions are unclear, but contributions are appreciated (Engeström 2009b).

The knowledge used in co-creation is customer-intelligence (Victor & Boynton 1998, 198). The generation that grew up in the digital world participates by doing. Ellen Lupton has claimed, that the transformation in the last decade was due to the proliferation of tools to access to information, facilitate publishing and sharing of information, and to produce content as a producer-consumer, using both digital and craft tools such as blogging or knitting (Phillips 2007). Yet customer-intelligence is an interesting choice of words here, since it actually refers to the product's intelligence and not that of the consumers. It refers to a process that is not a conscious thought process of the customer but a more invisible way of receiving information on how the user uses the product. Subtle changes are made to the product based on the information. For example, when using an online journey planner, you might appreciate if your current location is chosen automatically as the starting point of the journey. This does not show your intelligence as a customer, but the product's intelligence in using the information it can collect about you. In this way, information technology in co-configuration supports constant capturing and analyzing information on the customer to support the responsiveness of customer intelligent products or services (Victor & Boynton 1998, 205).

The limitations of co-configuration are the fear of the violation of privacy in a limited market and the increasing cost or technical demands (Victor & Boynton 1998, 207). As in the examples above, the ways in which data is collected from users, in order to make the product user-intelligent and adaptable, can be done without user consent or understanding. It is easy to see how the constant signing of several page agreements while using an online service would seriously hinder a pleasant user experience. Still, it is a concern that might have effects beyond your personal data. For example, parents might violate their children’s rights by sharing content about their children, who cannot decide of themselves what kind of information about them is shared. Another aspect is the organizational structure. What seems like a way of creating a never-ending variety of free products for the user, might in reality be possible only by big companies. Even if the products would not be free of charge, the costs of the technology needed might be too large for most companies to manage.

The Historical Development of Industrial Design in Finland

While Victor and Boynton (1998) show a developmental path that is applicable to any type of work, Valtonen (2007) shows how the designer's work has changed over
time. Valtonen has studied historical changes in industrial designers work in Finland. She describes a stepwise process, starting from creating unique objects to the designer as an innovation driver. From this example on industrial designers, we can see that the challenges that companies face, change the way designers work.

The development of the manufacturing industry and the rise of the middle-class go together. According to Valtonen, the large manufacturing industry in Finland was especially supportive to the development of industrial design, when new ways of competing were needed (Valtonen 2007, 82). But, applied arts were exceptional in Finland still in the late 19th century, and agriculture was predominant until the Second World War with a small urban middle class (Korvenmaa 2009, 15-17). It seems that the development has been fast, and that it also coincided with the development of education and economy.

In the beginning of industrial design in the 1950’s, Finland was promoting itself as an independent nation, and the international design faire in Milan was an exhibition where you could stand out and show something special (Valtonen 2007, 282). Often small industrial series of designed objects of arts and crafts where exhibited (ibid.). In this period, when the designer was considered a creator, the emphasis was on product aesthetics and styling (ibid., 306). In this kind of work the designer is in control of the design process and the creator and artist behind the object (ibid, 282).

The designer focus broadened the designer’s involvement from objects to the process by engaging in teamwork. In the 1960’s at Nokia, designers wanted to enter the product development process earlier and team up with marketing and engineers in the company (Valtonen 2007, 289). This entails that design can be used to improve the whole product development process (ibid, 291). From a process perspective, industrial design moved towards developing products that can answer to special needs. There was an emphasis on ergonomics, and a scientific approach is the way of making better usable products possible (Valtonen 2007, 293). Special user needs included, for example, children, the elderly, and the disabled (ibid, 292). The emphasis on understanding the end-user grew to be used in the 1980’s design management and 1990’s brand building, where the designers focused on coordinating between different units and products in larger corporations in order to manage a consistent company image (ibid, 296).

Strategic design and corporate brands were much discussed in the 1990’s, and industrial designers started to create entire experiences for users that were more than the product alone (Valtonen 2007, 299). Within industrial design, a brand creates a story behind the product, building a story and an emotional commitment between the product and the user (ibid, 300-301).

Valtonen mentions a new kind of design phase taking place in the 2000s as a result of globalization of production increasing competition and the need of innovation (Valtonen 2007, 302). In Finland, design ideology became used as a tool, when a technology-driven focus changed towards a broader co-operation between different parties in order to create new solutions (ibid., 303).
Figure 6. Valtonen's (2007) historical stages of the different roles for the designer.

2000s  
Innovation &  
competitiveness

Typical statements on design

“Global competition  
and renewal”  
“China phenomena”

2000s  
Innovation &  
competitiveness

The design process

Vision

2000s  
Innovation &  
competitiveness

The typical role for  
designer

“Design as innovation  
driver”

1990s  
Brand building

“Total experience design  
– from concept to retail”

1990s  
Brand building

Strategy

Design for creating experiences for customers

1980s  
Design management

“Our product portfolio  
is consistent”

1980s  
Design management

Roadmaps

Design as coordinator

1970s  
rise of  
ergonomics

“The user (be it a child  
or elderly) is the most  
important”

1970s  
rise of  
ergonomics

Product definition

Design for user  
understanding

1960s  
Involving  
industry

“Design as part of the in- 
dustrial product  
development process”

1960s  
Involving  
industry

The entire product  
development process

Design as part of a team  
together with mechanics  
and marketing

1950s  
Promoting  
the nation

“We got a price in Milan”

1950s  
Promoting  
the nation

Product aesthetics  
“styling”

Designer as creator
The positioning of craft type of work is one clear difference between Victor and Boynton and Valtonen. Victor and Boynton are particular in connecting only craft work with innovation and the creation of a new product. The other types of work can further develop that product. Instead, Valtonen does not emphasize any type of design work as possessing more creativity, but sees design as changing together with the business.

In the previous chapter I have presented the central theoretical concepts and the previous design research using activity theory. Next, follows a section on the research methodology, describing the data that was collected from two case studies and the ethnographic method.

Figure 7. Developed from Victor and Boynton's different historical types of work (1998).
3. Methodology: the Extended Case Study and Ethnography

“Qualitative research has an inherent openness and flexibility that allows you to modify your design and focus during the research to pursue new discoveries and relationships (Maxwell 2013).”

In this chapter, I first explain the central concepts of the research methodology in this thesis. Thereafter, I describe the two ethnographic case studies and share the methods used in the data collection. The tools used in data collection were different in each case, reflecting both the focus of the data collection and being sensitive to the persons whose work I observed.

That this thesis is a qualitative means that it has a process orientation towards the world with an inductive approach and a focus on specific situation and people, emphasizing descriptions (Maxwell 2013, 30). The process orientation means that understanding the process that leads to certain outcome is more interesting than focusing on the outcomes. Specific situations and people direct attention to describing unique circumstances of events and actions. Through analyzing contradictions that were present in visual communication design, I want to understand what kind of change the design process of the visual update of The Magazine was part of and learn about the way Demos Helsinki researchers collaborate with visual communication designers.

Qualitative research data is acknowledged to be a product of an intersubjective process between researchers and what they are observing – not an unproblematic representation of truth (McNaughton et al. 2014, 245). My position as a qualitative researcher means considering the data as created together with the
people in the field, who gave me information through interviews and by giving me access to observe certain events or to listen to certain discussions.

The theoretical starting points of activity theory and the theoretical tools and the focusing on change have influenced the data collection and the research interest from the beginning and give the thesis some direction and focus. Therefore, I find the term extended case study (Buuray 1998) the most useful to further describe the methodological grounding of this thesis. Still, I would not go as far as calling this a theory driven ethnography, theorygraphies, which aims at modifying, exemplifying, and developing existing theory (Travory & Timmermans 2009), since it would place too much emphasis on the goal of theoretical development.

In general, a particular case is chosen depending on the goals of the study and existing theory and research (Maxwell 2013, 78). “The extended case method applies reflexive science to ethnography in order to extract the general form the unique, to move from the ‘micro’ to the ‘macro,’ and to connect the present to the past in anticipation of the future, all by building on preexisting theory (Buuray 1998).” The term extension refers to taking external factors into account when doing an ethnography, such as a wider context of racism or the political and economic context in participant observations concerning social movements (Buuray 1998).

3.1. The Extended Case Study

The extended case study (Buuray 1998) is an empirical investigation that builds on reflexive science. Reflexive science means that the regulatory principles that rely on an embedded objectivity are: intervention, process, structuration and reconstruction. These terms are clarified below.

Here intervention means that data collection such as an interview is a shared situation where discovery occur through mutual reaction where the interview for example is an intervention into the life of the interviewed. Getting access to follow and be present in a design process is a sensitive situation, and I was given permission to be present while people are doing their work. I have no illusions that my presence, and the knowledge that this data is going to be part of an academic dissertation, would not have had an impact in how the people whose work I follow behave. Even if I did not have an official agenda with my presence, my research focus might have had an influence in how the people in the working place talk around me and how they consider the relevance of their own work. For example, I did notice, that when I presented myself in the editorial office of The Magazine, I was hoping that my open interest towards the work of the AD would encourage the whole editorial office to see the relevance of the graphic design.

Secondly, process adds to embedded objectivity by reflexively transforming the data that is gathered in a specific situation by relying on theory to show a social process. It is crucial to remember that the data is based on the information that
was made accessible to me by the people I studied. In this way, the people whose activity I study influence directly the results of the thesis. As a designer, I see my challenge in having it easier to understand the design process from the perspective of the designer, versus seeing the design process from the perspective of the other people that are part of the activity. Furthermore, the use of the concept activity in this research is referring to looking at a group instead of focusing on individuals. The theory is used deliberately to focus on the way design takes place in shared activity. Especially the theoretical concept of contradictions (primary, secondary, tertiary, and quaternary) offers a tool with focus towards the challenges that take place in the shared activity. This should be considered a deliberate focus that follows my use of these particular concepts of activity theory.

Thirdly, structuration adds to embedded objectivity by pointing to how the field that is studied is impossible to distract from a continuous impact of external forces that are beyond the grasp of the realm of investigation. Instead, these forces and their features need to be taken into account. When considering this research very practically, the boarders of the realm of investigation come for example from me conducting the data collection on my own, with the limitations of the rhythm of my daily life, the data collection process as part of my thesis and my capacity and skills of making observations. Furthermore, the use of Victor and Boynton (1998) broadens the perspective to work by giving a historical structure to visual communication design, and the contradictions that become visible in the particular data collected for this thesis.

Finally, through reconstruction, we reflexively look at how the theory can be elaborated and deepened in the light of the particular case, hopefully showing surprising insights that might progressively reconstruct the theory (Burawoy 1998). Here the relevant discussion might be to consider, how the use of the concepts of contradictions and expansive cycle in a real world case can contribute to concepts that are centrally developed for conducting formative change laboratory interventions, which is the case of Engeström’s theory. Secondly, it can be considered how the design theory and practice, which more often emphasize unconventional implementation of practical concepts instead of the use of rigid theoretical frameworks, benefits from the type of theoretical insight that these analyses of design work provide.

As concluding remarks, I can say that in reflexive science the goal is not to establish a definite truth about an external world but to contribute to existing theory by improving it. The evaluation lies in the relationship with the theory, it might reconstruct it or make it more complex (Burawoy 1998).

Choosing the Case Studies

Both theory and practical questions influenced how the two sets of data were chosen. I concentrate on the premises of what kinds of theoretical and practical rea-
sons where behind choosing these cases: A visual update of The Magazine and the visual communication design of think tank Demos Helsinki.

My research interest had started taking shape during my master's thesis (Ryynänen 2009), where the results point to the work context as a major influence on what designers found important in their work. In order to look at the variety of graphic designers’ work, the designers were chosen from different types of organizations and they worked with different kinds of projects. My master’s thesis fueled my research interest towards a deeper understanding of the actual situations where the design context becomes visible. I wanted to look at those moments where the designer’s work is influenced and negotiated in practice.

The two case studies were chosen in order to study an organization or event where visual communication design was done as part of other kinds of activity. This is because I was interested in getting rich information about the context of the design process. Visual communication design agenizes, media companies, advertising agenizes, or freelance studios are typical surroundings for working as a visual communication designer. A visual communication designer often works with a variety of projects that are mostly completed in front of the computer at the office. Contact with clients is taken over the phone, via e-mail, in online meetings, and occasionally in person meetings.

Activity theory and the concept of collective activity, with the elements of an activity system seemed to be a tool to structure the context. For this I needed to find data on the collective level, where people function and do things together. Furthermore, in my master's thesis (Ryynänen 2009), the seven individual designers talk vividly about their work: The everyday work is messy. Things don’t go as in the ideal design process, you have to make compromises and you are in a hurry to complete the different stages of work. You have to make choices that are not based on best design practices, but what is possible in the context that you are currently working in. The designers’ talk made me think about how the concept of contradictions could give an insight into the situations where designer’s struggle in the design process.

When I studied contradictions further, I realized that they are considered the source of change and development in activity theory, giving an even further dimension to looking at design processes. Not only would I be looking at what designer’s find difficult, instead I could discover where change is happening in the design process, and that there actually is a connection between these two. In order to witness contradictions in design processes, I needed access to negotiations between designers and non-designers. I thought the best place to find these would be as part of activity where design is not the shared object, but design is used in activity that has a shared object. So, I thought it would be best if the designers were not working in a design office, or as freelancers at home, but would share the working space with the people they work with. I also wanted to be able to see two different kinds of design processes, since I expected that the context, the shared
activity, should play a big role in what the need of the visuals are, and how they are made.

I was hoping to find rich data on how the design need is articulated, how the design decisions are argued for, how the task is negotiated together, and who, besides the designer, participates in the design process. The details about how the designers work on their own was not in the focus of my research. Therefore, I was interested in finding an organization where the connection would be concrete and the organization the designer worked with would be present and observable. These two case studies show two completely different kinds of settings for using visual communication design, and in this way the research shows that the uses of visual communication design vary and the design processes are different.

The visual update of The Magazine, made in an editorial office in a media company, was a good example of a classic in-house work environment for a visual communication designer. The AD and the graphic designers had a room inside the editorial office (this started to change soon after my data collection was finished, but it was the case during data collection). The connection to the surrounding editorial office was immediate. The possibility to study the visual update of the magazine emerged when I made an interview with the AD that I had observed during one day as part of a course in ethnographic research methods.

The think tank Demos Helsinki was a completely different case. Demos Helsinki had caught my attention with the visuals in their presentation slides and the visual material that was part of events that they organized. I became curious to understand why they would put more effort on the visuals than most other organizations. This case was interesting since here there was no in-house designer, but there was a lot of design work done by the Demos Helsinki researchers themselves, and a lot of collaboration with designers. I met with one researcher to discuss a possible case study, since there were numerous projects going on. We agreed on the two Peloton workshops.

The concept of contradictions directed my interest into the moments where different people discuss the design, in order to gain multiple perspectives to the process, and too see where people might disagree and have to make changes in their work. My hope was, that in both cases I would get an insight into the shared aspects of the design of visuals, where also negotiations of what is done and why ought to take place.

In practice, my studies in activity theory and the data collection took place simultaneously. I started the doctorate school in activity theory in 2010, which meant intensive studies for two years. The data collection took place during the second year of studies. Therefore, I can say that as I started collecting data, I already knew a bit about activity theory and the basic concepts, but the learning and the collecting of data happened simultaneously. I find this visible in the way theory has directed the data collection somewhat, but simultaneously, many choices in the field have happened on the terms of the people in the field and the way the
design processes unfold. This process is further clarified in the following section on ethnography and in the methods of collecting data.

3.2. The Methodology of Ethnography

Ethnography can be considered both an academic practice that is connected to anthropology and more generally as different ways of thinking about culture with an emphasis on participant observation (Clifford 1988, 9). Similarly to design, ethnography is increasingly valued by the wider non-academic community, especially concerning processes in organizations that aim to effect change (Lewis & Russel 2011). A claim for the connection between ethnographic fieldwork and anthropology is that true anthropology is understood to be based on field work and participant observation, which makes it different from disciplines such as history, sociology, political science, literature and literary criticism, religious studies, and cultural studies (Gupta & Ferguson 1997, 2). Yet, ethnography has been applied in a wide variety of philosophical and theoretical orientations such as social and cultural anthropology, sociology, human geography, organization studies, education research, cultural studies, providing a varying rationale for using ethnography and participant observation (Atkinson 1994, 257).

Ethnography often provides rich, ground-level detail that can be considered a window into a larger changing or hidden world, showing less visible structures and processes, that can be contextualized within a historical moment and geographic area (Wynn 2011, Martin 2012). Ethnographic practices are mostly linked with exploring the nature of particular social phenomena instead of testing a hypothesis about them, working primarily with “unstructured” data that has not been collected using a closed set of analytic categories as a starting point (Atkinson 1994, 248–249).

Ethnography is useful for studying designers’ work because it does not rely only on verbal accounts of events but emphasizes the presence in the field. It is my experience it is not easy for visual communication designers to talk about the design process, and it might be relevant to be as close to the real work environment as possible to see what is happening. The strong presence of the non-verbal aspects of design work can be clarified with the definition of aesthetics, which I find describes the relationship between a visual communication designer and the visual artifact. Firstly, aesthetic experiences are subjective reactions to material things, which always consist of both parts. Secondly, aesthetic experiences are universal to human beings and are often not controlled but happen as a continual stream of sensual, embodied expressions of the world (Warren 2008). Thirdly, the aesthetic is both an experience but also a judgment which is constructed intersubjectively and socially. Aesthetic language is one main way in which designers tie the design to the context (Martin 2012). The aesthetic aspects are not the focus of this research; instead they are mentioned here to clarify for the non-verbal aspects of
design work and to stress the advantages of being present in the field in order to understand what is happening in a design process.

Ethnography has often been used to looking at “how other cultures could be understood”, which has been identified as one of the core issues of modern ethnography (Atkinson & Hammersley 1994, 250). In this research, I study visual communication design, an area which is quite familiar to me and its practice is not completely new or strange. In so doing, I contribute to the increasing amount of ethnographies applied to study one’s own surroundings, which has been distinctive to the twentieth century (ibid., 250).

Furthermore, the geographical location of the research field is Finland, the country where I grew up and where I live today. Likewise, the people I study share my Finnish cultural background. One research site was only twenty minutes from my home, and the other I could reach by foot in five minutes. It seems that free application of ethnographic methods is in accordance with the history of the use of ethnography, since application of ethnographic practices has made it “a highly complex and contentious discursive field” (ibid., 258).

Ethnography is possible to apply to the type of condensed fieldwork that the two case studies represent, even though the long term, in-depth investigations are considered the traditional form of fieldwork (Atkinson 1994, 251). Ethnography can mean participation in and engagement with other people by being present when they conduct their everyday duties and pastimes, but sometimes fleeting engagements can offer a more accurate reflection of lived experience (Forsey 2010). This research is considered more in line with the condensed ethnography since the presence at the research sites was not a continuous presence.

The presence in the field, when following the magazine update, ranged between visits that lasted about one hour, such as meetings, to spending several whole days in the working space of the AD making field notes. In the case of Demos Helsinki, the shortest visits were similarly about one-hour meetings, and the longest session was a two-day workshop where I spent the night together with the other workshop participants. The contact to both fields extended over more than one year, but still it was not an intensive day-to-day relationship. I also did not know any of the people from before as colleagues, friends, or family, which could have been the case in a small country such as Finland.

What is similar between this research and traditional ethnographies, is that it investigates a small number of cases (Atkinson & Hammersley 1994, 248–249). Likewise, this research gathers the data firsthand, a common characteristic of modern, late nineteenth and early twentieth century forms of ethnographic fieldwork (ibid., 249). This means that I have gathered the data by virtue of being present myself and do not use data collected by another person.

My presence in the field can be considered an intervention, even if there was no active participation in the decision-making. An active participative approach could have meant embedded research, where the researcher is simultaneously
responsive to working with reflexive collaborators, adaptive to the requirements of ethics and regulations to the research, and accommodating the output to the audiences (Lewis & Russell 2011). Embeddedness implies that the researcher is a team-member and reflexive in the field giving advice, even if it would be uncomfortable for the field to hear (ibid.). This research is not embedded in the sense that Lewis suggests, since my intention as an ethnographer was not to engage as an interventionist to the practices, trying to change what is happening, or giving advice in the field.

Next, I give an overview of the two case studies in order to further familiarize the setting and to explain some of the concepts of visual communication design, that are central for understanding what is happening in the design processes. The focus of the description is on what the situation in each location was at the moment when I entered the field.

**The Visual Update of The Magazine**

The visual update took its first steps in 2008 when the AD of the editorial office created a folder on his computer and started to collect ideas for a renewal of the visuals. At this point, there was no permission for changes from the first editor-in-chief and no big changes were made. A big step took place in 2010 when the iPad version of the magazine was designed. Bigger improvements in the visuals were needed when the magazine content was to be transferred to the iPad. The design for the iPad triggered the renewal of the magazine and the AD started to work on an update for the magazine.

The Magazine was described by the AD as visually conservative, and the content was so varied between the issues, that there were many different styles of pictures and visual elements in the magazine. The update process of the magazine took place in the spring of 2011. A graphic design consultant was invited to participate in the renewal process by giving, together with the first editor-in-chief, his opinion on the different phases of the development of the layout suggestions.

Visual updates in general are projects, where particular effort is made to change the guidelines for the visuals that can be applied for some time. In general, these include elements such as the colors, typefaces, and layout elements; all the elements that make the magazine recognizable and create a consistency between the different issues, while the content of each number is fresh. There are no rules to how often visuals should be changed, or what kinds of regularities are created between the issues, even though the typefaces and the logo are elements that don’t change often. It is up to each magazine to decide how they construct the visual content and what rules are followed.

The editorial office was led by the editor-in-chief, who was responsible for all the content. Three managing editors worked with three different kinds of content, and they all worked with staff who worked either fulltime for the editorial
office or freelance. There was a lot of special know-how needed to write content for this brand, and most people had a background in something other than journalism. Facts were very important for the editorial office. For example, it was more important to get all the information on the page than to establish a comfortably readable layout. The editorial office was considered a fairly independently working part of the larger media company, and the editorial office was one of the biggest in the company. The upper management was referred to as the “house level”.

The editorial office reminded me of a family business, where people are slowly trained into the way the editorial office works, and the positions are filled from within the editorial office and the established network. The editor-in-chief started as a support staff, became a staff journalist for the magazine, then continued to be managing director, and thereafter editor-in-chief.

**Demos Helsinki and the Peloton Workshops**

The independent think tank Demos Helsinki was founded in 2005 by Aleksi Neuvonen and Roope Mokka. I refer to the think tank as simply Demos Helsinki. At the time of the data collection, there were nine researchers working mostly full-time at Demos Helsinki, and everyone was a researcher. There were no distinct profiles amongst the workers and everyone was paid an equal salary. There was a philosophy of sharing skills and knowledge within the think tank, but in practice the two founders had been the distributors of a large part of the silent knowledge. The community of Demos Helsinki was built around a strong core of the nine employees, but it included a large and constantly growing network of clients, collaborators, colleagues, and friends.

Demos Helsinki activities were writing publications, giving presentations, and organizing workshops. Demos Helsinki aimed at working between the micro and macro structures in the society to help create new ways for people to act together and bring about democratic change in society. Democracy, welfare, and the environment were values that were present in their work. This meant solving wicked problems that spread across institutional boundaries and are hard to define, using future research and building scenarios. When working with projects, the creative commons and open source development were applied. All data was to be shared to allow further development.

The visual production of Demos Helsinki was described in interviews with the term DIY, do-it-yourself, as opposed to involving professional designers. A large part of the visuals could be done by Demos Helsinki themselves. The DIY production that happened within Demos Helsinki concerned mostly presentations that were shared on the Web using slide share. The future of visual production was concerned with video production. Demos Helsinki researcher Neuvonen says that, when considering the future of visual production, it could seek to develop a co-production model of video production whereby Demos Helsinki would nego-
tiate with professionals. Demos Helsinki researcher Mokka said that the content of every report should be distributed in some kind of video format. The content of Demos Helsinki projects was to be communicated in a specific way, meaning they would have to design their own videos to a very large degree.

In addition to their own visual production, there were visuals ordered from external parties for specific situations. One graphic designer who was often involved in the activity of Demos Helsinki was Kirmo Kivelä, a graphic designer who Mokka called their “in-house graphic designer” because the collaboration with him was so regular. According to Neuvonen, Kirmo was very flexible time wise, affordable, and shares the interest in the content with Demos Helsinki.

The two Peloton workshops were the last two of several workshops that were organized as part of Peloton strategy towards a low-carbon society. The previous workshops had concentrated around specific gatekeeper groups such as hardware stores or nutrition, with the goal to develop new concepts for low-carbon society. In the two last workshops, the teams consisted of people with different backgrounds and also designers taking part. In the previous Peloton workshops, Demos Helsinki members have been part of the teams and in charge of the final presentation, but in the two last workshops there are no Demos Helsinki members in the teams, and the teams are expected to finalize their own presentations.

The teams were constructed for the two-day workshop from applicants who applied to participate online either as team members or with a concept to be developed in a team. Demos Helsinki chose the concepts and the teams with about ten participants in each team. The preliminary concept ideas already existed when the workshops started, and they were to be further developed during the two-day workshop. At the end of the workshop, a jury chose one idea to be coached further in order for it to be launched in reality. Concepts that have been realized since the first workshops from the beginning of 2011 are various and several concentrate on transportation concepts and food distribution (http://www.pelotonclub.me/tiimit/).

The data collection focused on two groups that were part of the workshops: Low Cost Railways and Feisty Journalism. Low Cost Railways and Feisty Journalism are both the names of the teams and the concepts being developed. The groups consisted of about 10-15 people, of whom only the people who had developed the initial concept knew each other from before. Low Cost Railways is aiming at creating a similar service model for trains in Finland that there is for low-cost airways, such as Norwegian. At the moment of the workshops, train traffic was state owned. This means that there is no competition on the rails. The team stated that there could be much more use of trains but a better service model to cut the costs of the tickets and making train travel easier than travel by car, by providing a door to door service.

The other team was Feisty Journalism [original name in Finnish Tuju, journalism term added here for clarification]. The concept was described in a Demos
Helsinki presentation at the beginning of the workshop as “a web media based on sustainable living that uses a new business logic such as stories pre-funded by readers, recommendations, consultation, and education”. The data collection of the teams or the concepts did not continue after the workshops, and my understanding is that they have not developed further after the workshops.

Now that the choice of methodology and the reasons behind choosing the two case studies are addressed, we look into the methods of collecting the data and how I entered the field as a researcher.

3.3. Methods: Interviews and Observations

Following Maxwell (2013, 90), methods in qualitative research can be considered to have four components that I use as the structure of this chapter. The last component (4. How data is analyzed) is described in chapter 4.

1. Establishing the research relationship
2. Selecting the people who are observed and interviewed
3. How data is collected
4. How data is analyzed

1. Establishing the Research Relationship

As a Finnish woman, I have quite strong tools to understand the fields that I was observing, and I would characterize my relationship with the field of study as collegial with a research twist. As a graphic designer, I consider that I had an insider status when collecting the data, meaning that I felt I could understand the situation of the people I was studying (Hesse-Bieber 2011, 116). In the case of the update of the The Magazine, I was familiar with most of the technology used by the AD, and the professional slang was mostly familiar to me. In the case of Demos Helsinki, I shared the goals and values of the workshops; I understood the importance of the environmental aspect and wanting to have a positive impact on our future. I had great respect for the researchers at Demos Helsinki and the people participating in the workshops.

Still, I recognize that there were many elements that made me a stranger in the field while collecting data. I did not know any of the people personally from before, so all of the people were new acquaintances. At the editorial office, I was a woman studying a male dominant work community. The magazine was not familiar to me from before, and the technological content did not interest me in the least. Even if I had studied graphic design at that time for almost 10 years, I did not have much work experience as a graphic designer and no work experience as an AD. At Demos Helsinki I felt that my background in design was different from people at Demos Helsinki, whose backgrounds were in social sciences, philosophy, and economics. As researchers, they emphasized a very active and participative take
on society, and my observer role as researcher felt very different from their way of engaging through projects.

In both cases that I was observing, something new was being developed, and this might emphasize the feeling of being an intruder in the field. It is argued that the intruder aspect to ethnography can be more acute when the focus of the research is on emerging, potentially delicate activity (Hasu 2005). I would argue that specially in the case of The Magazine, the update and the visual changes were considered rare, and the staff of the editorial office was quite stable, meaning that most people in the editorial office were permanent staff, long-term collaborators and very committed to their work. It was both unusual to do a bigger visual update, and to have random people hanging out in the working area. The update process at the editorial office was more sensitive than the workshops at Demos Helsinki.

Even though new ideas were developed at Demos Helsinki that were potentially at a delicate stage of development, the Demos Helsinki network and the workshop were open for visitors. Demos Helsinki continuously collaborated with varying length and intensity with different people, constantly extending their network. Similarly, in the workshops there were different kinds of people present. Some of them knew each other from before, but some met each other for the first time. The interesting thing about Demos Helsinki was that it easily created an image of a very open network, whereas, in reality, the core group is quite consistent and there are hierarchies in the group. Still, openness is a value of the group and for example all the concepts developed in the workshops are open source, to be developed further by anyone interested.

I argue that the experience of being an intruder was not only a subjective experience, but that the people in the field did in some cases treat me as one, even though for most part I was very welcomed in the field. I would like to share here an extract from my field notes, written observations from the field, where it becomes obvious that some of the members of the editorial office are avoiding the room of the AD and the graphic designers because of my presence. The graphic designer is receiving phone calls instead of in-person visits and shares this with me, as I sit in the room, showing a sign of openness with me on the situation at hand.

Excerpt 2.

The phone of graphic designer Y is ringing. [He answers the phone and enters a conversation with somebody.]

Graphic designer Y says after the phone call has ended: Because of Ulla [me, the ethnographer] the editorial secretary 2. Is too afraid to voice her concern, instead she made a phone call asking whether we are going to start working on the upcoming issue.
The AD goes to check the contents of the box [where prints of stories coming to the lay out are placed by the editorial secretaries] and says that there are two stories. They all [the AD and the graphic designers] find this strange. The AD says that there really is no hurry. (I, the ethnographer, get a bit scared because of the impact that I have in the events. I write: I think they are finding my presence uncomfortable. Also the editorial secretary 1. is whispering to the graphic designer X, she does not want to speak out loud in my presence.)

(March 2, 2011, fieldnotes from the office of the AD and the graphic designers.)

Another example of how people in the field can consider the researcher as both an outsider and also a quasi-member of the community takes place when a person (the Web producer) enters the room in which I was making notes. He both comments on my tired appearance to a third person and talks directly to me to help myself to some coffee because I look tired. His invitation to make use the communal kitchen is a signal to on some level crossover into being part of the community.

Excerpt 3.

The Web producer enters the room and walks over to graphic designer Y. He says: Ulla [the ethnographer] looks energetic, and tells me [the ethnographer] to get some coffee. [Meaning that I look tired.]

(March 3, 2011, fieldnotes from the office of the AD and the graphic designers.)

“I would see the ethnographer’s role as a dimension in which he or she constantly seeks to maintain a delicate balance between being an involved co-participant and engaged co-experiencer, and being an independent researcher and outsider who simply needs data. This delicate balance is achieved in an interactive process, and in my view it is the most challenging and emotionally distressing element of ethnography (Hasu 2005, 96).”

This aspect in the process of collecting data is something I strongly relate with. For example, while collecting data from the Demos Helsinki workshops, I was occupied with recording, controlling the camera view, taking photos, and making notes. Meanwhile, some of the group members would talk to me and share some of their feelings of what was happening in the workshop, and I hoped my presence would be experienced more as a support to the group work rather than as a limitation or distraction.

2. Selecting the People Who are Observed and Interviewed

Here I concentrate on describing the contact to the field – how the setting was co-constructed by me and the people that were observed or interviewed. The con-
constantly of an ethnographic attitude is beautifully described in the following: “sufficient to experience the mundane and sacred, brash and nuanced aspects of socio-cultural life and, through observations, encounters and conversations, to come to an understanding of it (Lewis & Russel 2011, 400).”

The editor-in-chief was the person who gave me the research permit for the editorial office, so his consent on the project was important. The editorial office had been part of a developmental effort before, which one of my supervisors had participated in, and she knew the editor-in-chief and the staff. This helped me to gain access to the editorial office. I interviewed a large part of the staff, and this gave me a possibility to tell the members of the editorial office about my research. I also introduced myself at staff meetings.

The AD remained the closest contact during the collection of data, since he did the design work and negotiated the design decisions with others. I was able to be present at most meetings he had concerning the update in the editorial office. He did most of the individual design work in the evenings at home and outside the scope of my observation. I did not want to impose my presence to this aspect, and also his individual work was not the focus of my data collection. At the editorial office, people were constantly entering the room of the AD and the graphic designers where I too was seated for most of the time.

During the spring 2011, when the update took place, I attended all the meetings that the AD attended. I did this because I was not sure beforehand where the update would be discussed. I was expecting it to be a big deal at the editorial office but was surprised that there was not much talk about the update in the meetings. Therefore, the meetings that were set up in particular concerning the visual update became the focus of my analysis. Also, because there was so little talk about the visual update in the meetings, I used some interview data with upper management and the editors-in-chief where I gained more information about the goals of the update from different perspectives in the editorial office.

I observed the work of the AD and the graphic designers when they tried out the new visual elements in the layout program in order to see what kinds of adjustments would be made, how the visuals would be justified, and what kinds of issues might come up in the first use of the visuals.

I noticed, that instead of the visual update, there was a lot of talk about being forced to rely on the photo group of the media company, instead of having two photographers working only for the editorial office, as had been the case before one of the photographers retired. This was an aspect of the visual production that caused a lot of discussion in the editorial office, and I decided to follow the issue as best as I could, meaning attending some meetings between the AD and the photo group. The discussions concerning the photo group deepened my understanding about how the editorial office functions in respect to the rest of the media organization, even if the update was not directly concerned with this discussion and instead sort of moved on its own track, separate from the daily work.
I felt most comfortable in the editorial office with an audio recorder, notebook, and a pocket camera. This made it possible for me to move freely in the editorial office. I felt that the AD was more comfortable with me recording the talking than photographing the visual material he worked with. I believe this has to do with the fact that the visual update was in progress and that he was protective of his work. I felt that he preferred to have his freedom and privacy to make design decisions. It was also perhaps a question of authority. In his position as an AD, he is in charge of the visuals and is expected to make independent decisions. One sign of this is his choice to work on the update at home instead of in the editorial office.

At Demos Helsinki, my first contact was researcher Simo Vassinen, a member who, according to their web page, had experience in design management. We met to discuss the focus of my thesis and my interest in Demos Helsinki, in order to find an understanding of what might be a possible project to gather data from. Demos Helsinki has a lot of different projects going on, and my hope was to find something that would fit time wise to my schedule, and that would not already have been planned, so that I could follow the planning process. Vassinen soon thought of two workshops where design was to be an element, and we agreed that I would follow these workshops. Through him, I got in touch with the rest of the Demos Helsinki staff and, in particular, with Outi Kuittinen who had more responsibilities organizing the workshops, even though she did not plan them on her own.

What soon became clear to me was that Demos Helsinki was a very loose organization, meaning that there is not much planning in advance, and the tasks are not clearly defined. They said themselves that the idea is that “everyone does everything”, meaning, that everyone should be able to jump into a project and help if needed. Therefore, it was very difficult to collect data on the planning of one particular project, since everyone was participating in several ongoing projects, planning happened on the road, ad hoc, and there was no clear idea who was in charge of each project.

I tried providing Outi Kuittinen with a microphone in the hopes that she could record entries during her involvement in workshop planning. However no entries were ultimately recorded due to time pressures. As it was not possible for me to follow the planning of the workshops, I decided to focus on the actual workshops and the design work that took place in the workshops.

The original plan was for me to participate in the workshop as a group member, and in this way make it sort of an intervention. But as the workshops got closer, it became clear to me that Demos Helsinki would not choose me as a participant in the workshop, but they would allow me to be present in one group at each workshop to collect data. I got the contact information of the workshop participants and contacted them through e-mail in advance to tell them about the study and to ask their permission. There were a couple members who were placed in the workshop groups only on the day of the workshop, and I talked with them on the spot. I did not know any of the workshop participants, and most people in the groups
seemed to meet each other for the first time. I kind of melted into the scene, even if my role was different from the other members of the group.

There is a noticeably different degree of identification for these two cases studies and the participants involved. Concerning the The Magazine, I choose not to use any names of the people in the field or the real name of the publication. Anonymity was discussed during preliminary discussions with the AD, and I noticed that throughout the data collection the AD and other people in the organization were careful in my presence. It feels appropriate to keep all those involved in the case study anonymous, and for clarity I simply refer to professional titles.

When it comes to the Peloton workshops, this case is somewhat different as one of the principles of Demos Helsinki is opensource development, and they promote an open approach in their way of working in general. The workshops had journalists and photographers and other people documenting the process and walking in and out of the premises constantly. All participants were in many ways aware that they were participating in an open event. However, my research relationship with members of Demos Helsinki was more familiar than with the members of the workshop groups. Since this analysis is not meant to focus on the individuals but rather on the actions that take place during the collaboration, I keep the treatment of data consistent between both case studies and use the term “Demos researcher” and “group member” in quotations instead of real names.

3.4. How Data is Collected

The case studies consist of different data collecting methods, which make triangulation of the data possible. By triangulation I mean using different types of data that make it possible to check on one another to see if they support the same conclusion, to reduce the risk of getting biased of a specific method and get a more secure understanding of the issue under investigation (Maxwell 2013, 102) The collecting of different types of data was originally motivated by gaining the best possible understanding of the design process, but the outcome of having different types of data makes triangulation possible. This means that the data gathered through different methods broadens the range of aspects on a phenomenon in addition to making the conclusions more credible (ibid., 103). Triangulation is perhaps more suited for creating a more complex understanding of the phenomenon under study than trying to confirm a conclusion (ibid.,104). I will first start by clarifying what kind of interviews were made, since this is the type of data that was collected from each case study. Thereafter, I write about the means of making observations, which were different for both case studies.
Interviews

Interviews are used for collecting data in both case studies. Interviews include the participant’s explicit interpretations and understandings of events, which cannot be obtained from documents or observations (Yeo et al. 2014, 180). Even though interview situations can be considered easy to manipulate by the interviewer, or interviewees can create their own stories about what has happened, they can still give valuable information. Even if interview data reflects on situations other than the present, and the content of the discussions are created together with an interviewer, the interviews can still be considered to have value beyond the immediate research interaction (ibid.). Interviews can be a good way, and sometimes the only way, to gain descriptions of actions and events that happened in the past or that you don’t have access to (Maxwell 2013, 103).

Individuals are here considered to have unique and important knowledge about the special world that can be shared through verbal communication, and this perspective is taken in particular by in-depth interviews (Hesse-Bieber 2011, 94). In this work, in-depth interviews are used as one way to collect data with focus on people describing their work, their collaboration with designers, and the understanding of the goals of the design process. In-depth interviews are considered especially suitable when there is a particular topic that the researcher wants to focus on with an interest to gain rich qualitative data (ibid., 95). Data from in-depth interviews can be descriptive, explanatory, and useful in exploratory research (ibid., 95). In this work, interviews are used to describe the work and the goals of the design processes from the perspective of the interviewee.

In the case studies, I first of all want to understand the design process and what happened throughout. The interviews provided a way to understand the work of the people who participated in the design process and to ask where the biggest challenges were experiences, or where change and development were needed. As the data collection took place, I discovered that observation proved more useful for understanding the actual design process and interviews for describing the context and, in the case of Demos Helsinki, contradictions. The interviews served as a way to also gain trust and to get to know the people whom I observed and who gave me access to the field. In this way, I found the interviews to be extremely valuable.

Almost all interviews were ultimately used towards the analysis. The interviews that were excluded from the analysis of The Magazine were those with a graphic design consultant, the previous editor-in-chief, and the previous AD (a short e-mail exchange). The reason for this is that the content of the interviews became so specific to their own work that the information did not seem a relevant to the understanding of the visual update. From the interviews concerning visual communication design of Demos Helsinki, an interview with graphic designer Kirmo Kivelä was excluded. Most of the interview was focused on something called
a super presentation, which was expected to be part of the Peloton Workshops. However, when the super presentation was left out of the workshops, the content of the interview became irrelevant.

Concerning the visual update of The Magazine, eighteen people were interviewed. This included eleven people from the editorial office, of which the AD and the editor-in-chief were interviewed twice, and four people from the upper management. In addition, one previous editor-in-chief was interviewed and a developer from the media organization, who did not have a management position concerning the editorial office. A brief e-mail questionnaire was sent to the previous AD of the editorial office.

At Demos Helsinki, all eight researchers were interviewed and Kirmo Kivelä, a graphic designer and close collaborator of Demos Helsinki. He had been working at all the Peloton workshops and participated in the two workshops where I was collecting data. The original plan had been to focus on the work of Kirmo Kivelä at the workshops. But, when I realized that designers were selected as participants in the workshop groups, I decided to focus on the group work.

In in-depth interviews, the relationship between the interviewer and the interviewee is a conversation where the hierarchy is low between the interviewer and the interviewee, but it is important to be cautious of how the interviewees perspective is represented (Hesse-Bieber 2011, 94). I will use the following key features of in-depth interviews to clarify the character of the interviews that were

<table>
<thead>
<tr>
<th>Media Organization</th>
<th>11 Members of the editorial office: Editor-in-chief, managing editors (3), editorial secretaries (2), graphic designers (2), photographer, web producer, AD (interviewed twice)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 members from the media organization level: marketing manager, production manager, publication manager, developer from the media organization</td>
</tr>
<tr>
<td></td>
<td>3 External participants or former employees: Graphic design consultant, previous editor-in-chief, previous AD (short e-mail exchange)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demos Helsinki</th>
<th>8 Demos Helsinki researchers: Tuuli Kaskinen, Tommi Laitio, Roope Mokka, Aleksi Neuvonen, Satu Lähteenoja, Simo Vassinen, Juha Leppänen, Maria Ritola</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 interview with graphic designer: Kirmo Kivelä, close collaborator with Demos Helsinki, present in the workshops</td>
</tr>
</tbody>
</table>

Table 4. Interviews with members of the media organization and Demos Helsinki.
made: Combining structure with flexibility, interactive, getting below the surface, generative, and importance of language (Yeo et al. 2014, 183–184).

Combining structure with flexibility means having a topic guide that contains some basic themes that are discussed, while making it possible to respond to issues raised by the interviewee and to take into consideration the order that suits the interviewee in covering the different topics (Yeo et al. 2014, 183–184). I prepared for the interviews by selecting topics to be discussed in a conversational manner (see Appendix for topics), with more specific questions to be used if necessary. The interviews were semi-structured, respecting the natural flow of the conversation and allowing for the possibility for the interview to take unexpected directions (Hesse-Bieber 2011, 102). The interviews lasted about one hour, and I tried to make sure that all topics would be covered, but depending on the interviewee we spent different amounts of time discussing different topics. If the interviewee had had a longer working career in the company, I also spent time asking about the history of the organization in general. At the end of the interviews I asked whether there was something that the interviewee felt was important in their work, but not yet discussed, in order to give additional space for possible concerns of the interviewee.

Interactivity in the in-depth interview means that the interviewer responds to the interviewee's answers by letting them direct the conversation and influence the framing of the questions (Yeo et al. 2014, 184). My understanding of the interview situation was that the interviewee knew things that I did not know about, and my task was to try to get the interviewees to open up and to talk to me about their work as freely as possible. In some situations, the situation felt more like a discussion, with open questions and room for interpreting the questions together. In other situations, the interviewee responded better to clear questions that were followed by more specific questions.

Getting below the surface means digging into the interviewee's individual experiences and meanings that show for example their values, past experiences, feelings, opinions, and beliefs (Yeo et al. 2014, 184). In my interviews the biggest challenge was to move from general descriptions into concrete examples of situations that have taken place. When the main content of the interviews was in understanding the everyday work, my task was to get a clear picture of the concrete different tasks. In this way my research interest, the shared activity, moved my focus into the understanding of the everyday work processes and the design processes that took place, instead of wanting to understand better the individual's opinions.

A generative in-depth interview means, that the interview leads the interviewee into discoveries about themselves that can make the situation a reflection into a topic, or the interviewee might come up with solutions for problems during the discussion (Yeo et al. 2014, 184). Especially in the case of members of Demos Helsinki, several of them expressed how the interview gave them the possibility to reflect on aspects of their work that they would not have done otherwise. As the
members of Demos Helsinki are researchers, their familiarity to an interview situation might help them to better feel in control and take advantage of the possibility of reflection.

Recognizing the importance of language means that it makes a difference how things are expressed, making audio recording a general practice in in-depth interviews (Yeo et al. 2014, 184). All the interviews were face-to-face interviews, which are considered to give a strong basis for establishing a good rapport between the researcher and the participant with the ability to better take into account non-verbal communication (ibid., 182). All except for one of the interviews took place in the working space of the people interviewed. In some cases, the interviewed would use the opportunity to bring in artifacts to show examples of the work that they talked about. The seven interviews with graphic designers took place both in cafes and at the designers working place (four at working place, three at cafe). All the interviews were audio recorded, making it possible to focus on the conversation.

**Observations**

The design processes were difficult to predict in advance, and I felt that my research focus on shared activity and contradictions would not necessarily be easy for participants themselves to describe or even recognize the situations that might be relevant from the research perspective. Observations are especially good for gaining a tacit understanding and seeing aspects of the participant’s perspective that they might be reluctant to share in an interview (Maxwell 2013, 103). Therefore, the situations needed to be caught as they happen in situ as much as possible, and interviews were used to clarify the activity or to fill in perspectives that were not visible in the events or discussions in the field.

Observations are considered especially useful when the events, interactions, and processes are difficult to convey verbally, especially if the use of space or equipment is relevant (McNaughton et al. 2014, 245). Even if my main interest is in the discussions between people, the use of design artifacts is relevant, especially when studying the workshops that Demos Helsinki facilitates, where many different visual artifacts are brought to the rooms and developed in the teams. Also in the editorial office, the experimentation of the new layout elements would have been difficult to understand from only verbal accounts. The physical space and the visual elements needed to be taken into account as well. I found observations about what is talked about in real life situations and what is happening during the design the best way to depict the process and allow possibilities to analyze and interpret contradictions.

Ethnography and anthropology have become valuable to the design field mainly as a way to connect with the user experience (Stewart 2011). Also, the visual aspects of ethnography, such as videotaping, can be appealing tools for designers (Wasson 2000). However, these were not the central reasons for choosing eth-
nography in this case, since the user experience was not the focus, and I did not have any particular fascination towards video as a medium. Instead, I found the social aspect of ethnography and the ability to be present as a researcher personally meaningful.

The presence I had in the field fits well with the idea of the researcher observing as a participant. Observing as a participant means observing as discreetly as possible and engaging with the field possibly only a few times but being open about the research purpose and being visible in the field (McNaughton et al. 2014, 247). In my case, I was either sitting in a meeting or observing what was happening in a room, making fieldnotes, audio recordings, or video recordings. There were a couple occasions when someone I was observing would ask my opinion on what they are doing. Mostly I would participate in casual discussions, where talking felt natural, or if I was addressed directly.

On two occasions, once concerning each case study, I was a complete participant. This meant that I had the full membership of the group that I was studying, engaging in the same tasks that the other members of the group and concealing my observer role (McNaughton et al. 2014, 246). First, at a workshop that the editorial office organized for its members and close collaborators, where small groups developed ideas for new content to the magazine. This was at the end of my data collection at the editorial office, after the visual update had been made. Secondly, in a workshop organized by Demos Helsinki, I participated for a couple hours in a discussion and idea construction of a workshop group. In the end, I did not use the data I collected, but did gain a better idea about how Demos Helsinki workshops are organized, and the experience supported my ability to predict the upcoming workshop settings.

At the editorial office, shadowing the AD was the observational method of collecting data. Shadowing means following a member of an organization over an extended period of time, putting the focus on an individual and the direct, first-hand experience that becomes possible when seeing the actual actions performed by that person (McDonald 2005). Shadowing is particularly useful if data is to be received from phenomena that are difficult to articulate (ibid.). I consider both the AD’s work and contradictions in the work this kind of phenomenon, which benefits from direct observation. Choosing the perspective of the AD makes sense because he is responsible for the visual update. Within the editorial office, the AD was also my closest contact, as I had shadowed him during the course of one day for an ethnography study assignment some time ago, and initially heard about the visual update from him.

This type of character focused research can be characterized as outlining institutional ties, which is in line with the research goal: ethnographers bring attention to organizational change, where we recognize that a social position may be shaped by different interactions that reflect the characters, norms, problems, and interactions created by working conditions (Wynn 2011). My presence in the filed
also fits into the category of shadowing, where the purpose is to see the world from someone else’s point of view (McDonald 2005). My aim was to understand the visual update and gain that understanding through understanding the work of the AD and his role in the organization.

The data that was analyzed from the case studies was for the most part collected through observational methods: writing field notes, photography, audio recording, and videotaping. Fieldnotes were used, for example, when observing Demos Helsinki researchers setting up the workshops and during the first workshop, where the video camera was not being moved while filming. In the second workshop, the room was so small that one could not get an overall picture of the entire room, but had to keep moving the camera and making filed notes was more limited in this case. Two kinds of fieldnotes were made: detailed descriptions and subjective reflections.

The detailed descriptions were handwritten in notebooks. Detailed descriptions can include who was present, visual descriptions of people, weather, or atmosphere, and verbatim comments or content of what people say (McNaughton et al. 2014, 260). I started with the following categories: Time, Place, People Present, Event, and Disturbance. But as I took fieldnotes, I realized that in the editorial office the focus became on time, people present, and the event. There were only few clear disturbances, so I focused on making notes of all possible shared events concerning visuals, for example, events where the AD voiced a concern about the visuals and writing down what people said, if possible. The Place stayed the same for most of the time. In the case of Demos Helsinki, I had to make a choice of which group member to follow on the spot, and I focused mainly on photographing the use or design of visual materials. Even if contradictions would be most easily drawn from disturbances, it would be impossible to understand what a disturbance is, without understanding what is being disturbed. Therefore, it would not have been possible to depict only the disturbances. Also, some problems built up with time, and it was possible to see only afterwards what evolved into a bigger disturbance later on. Most small issues, e.g., a graphic designer at the editorial office needing help with a problematic layout, were resolved immediately and can be considered normal work, not a disturbance.

**Observations of the Visual Update Process of The Magazine**

The observations of the editorial office of The Magazine included being present at several meetings, where I anticipated that the visual update would be discussed, but they focused only on the everyday work processes. By participating in all the meetings, I got a better understanding of how the editorial office functions, but when wanting to understand the design process of the visual update, I decided to concentrate the analysis on the meetings where the visual update was discussed. Fifteen days of observations took place on those days when the AD had anticipated.
that he and the graphic designers would be trying out the new visual elements, and later when making the layout of the first magazine with new visuals. There is one training day as part of the observations that I attended, during which the editorial office together with freelancers met to develop ideas for the content of the brand. The visual update was introduced during that day by the AD, but all other activities concerned other content.

I attended the meetings with the photo group to better understand the changes in the media organization concerning photography. I decided not to go deeply into the analysis of the practices concerning photographs, but included the discussions concerning the photo group to the data as it surfaced in the other data. From the meetings, I had a more valuable understanding of the function of the photo group.

Audio recording was used in meetings and workshops, where detailed accounts of what people said were needed, and there was a clear time frame for the event. I made some audio recordings while the AD and the graphic designers were working on the layout, but the talk was so infrequent, consisting of short dialogues that were difficult to predict, that making notes by hand felt more suitable.

**Observations Made of the Work of Demos Helsinki**

In the case of Demos Helsinki, I also attended several meetings and collected data, which was more helpful in understanding the general work of Demos Helsinki than contradictions in visual communication design. Until I had finished the data collection and had an overview of all the data available, I was not sure what would be

### Table 5. Data collected at The Magazine editorial office.

<table>
<thead>
<tr>
<th>13 Regular meetings of the editorial office notes</th>
<th>6 Magazine content meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 Meetings of the editorial office</td>
</tr>
<tr>
<td></td>
<td>1 Meeting of one part of the editorial office</td>
</tr>
<tr>
<td></td>
<td>2 Meeting of the editorial council</td>
</tr>
<tr>
<td>Ad hoc meetings organized for visual update audio recordings</td>
<td>5 Visual renewal meeting</td>
</tr>
<tr>
<td>Meetings with photo group field notes</td>
<td>2 meetings</td>
</tr>
<tr>
<td>15 Days of Observations field notes</td>
<td>14 days from the office of the AD and graphic designers</td>
</tr>
<tr>
<td></td>
<td>1 training day for editorial office and collaborators</td>
</tr>
</tbody>
</table>
the focus of the analysis, and which portions of the data would be used. Therefore, I had videotaped some of Demos Helsinki meetings and made field notes at other meetings. Below is a table of all the data collected from Demos Helsinki.

In the workshops, videotaping was used mainly to record working of the two groups during the two-day workshops. Sensitivity towards the local culture is important when choosing the equipment for recording observations (McNaughton et al. 2014, 263). In the workshops it felt natural to include a video camera to the workshop settings, since there was a lot of documentation going on anyways. Demos Helsinki had hired a photographer to document the workshops, there were journalists visiting the workshops, and there were different kinds of interventions organized by Demos Helsinki that were part of the workshop process. Both groups

<table>
<thead>
<tr>
<th>Demos Helsinki Meetings</th>
<th>Demos Helsinki Monday meetings – fieldnotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demos Helsinki Meetings</td>
<td>1 Meeting with designer – audio recording</td>
</tr>
<tr>
<td></td>
<td>1 Planning the workshop meeting – video recording</td>
</tr>
<tr>
<td></td>
<td>1 Demos Helsinki planning of workshops</td>
</tr>
<tr>
<td>Workshops</td>
<td>Half day at a workshop in Helsinki for trying out making fieldnotes.</td>
</tr>
<tr>
<td></td>
<td>12 hours 15 minutes of video</td>
</tr>
<tr>
<td></td>
<td>Final format: 30 pages of field notes containing selected transcriptions of talk and 148 screen shots from the video.</td>
</tr>
<tr>
<td>Peloton Workshop Feisty Journalism</td>
<td>3 days in Helsinki: One day of setting up one the workshop (fieldnotes and photographs).</td>
</tr>
<tr>
<td></td>
<td>Setting up by Demos Helsinki:</td>
</tr>
<tr>
<td></td>
<td>– 62 pages of fieldnotes including 135 photos</td>
</tr>
<tr>
<td></td>
<td>Two days of workshop of Feisty Journalism group:</td>
</tr>
<tr>
<td></td>
<td>– 9 hours of videotaping resulting in 45 pages of fieldnotes made from transcribing from video tapes and 178 screen shots</td>
</tr>
<tr>
<td></td>
<td>– 60 pages of fieldnotes including 177 photos</td>
</tr>
<tr>
<td></td>
<td>Final format: 105 pages of fieldnotes</td>
</tr>
<tr>
<td>Other Demos Helsinki activities</td>
<td>fieldnotes from the filming of a video on Peloton strategy by advertising agency /Outi Kuittinen</td>
</tr>
</tbody>
</table>
made a video for the judges and to be posted online, where they pitched their ideas. I had asked permission from the workshop participants in advance and informed them about the data collection.

During the workshop, I had to make ad hoc decisions concerning the data collection. For example, at the first workshop in Seinäjoki, where Low Cost Railways took part, I only listened to the presentations, since my interest was on a super presentation (consisting of text, pictures, film clips and animation, shown on a big screen in a dark auditorium), that had been the focus of my interview with graphic designer Kirmo Kivelä, who often collaborates with Demos Helsinki. During the beginning of the workshop, I learned that the super presentation was not be part of the workshops, contrary to previous Peloton workshops. Demos researchers instead gave oral presentations based on slides. At the second workshop in Helsinki, where Feisty Journalism participated, I felt better prepared. I made field notes and took photographs during the motivational presentation at the workshop.

At the workshops, the working spaces of the groups are decided only the day before by Demos Helsinki. There was not much possibility to plan ahead where to place the video camera. Instead, I had to use the available space and to try to position the camera so that it would allow taping as much of the actions as possible. In the Low-Cost Railways group working space, the video camera was stationary in one corner of the room, while I made field notes, took photographs, and moved the tape recorder in the space. In the Feisty Journalism working space, the room was a lot smaller, and I quickly noticed the need to move the camera. Resulting in focusing on the camera while the group was in the working space and making fieldnotes when the group was working in other spaces. I kept the audio recording present in the room, since I was not sure how well conversations would be recorded on the videotapes. Finally, the field notes and the video tapes seemed to give enough information, resulting in the audio tapes serving more of a fallback option than as a source of data.

Another element in the group work that I had not planned for was that while the groups had their own designated working space, the group members moved between different rooms during the workshop, for example for sparring. The groups got different sparring sessions during the first day of the workshop in order to consider different aspects of the concept and the sparring was done differently in the two workshops. Concerning Low-Cost Railways, it was more difficult to observe, since the whole group did not participate in the sparring, and it took place simultaneously with small group work. Therefore, the content of the sparring for Low-Cost Railways is videotaped, but not documented in detail, since there were many discussions taking place at the same time in the room. Concerning Feisty Journalism, the sparring took place in a separate room, and I made fieldnotes and took photographs during the sparring.

In the beginning of the workshops, most of the activities of the group are easy to depict using the video camera or by audio recording and field notes. How-
ever, towards the end of the workshop, team members start working more and more on their laptops. As it was not possible for me to follow in detail what the group members did on their laptops, I concentrated on capturing the discussions between group members. This is a research decision that I considered in advance, choosing to focus in on group discussions and to keep the scope of the analysis to the group level.

**Subjective Reflections**

The second types of fieldnotes are subjective reflections and analytic notes or observer comments about the setting. In my case, these two became interconnected and also included thoughts about the use of theory. Subjective reflections mean writing about feelings from the field and the settings, and analytic notes or observer comments about the settings, means ideas and views on what is happening, or theories about linkages between people (McNaughton et al. 2014, 260). On the one hand, I wrote a diary, where I reflected on how I felt in the field. On the other hand, I wrote about the ideas that I had concerning the theories I was studying at the same time in my doctorate school, and how those were visible in the field. Below is an example of a subjective reflection from entering the field.

**Excerpt 4.**

This is my first day of field notes after getting the preliminary “permission” from the editor-in-chief. I feel it is a bit strange not to be related so closely to the AD anymore, I feel like he must be wondering why I have started getting in contact with all the others, it must be a bit unsettling, they all probably wonder what I am about. On the other hand, people are very friendly to me.

(Fieldnotes January 24, 2011, at from the lobby of the editorial office of The Magazine).

These diary entries were especially valuable in the process of collecting data. They made it possible to give an outlet to the feelings and thoughts that entering the field brought about. They were also useful when making sense of the design process and what had happened on the different days, since there were condensed descriptions of the daily events. The diary entries gave hints for looking into more detailed descriptions of interesting events in the recordings.

In the next chapter, I present the analysis that aims at answering the research questions of this study. The analysis is presented in cycles of analysis and it addresses the different types of data.
4. Data Analysis

In order to find out what kind of change is taking place in visual communication design activity and how the work of a visual communication designer is influenced by the surrounding context, I analyze contradictions in visual communication design activity. The main research question is: 1. What kind of historical contradictions are present in visual communication design? For this, two separate design processes are analyzed. The research questions 1.1. and 1.2. are specific for each case study, because the data from the two case studies offer different possibilities for analyzing contradictions.

This chapter starts with the analysis of the case study focused on the visual update of The Magazine and aims to answer the research question: 1.1. What kind of contradictions lie behind the dilemmatic visual update of The Magazine? The analysis includes fieldnotes from various meetings at the editorial office that the AD attends, interviews with different members of the editorial office and the management of the media company, and fieldnotes from the work of the AD, when the lay out for the first issue using the updated visuals is done. Thereafter follows the analysis for the second research question: 1.2. What kind of contradictions are present in visual communication design of Demos Helsinki? Interviews with Demos Helsinki researchers, and the design process of presentations that were made in two Peloton workshops, are analyzed. Answering the main research question requires an interpretation of the results for the case specific research questions. Therefore, the main research question is answered following the results of the analysis in chapter 5.3.

The analysis of the two case studies – contradictions in the visual update of The Magazine and the visual communication of Demos Helsinki – are different from each other for several reasons. Since the organizations are different and the design processes are different, the data and the analysis of each case study are different. The visual update process is taking place in an editorial office of a media company, meaning a stable organization with regular employment and salaries. Meanwhile, in addition to interview data, a large part of the data concerning Demos Helsinki is collected from the Peloton workshops that are a temporary setup of
people. People participating at the Peloton workshops are mostly not familiar with each other and work together for one weekend in exchange for participating in the workshop, food, and accommodation. For Demos researchers, who facilitate the workshops, the workshops are part of their everyday work. When the visual update concerns a magazine that has been published for decades, the workshops are planned to generate completely new products. The magazine is an existing product with a production format and existing users. The concepts developed in the workshops might become real products in the future. A design process of creating something completely new is different from changing something already existing.

I continue with a general description of the starting points for the analysis, and focus in particular on the thematic analysis, which is used in the analysis of both case studies. Thereafter, I give a more detailed description of the way the thematic analysis is used for analyzing each set of data in order to answer the research questions.

Qualitative data has many different possibilities for analysis instead of clearly agreed rules and procedures (Spencer et al. 2014). The basic orientation in this analysis is to treat text and pictures with a substantive approach. The substantive approach means considering what the text says as a window into the participants’ social world, making it possible to refer to feelings, perceptions and events that exist apart from the data itself (Spencer et al. 2014, 272). More specifically, I use thematic analysis, which is widely used in different disciplines and with different theories (ibid., 271). Thematic analysis means discovering, interpreting, and reporting patterns and clusters found in the data (ibid., 271). The data analysis proceeded differently for each set of data. I use the term cycles of analysis, which refers to the cyclical act of qualitative analysis, where data is coded in several cycles in order to generate themes (Saldaña 2009, 8).

The analysis in this work can be divided into three cycles of analysis: 1) Splitting of the data with focus on visual communication design. 2) Thematic coding of the design process and contradictions. 3) Positioning the contradictions on the cycle of expansive learning. These cycles of coding are clarified below.

1) Concerning all the data, the first cycle of the analysis means a splitting of the data, leaving out of the analysis content that does not concern visual communication design. Data that is included is talk about the visual update of The Magazine, talk about visual communication design, and the visual communication design of the presentations of Feisty Journalism and Low-Cost Railways. Splitting the data means constructing smaller codable moments out of the data (Saldaña 2009, 20). Splitting of the data is most dramatic concerning the Peloton workshops, where video recordings of several days contain a lot of information. The solution is to transform the videos into fieldnotes. The transformation of videos into fieldnotes is clarified later in detail as part of the analysis of the Peloton workshops. Also, the field notes and recordings made from various meetings at the editorial office of The Magazine include a lot of data, and the focus on the visual
update means leaving out a lot of data concerning the editorial office that is not prior to the research focus.

2) The second cycle of coding is a thematic coding of the design process and the interviews. For the data concerning the case study of The Magazine, the Media Concept is used to depict the different organizational levels of change and contradictions that are present in the visual update process. In the analysis of interviews with Demos Helsinki, researchers’ discursive manifestations of contradictions are identified. In the analysis of the two Peloton workshops the thematic analysis is data driven, with focus on describing the different steps of the design process of the presentations and depicting contradictions concerning the visual communication design.

3) The third cycle of analysis for both case studies is the use of the cycle of expansive learning. The contradictions that surface from the thematic analysis are further interpreted as possible steps in a cyclic learning process. The theoretical concepts have been explained in the theory chapter, but for the sake of clarity, I give a brief description of the concepts when that phase in the analysis is presented.

Now follows a more detailed presentation of the analysis of contradictions in the visual update of The Magazine and thereafter the analysis of contradictions in the visual communication design of Demos Helsinki.

4.1. The First and Second Cycle of Coding in the Analysis of the Visual Update

The analysis focuses on the dilemmatic situation of the visual update and the research question is formulated as follows: 1.1. What kind of contradictions lie behind the dilemmatic visual update of The Magazine? Observations from the field, including a research diary and field notes made in the field, are analyzed to structure the content and to find a focus for the research question. The codes reflect on my presence in the filed as a researcher, my feelings, and my actions and ideas. Locations where the notes took place are coded. Talk about the content of the update and the editorial office of The Magazine are coded. Talk about the visuals is coded to recognize all the different aspects that related to the visuals. See Table 19. in the Appendix for a more detailed description of the codes. The research question and the following analysis focus of the dilemma that is visible in the first observations in the field.

First Cycle of Coding

1) The first cycle of thematic coding focuses on five meetings where the visual update is discussed between the AD, the editor-in-chief and the visual consultant. During data collection it becomes clear that the visual update is not discussed
much in the everyday work of the editorial office. The AD works on the visual update at home and discusses the visual update with the editor-in-chief in these five meetings, as the editor-in-chief gives his final word on the update. In Table 7. you see a brief description of the content of the meetings and the people present.

The analysis focuses on the talk concerning the updated magazine, the artifact that is constructed from different elements such as typography and layout. The updated magazine first takes shape as single A3 prints discussed in meetings, and finally becomes a published magazine. The analysis is theory driven, meaning

### Table 7. The content of the meetings and the people present.

<table>
<thead>
<tr>
<th>Date</th>
<th>Present</th>
<th>Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>28th of January</td>
<td>AD, editor-in-chief</td>
<td>27min</td>
<td>Dilemma: The Magazine is characterized as newspaper-like, meaning that the Magazine is “sacred”. The AD has worked on the new design at home, vignettes and typography are discussed. AD and the editor-in-chief meet in order to summarize the decisions that have been made so far concerning the update. The focus of the visual update has been on new vignettes and new typography.</td>
</tr>
<tr>
<td>18th of February</td>
<td>AD, editor-in-chief and Graphic design consultant</td>
<td>1h34min</td>
<td>Dilemma: The update is characterized by the graphic design consultant as buying a new suit, no major change. The editor-in-chief says the old machine works, not reason to make changes. Typefaces are decided upon. AD presents 1:1 prints of old magazine lay-outs from 2010, where he has tried out the new typefaces.</td>
</tr>
<tr>
<td>15th of March</td>
<td>AD, editor-in-chief, two graphic designers</td>
<td>1h 12min</td>
<td>Dilemma: The AD is not getting help with creating the titles for the only new element concerning the content of the Magazine: the vignettes. The new design has been tried out and decisions are made. AD and graphic designers present printed layouts on A3 sheets where they have tried out the new visuals, the layout and the new fonts and.</td>
</tr>
<tr>
<td>17th of March</td>
<td>AD, graphic design consultant</td>
<td>56 min</td>
<td>Dilemma: Graphic design consultant comments that the fonts are very small, making the text a bit difficult to read. The AD replies by saying that it looks similar to the old, and the editorial office has to agree on changing the length of the stories. The visual consultant confirms the final design. AD shows latest printed layouts on A3 sheets to the graphic design consultant. The AD is asking if the visuals look ready.</td>
</tr>
<tr>
<td>5th of April</td>
<td>AD, three graphic designers (one new)</td>
<td>1h18min</td>
<td>Dilemma: The editor-in-chief wants a vignette with a title for each story, but the editorial office has not delivered the titles to the AD. Visual details are discussed. The AD and the graphic designers discuss what questions they have encountered so far when trying out the new visuals.</td>
</tr>
</tbody>
</table>
that the themes analyzed from the data are based on concepts from activity theory: History, Collaboration, Difficulties and Definition of the update.

History is a category used to identify talk where the history or the previous ways of making The Magazine are referred to. It is a theoretically constructed category where mentions of pasty ways of working, or the past of the magazine, are identified to better understand the formation of the current practice and to better understand the context of the magazine update. An example of data coded in the history category is talk where it is mentioned that changing the structure of the magazine was discussed for the first time in 1995 and the reactions to changing the structure are remembered as complaints.

Collaboration is a category where references to people who are not present in the meetings but who need to be included in the process are mentioned, or when practices of working together are discussed. On example of data in the category of collaboration is a reference to the graphic designers. The graphic designers are included to the design process when new typefaces and fonts that the AD has chosen for the lay are tried out in order to see how the new elements work, to make choices about what works best and finally to narrow down the amount of font combinations.

The category of Difficulties points to talk about problems or challenges in the process, and can be signs of possible contradictions in the activity. One example of a difficulty is a missing font from the newly purchased typeset. For clarification, the pre-designed hierarchy of the different fonts that supports a structuring of content cannot be used without the missing font. This is a technical difficulty that is not considered a sign of a contradiction.

Definition of update is a category where the goal or the object of the visual update is coded. How the update is described, and what actual changes take place, are identified. One example of defining the update is the AD saying that he hopes the impression of the readers will be: “they know what they are doing” [in the editorial office]. Specifically, based the research interest, this category includes the coding of: why change is taking place, the content of the change, and why the change is small.

Subcategories are data driven based on the content that is identified as part of the theory driven categories (history, difficulties, collaboration, definition of the update.) and the). Reasons for why the renewal was done are coded using for example the codes presented below in Table 8. For an extensive list of codes see Table 20. in the Appendix.

Second Cycle of Coding: The Media Concept

For further understanding the dilemma, interviews are added to the analysis and the themes of change are positioned on the levels of the Media Concept 1) company strategy, 2) structures of managing processes and content, 3) daily work (Töyry
This second cycle of coding includes changes taking place in the media company that are visible in the interviews of the upper management of the media company: marketing manager, production manager, publication manager, and developer from the media organization. The themes of change are positioned on the levels of the Media Concept: 1) company strategy, 2) structures of managing processes and content, 3) daily work (Töyry & Helle 2009 a). The Media Concept is explained in the theory section. Below I present what is coded as belonging to the different levels of the Media Concept.

The first component of the Media Concept is 1) company strategy. Here talk is coded that focuses on talk about values and goals of the publisher, the societal context, technology and history. Talk about the strategy and business model of the media company, revenue model and costs and the editorial culture are coded as part of the first component of the media concept. Also talk about the audience and technology, such as media convergence and media platforms, belong to this category. Below is a summary of some of the talk that was coded as part of the Media Concept 1.

In year 2000 growth in editorials stopped. There has been a small decline of readers for several years. World markets change faster than markets in Finland where the paper magazine will be around longer, but slowly decline and be accompanied by other means for distributing content. In the future international markets compete with content for the iPad and the Web. The Web brought free applications that attract attention; buying is easy and downloading is quick. This gives an idea about the future. Even if the Web has not been successful business wise advertisers want to be there because of the customers. Electronic business is growing.

The second component of the Media Concept is 2) structures of managing processes and content. The coding focuses on talk about the structure of the organization, the division of labor, structures of the media products, the targeted audience and implied reader. Below is an example of a summary of talk that is coded as part of the Media Concept 2.

One question is how to get the subscribers of the magazine activated on the Web. Likewise reader research is done through the Web. Video production and creating of extra content need to be made profitable. The iPad (Apple) is now very expensive to work with, and the Web is difficult to gain income form.
The third part of the Media Concept is 3) daily work. Here the focus of coding is on talk about the daily work practices such as planning and editing. Next follows an example of a summary of talk that was coded as part of Media Concept 3.

It is difficult to change people’s way of working inside the organization. Change is for example seen as a threat for the current jobs and people are scared of loosing their jobs.

Finally, for triangulation of data, observations from the field are used to see whether the different aspects of the dilemma, that are analyzed using the Media Concept, resonate with observations made in the field. Field notes were collected in particular form the days in the editorial office when the first issue of the Magazine using the new visuals was prepared for printing. This is not the kind of thorough thematic analysis on the data as the previous phases of analysis. Instead I am looking at the field notes specifically in order to find situations that resonate with the analysis.

For example, there are situations visible in the field notes where the amount of text in the Magazine is discussed and it becomes clear that the amount of text is not to be changed. Further, the design process of the new vignettes causes difficulties in the editorial office. Text and vignettes are structures in The Magazine pointing to Media Concept level 2, that are linked with the everyday work practices of the editorial office that belong to Media Concept level 3.

**The first and second cycle of analysis of Demos Helsinki**

Concerning research question 2. Contradiction in the visual communication design of Demos Helsinki, the first cycle of coding is a thematic analysis from eight transcribed interviews made with Demos Helsinki researchers. The interview questions are found in the Appendix. The analysis consists of three phases:

1. The splitting of the interview data. All the talk concerning design is selected from the data. This means talk about the collaboration between Demos Helsinki and designers, talk where the researchers clarify for their use of and understanding of design thinking, and the talk where Demos Researchers talk about their own design skills.

2. Manifestations of contradictions are identified from the data. The manifestations of contradictions are identified and classified as double binds, critical conflicts, conflicts or dilemmas (Engeström & Sannino 2011).

3. The manifestations of contradictions (double binds, critical conflicts, conflicts or dilemmas) are further categorized into contradictions based on the content of the manifestations of the contradictions.

Below follows examples of how contradictions are identified. Each contradiction that is presented includes an example of a manifestation of a contradiction.
where the main contradiction is visible. The first example is more detailed in order to show the type of talk that the interviews consist of, and to show the grouping of the manifestations of contradictions that takes place in each contradiction.

The following quote is from an interview with a Demos Helsinki researcher, where the researcher talks about what design thinking means for Demos Helsinki. “And it can also mean that things become more concrete. But of course in one year some completely different winds will blow and the whole [design thinking] thing is forgotten. But, on the other hand, design is connected to the world in a concrete way, unlike a mere piece of text. We have always aimed at not just mechanically giving out rapports. Instead they should have a concrete application, such as concrete projects with the real world out there.”

The quote is identified as a dilemma since expressions such as “on the one hand, on the other hand” are present (Engeström & Sannino 2011). The researcher talks about design thinking as something that might be forgotten in one year, but on the other hand, part of the way Demos Helsinki functions through its emphasis on concrete applications. The dilemma is characterized as: Design thinking a passing fad or a lasting and important part of Demos Helsinki working methods.

This dilemma is further categorized as belonging to the contradiction Design Thinking – Describes our way of working, but it is unclear. Here the type of manifestations of contradictions were included that dealt with Demos Helsinki researchers' use of design thinking, while it is often considered an unclear concept by the researchers themselves.

A conflict is the type of talk where more arguing takes place and a solution is needed. A conflict becomes solved by compromising or submitting to authority (Engeström & Sannino 2011). One example of a conflict is part of the contradiction Brand or project. Here manifestations of contradictions are placed that dealt with the Demos Helsinki brand: how it is maintained, and what the relationship between Demos Helsinki brand and their more independent projects is. Peloton can be regarded as a more independent project.

A critical conflict is visible as part of the contradiction Content versus visualization, where issues concerning the content that Demos Helsinki is working with and the way the content is visualized are present. In the critical conflict a Demos Helsinki researcher talks about a situation in a workshop where group members had laughed at the idea of presenting the concept they were developing to an influential person in the area of expertise. But, when the Demos Helsinki researcher had used the picture of that person in the design of the final presentation, the group members had understood that it did not have to be a joke. “They got a sense of power: we can do this, it could be true.” This is a critical conflict since there is a vivid narrative present, and a new meaning created for the group members (Engeström & Sannino 2011).

One discursive manifestation of a contradiction that I consider a double bind is part of the contradiction Collaboration before outcome. The content deals with
the special demands of Demos Helsinki and the designers’ difficulties in fulfilling them. The double bind becomes visible in talk where a researcher says that in his opinion a video should be made of each rapport that they give, but so far they have not found the right person for the job whom they can afford. So the videos are not being made. This is a double bind, since the alternatives are unacceptable, and a solution means a transformation that goes beyond words (Engeström & Sannino 2011). There is no video production, and if there were, it would mean a new type of production for Demos Helsinki. I consider this an unsolved double bind.

So far, the analysis regarding Demos Helsinki has concentrated on the interviews made with Demos Helsinki researchers, and the three phases of analysis that were made to identify contradictions. Next follows a description of the analysis of the data that was collected from the two Peloton workshops.

**The Analysis of the Peloton Workshops**

The first phase of the analysis concerning the workshops is constructing an overview of the structure of the workshop. This is part of the splitting of the data, because from constructing the steps of the workshop it is possible to create an overview of the process and further focus the data analysis into the situations that are most interesting. Both workshops followed a similar structure since the timetable and the tasks were set by Demos Helsinki. Instead of presenting the timetable given by Demos Helsinki I have constructed my own descriptive phases that are based on what happened in the workshops. The phases are based on fieldnotes, the video recordings of the workshops, and blog posts made by Demos Helsinki researchers during the workshop.

After constructing the steps of the group work I analyze actions and disturbances taking place in the different steps of the workshop. At this point also the steps of the workshop are reconsidered and defined in particular to each workshop. Below in Table 9. is an example of a table used to analyze actions and disturbances. The filed notes that are analyzed are a combination of photographs, screen shots from the video, video transcripts and transcribed field notes. The cycle refers to the step in the workshop. A new step in the process starts when there is a clear change in the group work. The steps are partly initiated by the facilitation of the workshop.

In the example below the first sketch of the first prototype is drawn, which is considered one step in the process. Action/disturbance describes the situation and possible disturbances are mentioned here. Here in the 26th action one group member makes a drawing on the black board. Picture file is the name of the column where details of the photos are written and transcriptions are made if needed. The column further shows that this action is depicted in screen shot number 168, and there is a video transcript from that moment, with an additional note from the field notes.
The action system describes the subject, tools, object, division of labor and rules that are present in the situation. In this action the subject is group member Y and the tools are drawing and explaining. The object is the concept (the business concept), the community is the group and a Demos researcher who is present at the moment. The division of labor shows that group member Y is partly following the task given by Demos Helsinki researcher, but he is taking his own initiative and drawing on the board instead of writing on a post it note. The rules show, that group member Y is challenging the authority of the Demos Helsinki researcher.

In Picture 1. is part of a field note that is constructed from screen shots from a video. There is a transcribed discussion from a discussion concerning visual communication design. Color is used to mark which conversation is connected to which photograph. The yellow post-it note indicates a disturbance in the group work. The field notes are all together 169 pages for the Helsinki workshop, including 193 screenshots from videos. For the Low Cost Railway group the constructed field notes consist of 36 pages including 53 screen shots. The file on Feisty Journalism is bigger because in the Low Cost Railway fieldnotes the setting up of the camp

Table 9. Is an example of the analysis of actions and disturbances of the Demos Helsinki workshops.

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Action/disturbance</th>
<th>Picture file</th>
<th>Action system</th>
</tr>
</thead>
<tbody>
<tr>
<td>First prototype. First</td>
<td>26) Group member Y makes a drawing to explain his idea for concept</td>
<td>168) Video transcript:</td>
<td>s: group member Y</td>
</tr>
<tr>
<td>drawing of a system.</td>
<td>00:33 Demos researcher is writing on the wall while X talks about an idea and Y</td>
<td>00:33 Demos researcher is writing on the wall while X talks about</td>
<td>t: drawing and explaining</td>
</tr>
<tr>
<td></td>
<td>writes on another wall and draws a picture.</td>
<td>an idea and Y writes</td>
<td>o: concept</td>
</tr>
<tr>
<td></td>
<td>Fieldnotes: Demos researcher asks the group members to write a</td>
<td>on another wall and</td>
<td>c: group and Demos researcher</td>
</tr>
<tr>
<td></td>
<td>sentence on a post it note.</td>
<td>draws a picture.</td>
<td>d: partly following Demos researcher’s task with post it notes but Y taking</td>
</tr>
<tr>
<td></td>
<td>Y says: I am not going to write.</td>
<td>Fieldnotes:</td>
<td>his own initiative and drawing</td>
</tr>
<tr>
<td></td>
<td>...</td>
<td>Demos researcher asks</td>
<td>r: challenging the authority of Demos researcher?</td>
</tr>
<tr>
<td></td>
<td>Y says: The first prototype) Y draw on the wall.</td>
<td>the group members to</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>write a sentence on</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>a post it note.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y says: I am not</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>going to write.</td>
<td></td>
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<td></td>
<td></td>
<td>...</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y says: The first</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>prototype) Y draw on</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the wall.</td>
<td></td>
</tr>
</tbody>
</table>

104
is not included and in the Helsinki camp there was a group member who focused early on the visual communication design, whereas in the Low Cost Railway group the visual communication design was done largely by the graphic designer, who assisted Demos Helsinki during the whole workshop and shortly stepped in at the end of the group work to assist with the presentation. Therefore there was more talk about the visuals in the Feisty Journalism group, and more data for analysis. Further, the auditorium presentations are included in the data of Feisty Journalism.

In the analysis I focused on disturbances that keep repeating themselves, or require a solution from the group. Possible disturbances are further characterized using the discursive manifestations of contradictions (Engeström & Sannino 2011). This means identifying the disturbances as dilemmas, conflicts, critical conflicts or double binds.

To consider what kind of developmental aspect is present in the manifestations of contradictions the expansive learning cycle is used for the final part of the analysis. The analysis using the expansive learning cycle follows the same steps concerning both case studies.

### The Analysis of the Expansive Cycle

In the last phase of the analysis the manifestations of contradictions that were present in the visual update process of The Magazine and the visual communication design of Demos Helsinki are considered from the point of view of the expansive learning cycle. The found contradictions become interpreted in connection to the different phases of an expansive cycle as different types of contradictions. This is done by specifying the contradictions as primary-, secondary, tertiary or
quaternary contradictions, and possible parts of an expansive learning cycle (Engeström 1987). In the theory chapter you find an extensive clarification of the different contradictions. In Table 10. below follows a brief explanation of the concepts and examples of what type of content the contradictions are identified from.

In this chapter I have clarified for the analysis that aims at answering research questions 1.1. What kind of contradictions lie behind the dilemmatic visual update of The Magazine? and 1.2. What kind of contradictions are present in visual communication design of Demos Helsinki? There are three general cycles of analysis that are present in the analysis of both case studies: 1) splitting of the data, 2) thematic analysis and 3) identifying contradictions. But, the details of the analysis are different based on differences in the types of organizations, different design processes, and the differences in the collected data. The last part of the analysis for both case studies places the found contradictions on the expansive learning cycle. The results of the analysis are presented in the following chapter.

Table 10. Contradictions and examples of how the content is identified.

<table>
<thead>
<tr>
<th>Type of contradiction</th>
<th>Theoretical definition</th>
<th>Possible identifiable content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary contradiction</strong></td>
<td>Between use value and exchange value</td>
<td>What kind of visual communication design is affordable for a company and valuable to readers or users.</td>
</tr>
<tr>
<td><strong>Secondary contradiction</strong></td>
<td>Between the nodes of an activity system</td>
<td>The differences between the visual communication strategy and the work process.</td>
</tr>
<tr>
<td><strong>Tertiary contradiction</strong></td>
<td>Between new and old activity</td>
<td>Difficulties in adapting to new ways of working or changing the old way of working.</td>
</tr>
<tr>
<td><strong>Quaternary contradiction</strong></td>
<td>Between neighboring activity systems</td>
<td>Changes in the functioning of an organization can affect the work of people they collaborate with, for example free lancers.</td>
</tr>
</tbody>
</table>
5. Results

In this chapter the results of the analysis are presented. In the beginning of the chapter the results of the analysis concerning the two case specific research questions are presented. First are the results from the analysis of contradictions behind the dilemmatic visual update of The Magazine, followed by the contradiction present in the visual communication design of Demos Helsinki. At the end of each chapter a conclusion is made, where the found contradictions are summarized, in order to crystallize the answer to the research questions.

The main research question is 1. What kind of historical contradictions are present in visual communication design? Answering the question by depicting the contradictions helps us consider possible signs of change, development and challenges in visual communication design activity. The main research question will be answered in the last chapter of the results, where the historical context of the results is addressed.

5.1. The Results of the Analysis of the Dilemma at the Magazine

This chapter, where the results of the analysis of the dilemma in the visual update process of the Magazine are presented, starts with the results of the thematic analysis including the three levels of the Media Concept. The themes are used to understand the different aspects of the dilemma on the different levels of the Media Concept. Thereafter follows the presentation of the found contradictions. Finally the contradictions are located on the expansive learning cycle that the visual update of the Magazine is part of. One main contradiction is concluded form the found contradictions, and this is the main result of the analysis to answer to the research question 1.1. What kind of contradiction lies behind the dilemmatic visual update of The Magazine?
1) First Level of the Media Concept: Company Strategy

The analysis of the first level of the media concept shows the following themes: the decline of paper periodicals, production changes, and business changes. All of the themes consist of subthemes, which are clarified below and summarized in Table 11. In the data the talk that responds to the first level of the Media Concept includes mostly talk about the strategy and readers, whereas the company values are not present.

The theme decline of paper periodicals consists of three subthemes. Firstly, younger readers don’t subscribe paper periodicals. From the media company perspective, the world is changing and it is not sure whether the younger generation will start subscribing to the Magazine when they reach a certain age, which the previous generations did. Secondly, savings from production costs need to be made, because this is a place where savings can be made. When the volumes are big, saving from the production costs become significant to keep the products alive. Thirdly, the price of paper is going up and paper factories are closing down. These subthemes show the difficulties related to the future of printed periodicals.

The theme production changes shows two main changes visible in the subthemes. Technology influences the visuals is the first subtheme, that is visible in talk about the history of printing technology: How the transition from rotogravure greatly improved the visuals. The font got lighter and it was possible to do things technically that you could not dream about before. The more current topics concerned the iPad, where video can be included and photographs are read in a different order than in the paper magazine. This issue does not concern the update of the printed magazine at this point though. The other subtheme is the fragmented field, which revealed that managing the valuable content when changing to multi-channel publishing is a challenge. This concerned for example the worry of online readers expecting to be able to get the same content for free that have to pay for when buying a printed magazine.

The third theme is business changes, with three subthemes. The first sub-theme points to growth in business, but no profits being made. This concerns for example marketing, where electronic business in the media company has not yet been successful, but advertisers want to be on the Web because the customers are there. Apple monopoly is another subtheme, showing that one difficulty in keeping the iPad production profitable is Apple taking a large share of the profits. The third subtheme is international competition: will people choose products from the international markets or from our media company? This concerned The Magazine in particular, since the brand does not have much competition within Finland at the time, but competing internationally would change the situation.
Table 11. Summary of the themes on Media Concept level 1.

**Media Concept Level 1.**
Theme: Decline of paper periodicals
Subtheme: 1. Younger readers don’t subscribe paper periodicals
Subtheme: 2. Savings from production costs
Subtheme: 3. The price of paper is going up

**Theme: Production changes**
Subtheme: 1. Technology influences the visuals
Subtheme: 2. Fragmented field

**Theme: Business changes**
Subtheme: 1. Growth in business, but no profits being made
Subtheme: 2. Apple monopoly
Subtheme: 3. International competition

The themes on the Media Concept level 1. show the dilemma as follows: *Digital content is growing*, with future readers and advertisers, versus a decline in printing where the profits are made and where competition is easier to handle. The same dilemma is present in the themes of change talk, where the upper management talks about the declining readership, whereas in the editorial office the understanding is, that there is still a large readership to address with the paper magazine.

The fieldnotes support this finding. At an Editorial meeting January 24. 2010 a discussion takes place where content to the upcoming printed magazine and iPad are discussed. You can see the dialogue below in Excerpt 5. This is a regular meeting of the editorial office, not a meeting arranged in order to discuss the visual update. In the meeting the members of the editorial office talk about the development of the iPad readerships. The iPad is not considered relevant for the editorial office. The Web producer claims that the iPad should be sold as a package deal to the readers of the paper magazine. In the discussion it is considered, that the reason why the package deal has not been made might be that the management has decided to not push the selling of the iPad yet. This same issue is mentioned also in the interview data, where the upper management confirmed that they are waiting for other competitors to enter the field, and to change the Apple monopoly in order to make the tablet version more profitable. There seems to be both expectations towards making the iPad publication available to readers and a will to wait for better market opportunities before making investments.
Excerpt 5.

The Web producer says that the first magazine [The Magazine has published] on the iPad that is sold has been sold to about 250 [readers]. Not one single add [advertisement] has been sold to the iPad magazine. A package deal should be offered [offered to the readers].

The AD says that the amount of orders is not interesting [meaning not big enough].

The sub editor says [it is] not [interesting] until there are some thousands [of orders].

The AD says 5000.

(Fieldnotes on January 24, 2010, at the editorial office of the Magazine).

In conclusion, the dilemma on the fist level of the Media Concept is on one hand, a decline of readers and advertisers in print magazines and a need to develop content for the Web and other reading devices. On the other hand, online content and iPad publications have not yet proven profitable enough. Savings from the production of printed magazines are needed.

2) Second Level of the Media Concept: Structures

In the themes and subthemes on the second level of the Media Concept we can see the reappearing of the same topics that are present on the first level. The difference is, that here the talk is more focused on practical solutions to the situation in 2011. Savings, across devices as brands and incomes from magazines are the subthemes that are clarified next by looking at the subthemes that they consist of. In Table 12. is a summary of the themes.

The first theme are savings, that show themselves in three different subthemes. First of all, printing is to be centralized in the media company. When printing is centralized, meaning that the same paper is chosen for different magazines, it becomes possible to cut down printing costs. The second subtheme shows that networking and sharing is emphasized instead of hiring new people. In practice, new perspectives and advanced experience to the editorial offices comes through job rotation. The third subtheme is no profits from the Web, meaning that active selling of the iPad to readers will not take place until the iPad is more profitable for the media house.

Across devices as brands is the second theme, consisting of all together seven subthemes. The first four subthemes refer to larger structural changes.
and brands refer to talk about changing form the magazine as a central category towards a customer focused brand idea, with the magazine, the iPad, and the Web as lower categories. The second subtheme is digitalization of layout and content management. The media company chooses to develop digitalization in order to create tools that make content management of brands possible across different devices. Different ways of reading is a subtheme that refers to a big difference between how content is read in the different devices. The iPad is not read from cover to cover like a magazine. Instead the electronic content is based on structure and stream of content. This aspect concerning content needs to be taken into account when planning the presence of the brand in different devices. The fourth subtheme is Activating the Web. An unsolved structural issue that the media company is dealing with is activating the subscribers of the magazine on the Web.

The fifth, sixth and seventh subthemes of across devices as brands, all refer to concrete changes in the artifacts: the magazine, the iPad and the Web page. First, regularity in visuals is created in the visual update. The vignettes are a new element in The Magazine, and they reflect the frames and navigation constructed for the iPad. Another concrete element showing how the brand becomes visible in different devices is the sixth subtheme the iPad next to The Magazine. An iPad version of The Magazine was released in September 2010. Finally, the new visuals reach out to a younger generation of readers and the graphic design of The Magazine is made more contemporary to attract younger readers.

The third theme on the second level for the Media Concept is magazines bring the income. There are four subthemes that specify what this means. Firstly, magazines are still read. The media company considers the range of readers of The Magazine the average Finnish man, making the target group large. Secondly, there is a fear of loosing magazine prescriptions. This means minimizing the negative reactions of the current prescribers, making the update more like a facelift without changing the basic concept of the magazine. Thirdly, the visual changes are not to be visible to the readers. The AD emphasizes that most readers will not notice the difference between the old and the new magazine. Further, the change of the magazine visuals is defined as fine-tuning by the graphic design consultant.

### Table 12. Showing the themes and subthemes on the second level of the media concept.

**Theme: Savings**
- Subtheme 1. Printing is to be centralized in the media company
- Subtheme 2. Networking and sharing is emphasized instead of hiring new people
- Subtheme 3. No profits from the Web

**Theme: Across devices as brands**
- Subtheme 1. Concepts and brands
Subtheme 2. Digitalization of layout and content management
Subtheme 3. Different ways of reading
Subtheme 4. Activating the Web
Subtheme 5. Regularity in visuals is created in the visual update
Subtheme 6. The iPad next to The Magazine
Subtheme 7. The new visuals reach out to a younger generation of readers

Theme: Magazines bring the income
Subtheme 1. Magazines are still read
Subtheme 2. There is a fear of losing magazine prescriptions
Subtheme 3. The visual changes are not to be visible to the readers

As an illustration of how the iPad structure is influencing the visual communication design of the magazine I use the case of the vignettes. This is a small structural detail in the magazine, but reveals two issues: Firstly, there is a difference between the way the iPad publication and a printed magazine are read, and secondly, it shows the type of detail that the AD’s work consist of in designing the update. The vignettes are headlines for stories, which have not existed in the printed magazine before. In the iPad the structure of content uses vignettes for navigation, where you have to choose what type of story you want to read, whereas the navigation of the printed magazine can be based on a surprise on each turn of the page, called a story train. This way the vignettes add more consistency and repeatable structures to the magazine, making each story belong to a familiar theme, instead of the previous “story train” where independent stories follow each other with little continuity between the different issues of the magazine.

In the discussion between the AD and two graphic designers, the AD explains the difference in the design of visual elements for the iPad and the paper magazine. Some stories in The Magazine had a vignette from before, but there are still stories that do not follow any particular story type or lay out. The AD is suggesting that all stories would have a vignette in the future. The AD is showing prints of example lay-outs to the graphic designers in the meeting room of the editorial office.

Excerpt 6.

The AD: But in all simplicity, this [update] is kind of like the iPad thing. Or the basic pieces, and then we have the new fonts [that differ from the iPad].

Graphic designer 1: Yes.

The AD: So the essential pieces are these. The vignette system would change so that we have only two kinds [of vignettes]. The columns and the sections
Graphic designer 2: Looks very good.

...  

The AD: This [vignette] has been made quite a lot smaller than it is in the iPad version. As the page size is bigger as well. Now here the layout has a shoulder line going through the whole magazine. This top margin is the same everywhere. In the stories without a vignette it has changed freely. This I have not yet discussed with or showed to the editor-in-chief, but we have talked about it and he has mentioned it a couple times, whether we should have a [shoulder line] for those. Now we always have a couple of funny stories in the magazine without a [vignette] (March 1, 2010, a visual update meeting between AD and two graphic designers).

The core of the dilemma on the second level of the Media Concept is defined as a tension between creating new ways of making content for brands versus the editorial office of The Magazine, which focuses on continuing to make the printed magazine for the current readers. The vignettes are a visual element that creates a new structure to the content while connecting the layout with the iPad. While a small detail, it is interesting, because in the data on the third level of the Media concept it is visible that even this small change does not happen easily in the editorial office.

3) Third Level of the Media Concept: Daily Work

The results of the analysis of the third level of the Media Concept show themes that are visible in talk about the everyday work processes and different situations that workers have to deal with. Four themes are present in the everyday work of the editorial office: graphic design by specialists, independent editorial office, wish for changes, and slow change. Below I will clarify for the content of the themes by describing the subthemes that the themes are constructed of. The themes are summarized in Table 13.

Graphic design by specialists is the first theme, which consists of three subthemes. The first one is specialized collaboration on visuals. This means for example that the graphic designers make some of the illustrations themselves and info graphics are ordered from freelance graphic designers, instead of using ready made illustrations from image banks. The second subtheme emphasizes that the new visual communication design is done with the AD in charge. He designed the visuals of the iPad magazine, and now continues with changing the visuals of the magazine. Finally, the third subtheme is employment concerns, showing that the work situation in the field of visual communication design causes worries. The
core question is, whether there will be enough work for everybody when print diminishes? This is a general question, but very concrete in the editorial office as, the amount of graphic designers in the editorial office is reduced during 2011, after the visual update is designed.

The second theme on in the daily work is the independent editorial office, consisting of four subthemes. The first subtheme shows insecurity and lack of trust. From the media company perspective the education of people in the editorial office is difficult. People are afraid of loosing their jobs in the changing environment, and they lack trust towards business consultants that the company has been using. The second subtheme shows that the editorial office is specialized. According to people in the editorial office, you need special knowledge about the content, to be able to write about it. The third subtheme is the importance of independent content, which means that the editorial office wants to be a strong independent diamond, providing valuable content with its own tools. Lastly, the editorial office wants to have specialized photographers of its own. Instead of the new policy of the media company of editorial offices sharing photographers, the photographer that works for The Magazine’s editorial office works full time as their own photographer.

The third subtheme is a wish for changes, where reasons for change are explicated on the level of the everyday work. The first subtheme is motivation. The editor-in-chief considers that the visual update can have a motivational effect on the whole editorial office. The second subtheme is a wish for planning and structure in the magazine, meaning a move towards doing more planning and using repeatable structures, instead of each number being a unique magazine with varying content. Lastly, the editorial office needs more leadership. Especially the AD is hoped to change his work from doing actual production work such as layouts towards more emphasis on leadership.

Slow change is the fourth theme, including three subthemes that show what this means in the editorial office. Firstly, small changes take place in the editorial office. In the visual update the changes are made with the premises that the rest of the editorial office will continue with the same work process as usual. Secondly, the current visuals are old. As the visual communication design consultant says, the magazine before the update looks old fashioned, lame and ambiguous. The update is the first time that the AD has a change to make changes in the visuals of the magazine since he started working in his position. Thirdly, the structure of the magazine is “a story train” meaning that the stories follow each other without a consistent structure. That change is slow shows that in the editorial office the printed magazine is still the main medium. There is not yet much consideration of making the content publishable in other channels.
Table 13. Showing the themes and subthemes on the third level of The Media Concept.

Theme: Graphic design by specialists
Subtheme 1. Specialized collaboration on visuals
Subtheme 2. The AD in charge
Subtheme 3. Employment concerns

Theme: Independent editorial office
Subtheme 1. Insecurity and lack of trust
Subtheme 2. The editorial office is specialized
Subtheme 3. Independent content
Subtheme 4. Specialized photographers

Theme: Wish for changes
Subtheme 1. Motivation
Subtheme 2. Planning and structure in the magazine
Subtheme 3. Leadership

Theme: Slow change
Subtheme 1. Small changes
Subtheme 2. The current visuals are old
Subtheme 3. The structure of the magazine is “a story train”

Below are two examples from the design process, where the subthemes are visible in the lay out work. The first example shows how the update is made in order to not change the amount of text in the magazine, depicted in a discussion written in the field notes. The second example further describes the design process of the new vignettes, which causes difficulties in the editorial office, and was used as an example on the second level of the Media Concept.

The importance of being able to fit the same amount of text in the paper magazine after the update, as was possible with the old visuals, is related to the idea that the visual update does not concern the work process of the editorial office. Stories can be written in the same manner as before. It is interesting that the way the graphic designers talk about the readability and typographic details concerning the choice of fonts shows that there are big differences between the old magazine lay out and the new lay out from the point of view of the graphic designers. Still, there is a need to stay similar to the old magazine. The first example below is from a meeting where the AD and two graphic designers discuss the visual update.
just before the graphic designers start trying out the new visual elements. The AD is talking about how the same amount of text fits on the page using the new lay out, and emphasizes the beauty and better readability resulting in the typographic changes.

Excerpt 7.

The AD says: I made this [grid] seven columns wide. I wanted to try out whether it [the new font] takes up much more space [than the old font].

The graphic designer Y says: Yes, this looks good.

The AD says: Than, with this style and with the seven column [grid] I did manage to fit it [the old text] there [with the new font], it [only went] one line over the limit, and the picture sizes did not change at all.

The graphic designer Y says: This text font looks damn much better here.

The AD says: It is damn lot better to read; this is more aligned because these serifs make it possible.

Graphic designer Y says: Yes, it does not protrude (harota) so much.

The AD says: With this kind of sans serif font [that we used to have] the smallest kerning problem is immediately visible. Here [using the new serif font] it does not show. Somehow they [the serifs] make it [the problem] dissolve.

The graphic designer X says: Damn, this is beautiful

(March 1, 2011, meeting between AD and two graphic designers.)

The case of the vignettes is different. The significance is, that the AD cannot himself create the new elements, but he needs assistance from the other members in the editorial office in creating the titles for the vignettes. The vignettes are discussed in several occasions, and here I give a brief description of what kind of a problem arouse. As the lay out of the first magazine with the updated visuals starts, it becomes clear that the content of the vignettes is not yet decided upon, and it is unclear who is supposed to create them: the managing editors, the editorial secretaries, or the writers of the stories? At the moment of the layout, the stories have already been written, so the vignettes now have to be written in the editorial office, even if the task is to be given the writers of the stories in the future. This shows that even a small new detail is difficult for the editorial office to deal with. There is a tendency to put the responsibility of the content on the writers, instead
of planning a structure of vignettes within the management of the editorial office, which can be applied to the stories.

The dilemma on the third level of the Media Concept can be condensed as on one hand great respect for the current way of working with highly specialized tasks, but on the other hand, a need for shared planning and making changes together. This is also visible in the independent work of the AD. He does the design of the visual update mostly at home, while continuing with the regular work process at the editorial office of getting the printed magazine and the iPad out as usual. The general unspoken approach seems to be that the less you involve the whole editorial office, the easier it will be to make the visual changes.

In conclusion, there are the three main dilemmas identified: 1) Decline of readers in print, but profits are made in print. 2) Structures of the media company versus independence of the editorial office. 3) Change of content and work process in the editorial office versus keeping the printed magazine. Next we can look into what developmental phase of the design process the different dilemmas resonate with. This is done by combining the found contradictions with the theoretical concepts of the expansive learning cycle (Engeström 1987), meaning the identification of primary-, secondary, tertiary and quaternary contradictions. A summary of the found contradictions can be found in Table 14 after the contradictions are clarified.

**Beginning of the Cycle: Financial Struggles**

In the expansive cycle the starting point is a primary contradiction between use value and exchange value, which is aggravated and becomes visible as different kinds of disturbances and ruptures in the everyday work. Concerning The Magazine, the data collection started when the decision of a visual update was already made, and the data collection focused on what happened during the update process.

Therefore I do not have data on what kind of disturbances took place in the activity before making the decision of the visual update. But, if we look at the results of the analysis so far, considering the themes of change on the different levels of the media concept, and the different aspects of the dilemma drawn from the results, we can argue that some of the themes show a primary contradiction in the update process.

I argue that the primary contradiction, that has become aggravated in the media company, and that is assumed to become aggravated at some point in the editorial office, is the Dilemma 1: Decline of readers in print, but profits are made in print. This means the transition of readers to the Web and the decline of income from magazines and advertising. The transition is considered to be visible mostly in the younger generations. This situation is demanding since the competition changes, the way of reading content changes, and there are not yet profits to be
made. The income is still in the print magazines and relies on subscription of periodicals. This is quite clearly a contradictory situation, where the use value of print is going down and the use value of the Web is going up. But, the exchange value of print still resuming and there is no exchange value on the Web or iPad markets yet. The low exchange value on the Web is not only connected with making profits. It is also unclear how the content will manage in the tougher international competition on the Web.

On the contrary, in the editorial office, there does not seem to be a primary contradiction present. The editorial office considers the brand strong and there is a large readership for the magazine still. The AD works on the update very independently, mostly at home, which can be interpreted as an absence of a collective change effort in the printed magazine. This indicates that there is no collective recognition of a contradiction between the use value and the exchange value within the editorial office that would question the activity and call for a collective change effort.

Considering that the media company has started to develop a new strategy, visible in the second dilemma: Structures of the media company versus independence of the editorial office, I find it appropriate to claim that a primary contradiction has been aggravated in the media company. It has lead to a secondary contradiction between the media company and the editorial office, depicted in the second dilemma.

Secondary Contradictions
– Analysis and Double Bind

As the aggravation of the primary contradiction triggers secondary contradictions, which emerge between elements of the activity system, a need to develop of something new appears. As the primary contradiction takes place on the level of the media company, not in the editorial office, the secondary contradiction is also visible on the level of the media company. The data indicates, that there is a new model for activity in the media company, including the idea of brands and concepts, networking of people, and attracting readers and advertisers that have transferred from print magazines to the Web. I argue, that therefore, that the secondary contradiction is between the new object of the media company and the editorial office as an old tool.

A secondary contradiction can be identified for example between a new object and old instruments (Engeström et al. 2014, 86). I consider a secondary contradiction visible in the first and third dilemmas: Decline of readers in print, but profits are made in print, and Change of content and work process in the editorial office versus keeping the magazine as long as possible. The decline of readers is according to the data mainly recognized by the media company in readers of print magazine, and the increase of readers on the Web.
When we look at the themes of the dilemma on the second level of the media concept, we can confirm, that the media company has gone into savings mode by reducing printing costs, and by developing networking and sharing of resources within the company. The idea of brands and concepts can be considered a new solution, possibly following a secondary contradiction. Reaching the readers on the Web would be a new object. Meanwhile, the editorial office is clearly still focused on the magazine profits. Therefore, the editorial office can be considered a tool for the old object, not the new one.

Secondary contradictions that lead to expansive learning often manifest as double bind situations, where a collective effort is needed to find a solution (Engeström & Sannino 2011). A double bind means that the activity has to change. The media company has already developed the new tools and the idea of new activity on the level of the media company, when the visual update process is starting. The decline in readership, the new structuring of the company and changes in the work processes indicate a collective change effort. Meanwhile, the profits are still in the print magazines, where readership is declining.

The company seems to be facing a double bind with a need to change and a need to develop new activity. Still, the media company has made it possible for the editorial office to keep going with the old way of working. Perhaps it has been safer for the economy of the company to change gradually, instead of changing the whole company all at once. While the editorial office that has been able to rely on their old ways of doing it is now starting to face the changes that are caused by the double bind.

Tertiary Contradictions – Between the New and the Old

Tertiary contradictions are visible between the old and new activity systems (Engeström 1987, 87-88). Tertiary contradictions appear in the implementation actions of implementing: “tertiary contradictions appear between a new model of activity and remnants of the previous mode of activity” Engeström et al, 2013, 86). I would consider the visual change efforts that are part of the visual update as a balancing act in a tertiary contradiction. The editorial office and the media company can be considered to have a secondary contradiction at hand, with the editorial office willing to continue according to the old activity, but the media company having changed the way it functions fundamentally.

Therefore, the iPad version of the magazine, and the visual changes made in the magazine, can be considered some sort of modeling of the changes that are taking place in the media company. The changes are not big, as they do not consider the whole editorial office, but nevertheless, some changes are taking place. In the case of the visual update, the second dilemma, structures of the media company versus independence of the editorial office, is here interpreted as a sign of a tertiary contradiction. Neither the independence of the editorial office
or the structures of the media company are the object of activity, but parts of
the new activity system of the media company, and the old activity system of the
media company.

The visual update is a concrete part of the structural change, and the difficul-
ty of moving away form the magazine orientation. From the perspective of the me-
dia organization, this particular editorial office seems to still function according
to the old object of the media company, with many of the old tools still in use. The
visual update has simultaneously two functions, to function within the old rules,
tools and division of labor of the editorial office, and to implement some new ele-
ments that are part of the strategy of the media company.

**Quaternary Contradictions**

*– Between Neighboring Activities*

Quaternary contradictions are described as taking place when coming to the stage
where the new model is examined and tested, existing between different activ-
ity systems, requiring the neighboring activity systems to be considered in the
process (Engeström 1987, 88). In the case of the visual update, are no quaternary
contradictions. The only collaboration outside the editorial office and the media

**Table 14. Primary, secondary, tertiary and quaternary contradictions
in the visual update process.**

<table>
<thead>
<tr>
<th>Type of contradiction</th>
<th>Theoretical definition</th>
<th>Contradiction interpreted from results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary contradiction</strong></td>
<td>Between use value and exchange value</td>
<td>Visible in the media company between profitable but diminishing print readership and unprofitable but growing electronic readership</td>
</tr>
<tr>
<td><strong>Secondary contradiction</strong></td>
<td>Between the nodes of an activity system</td>
<td>Visible between the editorial office focus on continuing as usual and the media company focus on changing the content for readers in various publication channels.</td>
</tr>
<tr>
<td><strong>Tertiary contradiction</strong></td>
<td>Between new and old activity</td>
<td>The independence of the editorial office and focus on print are part of the old activity of the media company. The media company develops new activity with a new object (readers of digital content) and new tools (shared between editorial offices).</td>
</tr>
<tr>
<td><strong>Quaternary contradiction</strong></td>
<td>Between neighboring activity systems</td>
<td>In the visual update the neighboring activities that are affected are graphic freelancers, and here no contradictions are observed. Instead the update is planned in a manner that minimizes the possibility of contradictions. Especially negative reactions of readers.</td>
</tr>
</tbody>
</table>
company that takes place was with the graphic design consultant, and freelance graphic designers. There were no signs of contradictions. You could say, that contradictions were very effectively avoided for example by carefully designing the new layout to allow the usual amount of text and by not minimizing changes in the work of the editorial office, besides the work of the graphic designers.

One interesting group, that was constantly taken into consideration in the talk of the editorial office were the readers. They cannot be considered to form an activity system of their own with a shared object. It is actually an interesting question how the readers could be depicted using concepts from activity theory. They can be part of the activity system of the media organization and the editorial office, but I find it problematic to consider the readers to form a neighboring activity system. Still, the fear of readers' reactions and the memories of negative feedback are present in the data. Any type of quaternary contradiction that could result in an increasing loss of readers is to be avoided.

The starting point for the whole change process is the primary contradiction of Decline of readers in print, but profits are made in print. Therefore, the large readership of the print magazine is not to be jeopardized. While the media company goes through a big change effort, the editorial office is still hoping that the primary contradiction would not be triggered.

Figure 8. The cycle of the visual update including the contradictions.

**Primary contradiction**

The Magazine is still profitable but the readership of print magazines is diminishing and potential younger readers are used to digital content

**Secondary contradiction**

The editorial office continues the old print focused activity while the media company is making efforts in creating content for readers in various publication channels.

**Tertiary contradiction**

The visual update has simultaneously two functions: to function within the old rules, tools and division of labour of the editorial office, and to implement some new elements that are part of the strategy of the media company.
Summarizing the Main Contradiction Behind the Dilemma

In conclusion, the results of the analysis answer to research question 1.1. What kind of contradictions lie behind the dilemmatic visual update of The Magazine? The found contradictions can be summarized into one main contradiction for visual communication design: 1. The development of novel, more collaborative ways of working with evolving content versus the overall mastery of the visual communication design. The main contradiction is based on the three contradictions that are visible, giving an understanding of the change in media production in the media company that The Magazine is part of.

The visual update includes new possibilities for publishing, but the update aims at being invisible to the readers of the paper magazine. Behind this dilemma is a primary contradiction that shows how the readers are moving from the printed magazine to electronic content. But, for the media company the printed magazine is still the source of income. There are no profits yet to be made in electronic publishing. The visual update of The Magazine is balancing between making The Magazine better functioning in various forms of publishing, while the visuals need to work for the unchanged content of the paper magazine.

Further, the visual update is to make the old way of functioning possible to the editorial office. A secondary contradiction makes visible how the editorial office of The Magazine prefers to use its old tools while the media company is developing new, shared tools. The new tools are part of the strategy of the media company in tackling the economic challenge, but the editorial office is not willing to participate in the change and is afraid of losing their way of working and their independence.

The dilemma of the visual update shows the changing media organization, which is depicted in Figure 8. The cycle of the visual update including the contradictions. New products are being developed to new readers, but the company is not yet ready to leave behind the old products and the old way of working. This is a tertiary contradiction between a new object that is being developed and partly functioning, and the old object, which has been produced with different activity.

5.2. The Results of the Analysis of Demos Helsinki

This chapter starts with presenting the results of the analysis of interviews made with Demos Helsinki researchers, that show manifestations of contradictions that are grouped thematically into six main contradictions. Thereafter the results of an analysis of actions and disturbances is presented, showing two conflicts in visual communication design of the presentations of Feisty Journalism and Low Cost Railways, in two Peloton workshops. All the found contradictions are further analyzed using the expansive learning cycle in order to see the bigger picture of a possible developmental cycle in the visual communication design activity of Demos Helsinki. Finally a conclusion of the contradictions is made to depict one main con-
Contradiction to answer the research question 1.2. What kind of contradictions are present in visual communication design of Demos Helsinki.

Contradictions in the Interviews with Demos Helsinki

Six main contradictions are identified from the interview data. These included all together 79 manifestations of contradictions. The manifestations of contradictions were classified as double binds, critical conflicts, conflicts or dilemmas (Engström & Sannino 2011). Below follows a clarification of each contradiction: the amount of found manifestations of contradictions for each contradiction, and an example from the data that illustrates the contradiction.

1. The contradiction *Content Versus Visualization* included 20 manifestations of contradictions (5 dilemmas, 6 conflicts, 9 critical conflicts, 0 double binds). The core in this contradiction is the relationship between the content that Demos Helsinki is working with and the way the content is visualized. One critical conflict is visible when a Demos Helsinki researcher talks about a situation in a workshop, where group members had laughed at the idea of presenting the concept they were developing to an influential person in the area of expertise. But, when the Demos Helsinki researcher had used the picture of that person in the design of the final presentation, the group members had understood that it did not have to be a joke, “They got a sense of power: we can do this, it could be true.” This is a critical conflict since there is a vivid narrative present, and a new meaning created for the group members (Engeström & Sannino 2011).

In the contradiction *Content Versus Visualization* the importance of visual communication design when reaching out to new audiences is present. But, the researchers of Demos Helsinki explain that visual communication designers do not understand the content that Demos Helsinki is creating well enough.

2. The contradiction *What is Design Thinking* includes 13 manifestations of contradictions (7 dilemmas, 3 conflicts, 3 critical conflicts, 0 double binds). This contradiction shows that Demos Helsinki researchers' use design thinking, while it is considered an unclear concept.

The following quote is from an interview with a Demos Helsinki researcher. The researcher talks about what design thinking means for Demos Helsinki. “And it can also mean that things become more concrete. But of course in one year some completely different winds will blow and the whole [design thinking] thing is forgotten. But, on the other hand, design is connected to the world in a concrete way, unlike a mere piece of text. We have always aimed at not just mechanically giving out rapports. Instead they should have a concrete application, such as concrete projects with the real world out there.”

The quote is identified as a dilemma since expressions such as “on the one hand, on the other hand” are present (Engeström & Sannino 2011). The researcher
talks about design thinking as something that might be forgotten in one year, but on the other hand, Demos Helsinki core functions has always been to emphasize concrete applications for which design thinking is useful.

3. The contradiction Design thinking - not for designers, includes 14 manifestations of contradictions (6 dilemmas, 4 conflicts, 4 critical conflicts, 0 double binds). This is the second contradiction concerning design thinking. Here design thinking is explained as something that Demos Helsinki uses, while it does not make them designers. They argue, that designers should use design thinking more, but Demos Helsinki does not need to hire a designer for doing it. Further, in order to do design thinking it was even considered necessary not to be a designer, as the conflict shows: "Of course I design processes, but I am in no way a designer, actually in order to do design thinking, you have to let go of the idea of designer."

4. The contradiction Collaboration before outcome shows the special demands of Demos Helsinki and the designers' difficulties in fulfilling them. There are altogether 17 discursive manifestations of contradictions related to this contradiction (5 dilemmas, 5 conflicts, 5 critical conflicts and 2 double binds). One discursive manifestation of a contradiction, that I consider a double bind, shows the reasons why Demos Helsinki has not started making videos of their research rapports yet.

The double bind becomes visible in talk where a researcher says that in his opinion a video should be made of each rapport that they give, but so far they have not found the right person for the job whom they can afford. So the videos are not being made. This is a double bind, since the alternatives are unacceptable, and a solution means a transformation that goes beyond words (Engeström & Sannino 2011). There is no video production for rapports, and if there were, it would mean a new type of production for Demos Helsinki. I consider this an unsolved double bind.

5. The contradiction Do It Yourself, but Value Quality included 11 manifestations of contradictions (9 dilemmas, 1 conflict, 1 critical conflicts, 0 double binds). This contradiction shows the way Demos Helsinki emphasizes doing things themselves, instead of hiring a designer to do the design. Meanwhile, they see benefits also in working with a visual communication designer. This is visible especially in the talk about their presentations. One Demos Helsinki researcher says that the presentations are visually quilted and that is the way it is probably going to be. But, the researcher continues, it had been valuable when presentation slides had been designed by a graphic designer. This is one of the dilemmas of this contradiction.

6. The contradiction Brand or Project includes 4 manifestations of contradictions (2 dilemmas, 2 conflicts, 0 critical conflicts, 0 double binds). In this theme manifestations of contradictions are placed that deal with the Demos Helsinki brand; how it is maintained, and what the relationship between the brand and their more independent projects is. Peloton can be regarded such a project.

One conflict belonging to this contradiction concerns the design of publications. A researcher describes how Demos Helsinki has applied for money to be
able to create its own publication series, but the application has not yet been successful. According to the researcher, the worst case scenario is not to be able to influence the design of the publication at all: Instead, the client of Demos Helsinki decides. Later there have been more cases where Demos Helsinki can decide who does the publication design. I consider a conflict present here: Deciding who does the publication design is a compromise between having your own publication series and having no influence on the design.

Below in Table 15, you see the six main contradictions and the amount of underlying manifestations of contradictions. See Table 22. in the Appendix for a more detailed table of the analysis.

Table 15. The Six Main Contradictions in the interviews with Demos Helsinki researchers

1. Content Versus Visualization:
   Dilemmas 5, Conflicts 6, Critical conflicts 9, Double binds 0

2. What is Design Thinking:
   Dilemmas 7, Conflicts 3, Critical conflicts 3, Double binds 0

3. Design Thinking - Not for Designers:
   Dilemmas 6, Conflicts 4, Critical conflicts 4, Double binds 0

4. Collaboration Before Outcome:
   Dilemmas 5, Conflicts 5, Critical conflicts 5, Double binds 2

5. Do It Yourself, but Value Quality:
   Dilemmas 9, Conflicts 1, Critical conflicts 1, Double binds 0

6. Brand or Project:
   Dilemmas 2, Conflicts 2, Critical conflicts 0, Double binds 0

Here I have clarified for what contradictions are found in the analysis of the interviews of Demos Helsinki researchers. Next we will look at the results of the analysis of the Peloton workshops. The results of the analysis of the Peloton workshops start with the results of the action and disturbance analysis of the different steps of the workshop, and the identification of contradictions.

Two conflicts in the Peloton workshops

The conflict that is present in the visual communication design of the presentation of Low Cost Railways is summarized as no design without designer. The conflict
found through the analysis of actions and disruptions in the group work of Feisty Journalism is the inability to collaborate. These conflicts stand out from the data by being visible in several steps of the group work. In this chapter I will clarify for the character of these conflicts.

**Low Cost Railways**

The conflict that is present in the visual communication design of the presentation of Low Cost Railways is summarized as *no design without designer*. The conflict is visible in the results of the analysis of the actions and disruptions taking place in the different steps of the group work. In Table 16, you see a summary of the different steps of the Low Cost Railways group work. In the Low Cost Railways group there are 11 steps depicted in the group work, including 112 actions as shown below. A new step in the process starts when there is a clear change in the group work. The steps are partly initiated by the facilitation of the workshop.

**Table 16. Steps in the Low Cost Railways group work**

1. Demos Helsinki facilitation: Introduction to group and task at hand (Actions 1–7)
2. Group starts to share ideas (Actions 8–15)
3. Work in small groups with sparring taking place (Actions 16–29)
4. First presentation of idea (Actions 30–31)
5. Back to small group work and more sparring (Actions 32–33)
6. New task: Making a video pitch (Actions 34-44)
7. Group work on the presentation using the wall, Day 2 (Actions 46–53)
8. Demos Helsinki researcher and a judge visit the group (Actions 54–59)
9. Starting to work on the slides (actions 60–90)
10. Graphic designer finalizes the visuals of the presentation with the group–Conflict is solved (91–109)
11. Rehearsing the presentation and making handout (Actions 110–112)

The development of the conflict in the Low Cost Railways group starts when a dilemma first becomes visible in the data (step 6. *New task: Making a video pitch and...*
action 4.4). A Demos Helsinki researcher arrives to the Low Cost Railways group after the group has made their video pitch in order to give further instructions for the final presentation. The Demos Helsinki researcher asks whether there is a graphic designer in the group and gets the answer that there is an AD but he is not very present in the group work. The dilemmatic character of the situation means that on one hand there is an AD who could have visual communication skills, but on the other hand, he has not been present much during the day, so the group cannot count on him for designing the presentation. A dialogue between the Demos Helsinki researcher and the group members is presented below in the transcript from the video, where the disturbance in the action is considered a dilemma.

Excerpt 8. from video

*Demos Helsinki researcher:* Do you have a graphic designer?

*Group member:* We have one AD [Art Director], but he hasn’t been around much. The prototype will most likely not be a train [joking].

*Demos Helsinki researcher:* It is important is to have a short description of the context and use most of the time to describe the prototype, the service concept. The more concrete you are the better. (November 3, 2011, group work space).

Later in the workshop data a Demos Helsinki researcher acts upon the dilemma by recognizing that it needs a solution, and seeks to provide one. Late in the evening, after sauna, the Demos Helsinki researcher continues talking with some of the group members about a concerns for visualizations for the presentation. As a possible solution to the dilemma the researcher gives the group photos on an USB stick the following day (in step 8. The Demos Helsinki researcher and a judge visit the group in actions 54–59). She says: “I have some photographs for you that you can use [in the presentation] if you want (November 3, 2011, group work space).” She is explaining that the pictures are connected to a discussion she had with some group members last night. The Demos researcher acts upon the situation, finding a practical solution that goes beyond talking about the problem. What is first a dilemma, becomes a conflict, when the researcher as an authority in the workshop provides a solution.

The conflict is not yet solved with the pictures given by the Demos Helsinki researcher. The slides are being designed, but the frustration of the visuals not being good enough is still visible in the group members’ comments, and leads to going to ask for help from the graphic designer who is working for Demos Helsinki at the workshop. The group is looking through the slides and comment on the visuals and the readability. They need help with quickly finalizing the visuals. Below follows an example of talk where the conflict is visible as criticizing the slides in the Excerpt 9. (9. Starting to work on the slides (actions 60–90), action 86).
Excerpt 9.

Group member 1: So let’s take it from the beginning. The damn base [lay out for the slides] looked so awful. Will we use the same base xx [unclear talk] on the black and white? ... This is difficult, we should have some kind of a poster here. ... It is difficult to read.

Group member 3: Yes, it is a bit difficult to read. I think it’s great that there is that train back ground, but if xx [unclear talk].

Group member 2: What we could do now is get the graphic designer. We could ask him: Could you quickly stylize our presentation.

Group member 1: Could someone go and ask if the graphic designer can come over here?

Group member 4: Yes I can go and ask.

Group member 4 leaves the room
(November 4, 2011, group work space).

A solution to the conflict becomes visible in the data, when the visual communication designer arrives to the group to help finalize the presentation (step 10. The visual communication designer finalizes the visuals of the presentation with the group, actions 91–109). It can be considered a solution since the group members seem content with having the visual communication designer’s help. One group member is smiling openly and saying: “this will turn out fine” (November 4, 2011, group work space).

The conflict is summarized as no design without designer. The group does not possess the kind of visual communication design skills that Demos Helsinki expects, and a researcher steppes in with some pictures for the presentation slides. At the end of the workshop the group asks for support from a graphic designer to finalize the presentation slides, in order for them to be content with the presentation. Demos Helsinki planned for the groups to work more independently on the presentation and than they were able to do in reality.

Feisty Journalism

The contradiction found through the analysis of actions and disruptions in the group work of Feisty Journalism was the inability to collaborate. In the Feisty Journalism data there are 11 steps depicted in the group work, including 143 actions, visible in the Table 17. below. There are more actions in the Feisty Journalism data because the auditorium presentations are included in the data and the analysis.
In the Feisty Journalism workshop group there is one dilemma that develops into a persistent conflict. The first time the conflict is present is during the evening of the first workshop day (step 6. Making of video pitch and planning of final presentation (actions 57–71)). Some group members are gathered in a hall in order to start planning and making of the final presentation. One of the group members takes on the responsibility for making the visual design for the presentation. I will call him the visual communication designer of the group from now on. A visualization for the first page of the presentation creates a conflict between making a sketch of the content or staying on a more abstract level.

The visual communication designer of the group argues that they should leave more space for the spectators’ imagination and focus on the idea and the interaction of the service. Another group member would like to have an image of an interface with titles for stories. Another group member is suggesting that in the lack of a vision, they leave out the detailed interface. The visual communication designer of the group argues that he could do a detailed interface, but they should focus on the idea and create excitement instead. He is also concerned about how to make the visuals. He asks the other group members for a manuscript of the presentation, and wonders if another group member could do the visualization for the front page. At this point there is a dilemma between one hand, wishes about what should be depicted in the slides and, on the other hand, the limits of only one person having professional visual communication design skills.

The dilemma becomes more clearly a conflict when the request for more visualization skills arises again (step 7. Group work starts with new name and design of presentation visuals). The conflict is present (actions 71–79) when the visual com-
munication designer asks the group members if they can make visualizations, and one group member gives a defensive reply.

**Excerpt 10.**

*Visual communication designer:* Can some of you make graphics? Or something? Okay. [laughing]

*Group member:* Can anyone of you do anything.

*Visual communication designer:* That’s not how I meant it

(December 2, 2011, group work space).

The conflict continues (step 8. *Group work, sparring and aggravation of conflict* (actions 80–100)), as group members are trying to help with the visualization, but end up having nothing to do. Meanwhile, the visual communication designer is expressing a need for help with the slides and wanting to make them as good as possible. One group member expresses her feeling of not knowing what to do – even feeling paralyzed. She continues by suggesting that the whole group looks at the visualizations and the manuscript for the presentation together. She later continues by saying that she does not know what to do.

**Excerpt 11.**

*Group member:* I think we should now make sure we have the visualization and the story [manuscript] in line...

*The visual communication designer:* Absolutely

*Group member:* ...in the same direction

*The visual communication designer:* Is the manuscript ready? And I would like to have feedback on this visualization. I am a bit insecure.

...  

*Group member:* I am a bit confused, what can I do?

...

*Group member:* I am somehow completely paralyzed

(December 2, 2011, group work space).

There is a difference in opinion concerning what is needed for the presentation. The visual communication designer says that he does not trust his own skills at the moment, but that he would like to make the visuals good, since they are an advantage to the group in the presentation. He needs to concentrate and there is a lack of time. Simultaneously other group members are questioning whether the slides are not already good enough; they are suggesting that the visual communication
designer of the groups is trying to make them more complicated than they need to be.

The differences concerning the presentation are visible still at the very end of the workshop (step 10. Small group work, sparring and visit by the judges (actions 107–126)). The visual communication designer is expressing dissatisfaction with the visuals, and a lack of a last slide, while the group member who has developed the original idea is explaining that the slides are not really that important. She is looking at the slides now for the first time.

**Excerpt 12.**

*The visual communication designer of the group:* Damn it. These slides suck. Why don't we have a concluding slide about our next steps and all?

*Group member 1* [walks over and looks at the slides on the laptop]: I haven't even seen them.

*The visual communication designer of the group:* But I will not change them anymore, there is no time anymore. Because I have to think about the fucking presentation.

*Group member 1:* And they don't [matter], slides are slides ... I think that is kind of cute [first slide] (December 2, 2011, group work space).

Even though the expressions are strong, and point to a critical conflict, the solution is more in line with that of a conflict, where instead of finding a new solution, the group is submitting to the authority of the visual communication designer. In the end he makes the decision of what is done as can be seen in the excerpt 17 below. He says that he can make a further last slide that the group member is asking for, but than he won't give the presentation, since he has no time to prepare for it. The group member does not push further, but agrees with the visual communication designer.

**Excerpt 13.**

*The visual communication designer:* I'm sorry, I wish I could [do it]. If you wanna give the presentation...

*Group member 1:* That's good. That's the thing [pointing at the last slide].

*The visual communication designer:* Yes, it would be nice to have the next steps here but there is no time. Sorry.

*Group member 1:* yes (December 2, 2011, group work space).
In conclusion, the conflict is described as *inability to collaborate*. The visual communication designer and the group have difficulties in working together. The group members ask for visualizations that the visual communications designer does not want to design and they try to participate in the design in ways that the designer does not react to. They also undermine the importance of the visualizations and expect the design to be quick and easy to make. This is visible in comments like: “Now just make this look good.” The visual communication designer expresses anger because he is under a lot of pressure, and has to do the work on his own. He would like to have feedback, but most of the group already finished their work.

In conclusion, the two conflicts visible in the Peloton workshops are: *no design without designer* and *inability to collaborate*. In one of the groups the main issue is, that the group does not possess the kind of visual communication design skills that Demos Helsinki had expected. The group requires assistance from Demos Helsinki in visual communication design, which is supposed to be done by the team members themselves. In the other group the collaboration between the visual communication designer and the other members of the group is difficult, because there are unrealistic expectations towards the visual communication design and little ability to assist, participate or give feedback. In both groups it seems, that what is supposed to happen as collaboration between group members and in parallel with the concept development, becomes a separate task in the group work.

**Primary contradictions**

The primary contradiction, between use value and exchange value that becomes visible in the visual communication design of Demos Helsinki, is that while they value visual communication design, see the quality of it and choose to work with visual communication designers, they have difficulties in finding designers with whom the collaboration lives up to their expectations. The use value of design is good, but the use value of a designer is not necessarily high enough for Demos Helsinki. Meanwhile the exchange value, paying a visual communication designer, is high, and they don’t often find the collaboration fulfilling. Instead they often feel that the designer does not understand the content well enough, or the service of a larger design agency is too expensive.

This primary contradiction can be seen in the contradictions present in the interviews. Here it is visible in what Demos Helsinki considers relevant when hiring a visual communication designer. In the contradiction *content versus visualization*, Demos Helsinki researchers emphasize the need to deeply understand the content, and making design decisions based on the presentation of the content. In good collaboration the design ideas are discussed together with Demos Helsinki researchers, who are participants in the process, instead of the design being based on a clear brief. This becomes clear in the contradiction *collaboration before outcome*. The DIY attitude towards design is present, as in the contradiction *do it
yourself, but value quality, where there is value seen in both the ability to do your own design, and in the value of the work of a professional designer. That Demos Helsinki researchers want to influence the design also by being able to choose who does the visual communication design of rapports and other content that they do as commissions, is present in brand or project. The results of the analysis of the contradictions show, that the use value of visual communication design is very big for Demos Helsinki. They are incorporating aspects of it into their own work, and try to do as much as possible themselves.

Secondary contradictions

I consider the Peloton workshops as experiments that contain solutions to the secondary contradiction. The secondary contradiction is a need state, that is formed by the primary contradiction. In the case of Demos Helsinki, the need state is to find collaborators in visual communication that is affordable, designers who are willing to collaborate, and designers who have a good understanding of the content. The Peloton workshops are one way of answering to this need.

First of all, as the teams are responsible for both developing content and the visualization of it, all team members ought to develop a good understanding of the content of the presentation, the business model. This way the content versus visualization contradiction is overcome. That the presentations of the business ideas that are developed during the workshop are to be done by the group members themselves is a new way of working, a new tool and a new division of labor. Previously, Demos Helsinki researchers were part of the workshop groups, functioning as the leaders of the groups and as the person responsible for the presentation. Now both tasks are given to the groups. While the designer is part of the group that is developing the business concept, the issue of the designer not understanding the content is solved.

Secondly, Demos Helsinki has invited designers to join the workshops and designed the teams in a way that would place a designer in each team, making it possible for better collaboration on the presentations. The contradiction collaboration before outcome can be overcome, as the responsibility is on the team. Designers have not previously been invited to the workshops, and Demos Helsinki is trying out a new type of collaboration in the Peloton workshops. In the Peloton workshops there is emphasis on developing the business concepts through the making of prototypes. Business concepts can be considered part of a new object for Demos Helsinki.

Finally, the design is affordable, since the participants are volunteering to the workshops. The contradiction do it yourself, but value quality is solved, as the design that is made in the teams does not require additional expenses into design work. The idea of the Peloton workshops is that they support developing the participants own business ideas. Each group develops one business idea further. The
owners of the business idea are part of the group, and the task of the other members is to further develop the idea. The participants have applied to take part in the workshop and they have been chosen and placed into groups by Demos Helsinki researchers. They get accommodation and food during the workshop, and in addition to that, the learning experience of the workshop and the networking possibility can be considered to be the main reward. The possibility to actually win the competition and get financing for the realization of the business idea can be a further motivation.

**Tertiary contradictions**

The conflicts that take place in the group work, the inability to collaborate, and no design without a designer, are considered a tertiary contradiction. Tertiary contradictions appear in actions of implementing the new model of activity (Engeström, Rantavuori & Kerosuo 2014, 86). Tertiary contradictions are visible between the old and new activity systems (Engeström 2010). Demos Helsinki is solving the secondary contradictions with the Peloton workshops, but things do not go as smoothly as hoped for.

The new activity functions partially. The teams give their presentations, but Demos Helsinki needs to use some of the old tools in order to get a successful result for the workshops. Even though the setup of the groups gives the possibility for collaboration, the conflict, inability to collaborate, shows that there are difficulties in collaboration between the visual communication designer and the rest of the group. Instead of good collaboration, the end result is that the visual communication designer works mainly alone on the final presentation, stressed, and separated from the rest of the group. In the other conflict, no design without a designer, the visual communication design skills do not surface, and Demos Helsinki steps in to help with photographs and a graphic designer. From the point of view of visual communication design it seems, that the secondary contradiction is not completely solved by the model proposed by the workshops.

**Possible Quaternary Contradictions?**

The conflicts in the Peloton workshops could also be considered signs of quaternary contradictions, since the workshops are facilitated and organized by Demos Helsinki, but included participants from various types of organizations. Even though it is possible, that they are familiar with the way Demos Helsinki works, it is likely, that the object of Demos Helsinki is somewhat different form that of the participants.

Further, the contradictions that Demos Helsinki has in visual communication design, can be considered quaternary contradictions to begin with. The way Dem-
os Helsinki is collaborating is starting to influence the way visual communication designers work to an extent, that visual communication designers have to change their activity. Now, the Peloton workshops would be a place where the different types of activity systems meet. If this is the case, we need further analysis on the impact of the Peloton workshops on the neighboring activities.

More data of what happened after the workshops would help to solve this issue. The collected data does not show what happens after the workshops concerning the collaboration with visual communication designers. Therefore it is not possible to say what conclusions Demos Helsinki makes from the workshops and how their activity continues.

Table 18. Primary, secondary and tertiary contradictions in the visual communication design of Demos Helsinki.

<table>
<thead>
<tr>
<th>Type of contradiction</th>
<th>Theoretical definition</th>
<th>Contradiction interpreted from results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary contradiction</strong></td>
<td>Between use value and exchange value</td>
<td>The use value of visual communication design is very big for Demos Helsinki, but finding affordable designers, who have a good understanding of the content is difficult. Meanwhile, Demos Helsinki makes a lot of their own visual communication design.</td>
</tr>
<tr>
<td><strong>Secondary contradiction</strong></td>
<td>Between the nodes of an activity system</td>
<td>There is a need for better collaboration between visual communication designers and Demos Helsinki researchers. In the Peloton workshops designers are brought in as group members to develop business concepts.</td>
</tr>
<tr>
<td><strong>Tertiary contradiction</strong></td>
<td>Between new and old activity</td>
<td>The collaboration concerning the visual communication design in the Peloton workshops is not easy, and the visual communication design becomes a separate task from the development of the business concept.</td>
</tr>
</tbody>
</table>
Summarizing the Main Contradiction in Visual Communication Design of Demos Helsinki

In conclusion, the results of the analysis answer to research question 1.2. What kind of contradictions are present in the visual communication design of Demos Helsinki. The found contradictions can be summarized as the following contradiction: 2. The development of content and concepts versus the overall quality of the final outcome. The three contradictions that the main contradiction is based on are a primary, a secondary, and a tertiary contradiction.

The primary contradiction present in visual communication design of Demos Helsinki shows that there are difficulties in finding the type of designers who are willing to start collaborating early on in the idea phase and include Demos Helsinki researchers ideas and opinions to the process. Meanwhile, the designers should be affordable to a small organization.
The primary contradiction is visible in the secondary contradiction: while they do a lot of the visual communication design themselves and they have incorporated design thinking to their working methods, they recognize that in certain situations a professional designer is needed, and they are trying to develop new ways of working with designers. The Peloton workshops are one possible solution to the secondary contradiction, where designers are included to develop business concepts, as members of workshop groups together with other group members.

The conflicts that are present in the group work are tertiary contradictions, showing that the new way of working is not yet functional, the groups are not able to collaboratively design the visuals, and as a partial solution old tools and an old division of labor are implemented.

In this chapter I have presented the contradictions found in visual communication design of Demos Helsinki and answered to research question 2. The last part of chapter 5 answers to the main research question by further interpreting the results that have been presented and by emphasizing the historical context of the found contradictions.

5.3. The Historical Contradictions in Visual Communication Design

The main research question is: 1. What kind of historical contradictions are present in visual communication designers' work? The contradictions tell us about what kind of change is taking place in visual communication design, and give us possibilities to consider how the field is developing. As the contradictions are part of activity that the visual communication designers participate in, we also see how the designers are affected by changes in the surrounding context of designers' work.

The question is answered in this chapter by elaborating on the results of the sub questions. As clarified in the previous chapter, the two main contradictions present in the case studies of this thesis are: 1. The development of novel, more collaborative ways of working with evolving content versus the overall mastery of the visual communication design. 2. The development of content and concepts versus the overall quality of the final outcome. In this chapter the historical context is added by using both the historical types of work presented by Victor and Boynton (1998), and the historical stages of the different roles of the designer by Valtonen (2007). The historical context is further supported in the discussion section with contemporary research.

This chapter starts with summarizing the case specific historical context in each case, using the activity system to clarify for the change that has become visible through the analysis, and the main contradiction for each case study.
A Contradiction Between New and Old Activities

At The Magazine in 2011, the historical situation is a point in the process where paper magazines with strong editorial offices are developed into brands that are accessible through different platforms and are made in collaboration between different content producing teams. Readers and advertisers are moving away from the printed magazine, while the media company does not yet have an income model for web based platforms. Changes in the publication forms result in changing from independent editorial offices to working in various teams with different brands of the media company.

The activity system can be used to further illustrate the contradiction *The development of novel, more collaborative ways of working with evolving content versus the overall mastery of the visual communication design*. It can be considered a contradiction between new and old activity, where all aspects of the activity are changing.

The old activity where the AD is the subject meant doing actual visual communication design (tools) and management of the work of the graphic designers, focusing on the printed publication (object) together with the editorial office (community). The content was varied, creating a situation where many of the design solutions were made ad hoc to each publication (rules). The journalistic content came first, and the design was done in the end (division of labor).

Below you see a figure depicting the old and the new activity systems of visual communication design in the editorial office of The Magazine with the AD as the subject. In the new activity the object changes from the printed magazines to a

**Figure 10.** The old and the new activity systems of visual communication design at the editorial office of The Magazine.
variety of publications, such as the iPad version of the publication. The tools of the Ad change, from doing actual visual communication work towards management tasks, where the AD is supposed to join meetings and join in the planning of content with different teams within the company. The structures and the design principles of the publications determine the journalistic content.

Towards Business Models and Products

At Demos Helsinki the Peloton workshops in 2012 are part of a new type of collaboration, where designers are included in the development of business concepts and Demos Helsinki emphasizes their role as facilitators: business concepts and their presentations were designed by workshop groups. Demos Helsinki emphasize their own role as facilitators instead of previously participating first hand in the group work as leaders of the groups, and as the presentation designers. Design thinking is strongly implemented in the way the facilitation is planned and Demos Helsinki identifies design thinking as something that verbalizes their way of working, even if it would not bee a conscious choice of terminology. At Demos Helsinki this means focusing on solving wicked problems, designing real solutions and creating real alternatives. We can describe the contradiction *The development of content and concepts versus the overall quality of the final outcome* in the activity of Demos Helsinki using the activity system.

The researchers present quite clearly the improvement of society as their aim (object), more specifically in the Peloton project: creating a low-carbon society. They claim design thinking as central in their work (tool). They emphasize a col-

Figure 11. The new and the old activity systems of visual communication design of Demos Helsinki.
laborative way of working (division of labor) and have a large network of people they work with (community). When working, they are quick in making changes and implementing new elements to their work (rules).

Below you see a figure depicting the old and the new activity system of visual communication design of Demos Helsinki. The major shift in the Peloton workshops is that instead of facilitating workshops, writing publications or giving presentations, Demos researchers are facilitating the creation of business models and new products. Further, they were bringing in designers into the workshop groups, to participate in the community in a new way.

Next I will consider how the found contradictions reflect historical types of work (Victor and Boynton 1998) and what historical contradiction is present in the work of visual communication designers. The historical types of work have been presented in chapter 1.3. From Craft to Co-configuration.

**The Strong Presence of Craft**

In both case studies, the visual communication design is connected with the personal skills of the designers, which is typical for craft work.

In the case of The Magazine, the AD has a particular position to work on the update, since he knows the content of the magazine and the practices of the editorial office first hand. In addition, he works on the update mostly at home, which shows that the developing of the visuals is mostly done independently. He presents the solutions and the alternatives at the office to two graphic designers, and confirms the decisions with the editor-in-chief and a visual communications consultant. The AD is clearly in charge of the whole process, and designs all the new alternatives including the design of the logo type, typography, color and layout. But, instead of craft work, the personal style of the AD is never mentioned as an aspect of the visual update. Instead more objective standards are emphasized, such as clarity of reading.

Interestingly, in both case studies, the environment where the design processes takes place could be considered to show elements of craft work. The editorial office of The Magazine has a highly independent work process, with almost a family business type of organization. The content is very specialized and the editors and journalists who work with the publication emphasize their expertise of the content rather than journalistic skill. This could be a reason why also the AD is able to work in a crafty manner, or he is expected to do so. Further, the AD and the graphic designers way of working supports the crafty editorial office as their work often means constantly addressing new visual challenges of the “story train” structure of the publication, which is rich with a variation of content.

The way Demos Helsinki researchers work can also be considered crafty. They rely on personal insight and informal, community like, communication. What on the surface might seem transparent and open becomes inaccessible, when want-
ing a more profound insight of their working methods. My presence at Demos Helsinki was easily accepted, and it was easy to get in touch with the members, even if I did not know them from before. But, much of the decision making happens at unofficial meetings that are more excluded, even what could be considered private discussions. The way that the members of Demos Helsinki worked at the time, was kind of a 24/7 connectedness. They address different projects and questions when needed, often ad hoc on the spot, rather than in a planned process. Further, many discussions take place outside the office. As one member put it, her friends were already used to her always carrying her work laptop to parties. This informal fluidness can be seen as an aspect of craft work.

The different ways of approaching innovation shows that in addition to craft, the two case studies have aspects of other types of work present. Demos Helsinki clearly emphasizes creativity and innovation. They seem to be open to new solutions and new collaboration. Demos Helsinki is quick in making changes and trying out new solutions to the point, that it is stressful to some of the members, as they cannot trust that a shared plan will be followed. New ways of working and new concepts are quickly implemented. Meanwhile, as the data shows, change was slow at The Magazine, where the history and the old ways of working were valued as the personal aspects of the publication that should not be changed, but strengthened.

A Leap from Craft to Process Enhancement at The Magazine

The crafty way of working at the editorial office seems to be changing towards something that has elements of several historical types of work. Firstly, there are elements of mass production. The publication can already be considered a mass produced product, since it is printed on paper and sold in masses. Still, some of the changes yet to be made, show signs of mass production. As mass production aims at limiting changes and making production processes fast, the editorial office is in the process of introducing more planning of the content, instead of puzzling together each publication from a constantly changing variety.

Within the editorial office, there is a move towards more planning and repetitiveness, with elements of mass production brought into the crafty editorial office. But, on the level of the media company, there is already a move towards process enhancement, as the printed magazines become brands, and the organization of the work processes at the media house are changing towards teams and a more intensive process flow that is constantly developed. New more collaborative ways of working are being developed at the media company. Aiming at working with different publications instead of mastering all aspects of visual communication design of one publication. Therefore, the contradiction present at The Magazine is most clearly a contradiction between craft and process enhancement.

The fact, that the editorial office is not only changing from craft type of work to mass production, but directly towards process enhancement, can explain why
the change is so difficult for the editorial office. Sharing of tools with the other brands of the media company is a big step to the editorial office that is used to developing and using their own tools. Whereas The Magazine is further developing their old product, Demos Helsinki is facilitating a process that aims at making changes in society, though completely new products.

**Skilled Design or Applied Knowledge**

The work of Demos Helsinki, and the Peloton workshops in particular, have aspects of mass customization and swarming in particular. Mass customization means a modularization of products, and the Peloton workshop can be seen as such a product. The developers of the business models are the users of Demos Helsinki services, where the customized products are the facilitation of the development of the different business concepts. Simultaneously, while products are being designed, there is a network and community being developed. In swarming a collective peer production takes place with an open endedness and a loosely defined community (Engeström, 2009). The Peloton workshops include the idea of a continuous process of development, where the Peloton workshops are one part, which supports a larger societal goal of a low-carbon society. By bringing together a loose network of peers and people who are in a position to develop a business, something new is expected to happen.

Demos Helsinki applies architectural knowledge, which is needed in mass customization. Their skills emphasizes facilitating a process by bringing together people with different skills and creating functional teams. They expect people to apply their skills to developing something new. Workshop participants are both participating in order to develop a business model for someone else to pursue, and members who are seriously considering starting the new business. When quick co-ordination and co-operation with new people and a new environment as in mass customization is needed, a visual communication designer with a craft type of way of working is in trouble. The designers are expected to participate in concept development, which is a new way of including designers in the process. That the teams were expected to design high quality presentations of the business concepts is a new element of Demos Helsinki’s facilitation.

The contradiction present in the visual communication design of Demos Helsinki seems to be a contradiction between craft work and mass customization work. Present are the contradictory expectations of simultaneously using the designer as concept developer and a skilled visualizer. These tasks reflect two different historical types of work and do not seem to be easily combined. There is frustration in visual communication design collaboration in the group work. The making of the presentations becomes separate from the concept development. In one group a Demos Helsinki researcher steps in with some additional visual material and the so called in house designer of Demos Helsinki finalizes the presentation design. In
the other group one participant starts working more or less independently on the presentation, while others focus on developing the concept.

**Different Historical Types of Work Visible Simultaneously**

The different types of work can be presented as following each other in time, creating the sense that one type of work follows another, and the time for a certain type of work is limited. Victor and Boynton look at the different types of work as different steps in the history of a company and recommended steps in developing products. Likewise, Valtonen positions different roles of the designer in different time frames visible in industrial design mainly through Nokia, but connects it with the development of industrial design more broadly. (see chapter 1.3.) Still, it seems based on the results, that there are aspects of the different historical types of work present simultaneously.

First of all, there still seems to be a need for what Valtonen connects to the 1950’s product aesthetics and “styling” (Valtonen 2007, 306), in the use of visual communication design. The visual update of The Magazine focuses on the aesthetics of the product. Likewise in the Peloton workshops of Demos Helsinki, the focus on aesthetics of the final presentations of the business concepts shows that there is a need for skills in aesthetics and styling.

Secondly, in the case of The Magazine, The AD is working as a creator on a product, but the media company is perhaps looking for the AD to work as a coordinator, who could coordinate between different publications and different publication forms. This perspective of the media company positions the AD in Valtonen’s terms to the time of design management in the 1980’s, where road maps are used and the designer is more of a coordinator.

Thirdly, innovation and competitiveness, which Valtonen claims to be a visionary process of the 2000’s, corresponds well with the way Demos Helsinki uses design thinking when facilitating workshops. The researchers refer to design thinking as a central tool for them and use design as an innovation driver. Likewise, designers are invited to the workshop groups in order to develop business models, showing that design is used for innovation.

**Summarizing the Main Historical Contradiction**

After considering how the contradictions visible in the case studies reflect the different historical types of work (Victor and Boynton 1998), and the different historical stages of the designer (Valtonen 2007) my conclusion is, that the historical contradiction in visual communication design can be summarized as: How can craft skills be successfully combined with collaborative processes and concept development? The historical contradiction is based on the findings in the case studies.
The dilemmatic visual update of The Magazine shows how the AD is positioned between pressure from the media company to develop new ways of working across editorial offices, and making the visuals of the paper magazine functional in an iPad version. The AD is used to focus on the paper magazine together with the rest of the editorial office, where they have developed their own particular tools and traditions in content production. The contradiction in the work of the AD is 1. The development of novel, more collaborative ways of working with evolving content versus the overall mastery of the visual communication design.

Further, the dilemmatic update can be considered from the point of view of historical types of work, and historical roles of designers. Now the media company can be considered to promote aspects of process enhancement logic, with emphasis on design management. Meanwhile, the editorial office and the AD represent a craft type of work, where a product is being created, and stylistic elements are important.

The case specific contradiction present in visual communication of Demos Helsinki is: 2. The development of content and concepts versus the overall quality of the final outcome. Design thinking is considered useful in concept development, for example in prototyping and there is a lot of design work that can be done with a DIY attitude. Still, when promoting new ideas and concepts, and seeking to reach new audiences, a professional visual communication designer is needed, in order for the content to be convincing.

From the point of view of historical types of work, and historical roles of designers, there are elements of craft work both in the way Demos Helsinki researchers work, and in the way visual communication designer that they collaborate with works. The importance of the aesthetic detail of the final presentations of the workshops and the informality of Demos Helsinki researchers, whose personal values are present, are craft type of work. But in the work of Demos Helsinki researchers there is mass customization taking place, as their skills include facilitating processes and creating functional teams.

In the Discussion I consider how this historical contradiction connects with the current topics in design research and in the design field: How can craft skills be successfully combined with collaborative processes and concept development?
6. Discussion

“designers’ identities are constructed flexibly and purposefully depending on the context, goals, and tasks at hand.” (Björklund, T. et al. 2020, 107)

In this chapter I reflect on the contribution of the results of this work to design research and propose a theoretical contribution to understand visual communication design as activity. The limitations of the study and further work are discussed in the end.

A Contradiction Between Craft and Design

Designers work under financial, technical, and cultural conditions that propose constrains, even if not always recognized and sometimes taken for granted (van Mastel et al. 2016, 202). Further, the social aspect of professional networks such as colleagues and clients can support or hinder designers to succeed in their work (Björklund T. et al. 2020, 104). In design research, there is increasing interest in investigating design practice in particular social and material context, as design practice takes several forms depending on the type of the design (Laamanen & Seitamaa-Hakkarainen 2014, 196). The nature of professional design is considered organizationally embedded (ibid., 770) and this thesis further shows the variation and complexity of visual communication design work.

Craft is persistently, and in multiple ways, present in visual communication designers work, and visual communication designers need to figure out how they relate to the demand of high visualization skills. In graphic design in beginning of 21st century the personal and specialized is still in use, as it was in the 1990’s when graphic design became recognized as its own subdivision of knowledge, using the terms typography, illustration, photography and printing as the tools for persuasion, information and instruction (Harland 2011).

But, also designers collaboration in engineering, architecture and plant engineering, show that while collaboration between different stakeholders in the design process was of critical importance in the design process, most of the time was
spent working individually (Lauche 2005). Visual communication designers need to be able to distinguish between the different demands of different design processes, and different stages of the process, and to be able to articulate their input and participation. Visual communication designers benefit from strong conceptual skills, that gives access to consider different professional positions and different types of participation in different phases of design processes.

Visual communication designers struggle between contradictory expectations, that show themselves in a particular ways depending on the work context. The contradiction is visible in both case studies: How to use craft skills in collaborative processes and concept development? The designers are positioned between the idea of designers having a high mastery of visualization skills, and a very different idea of a designer: An AD who manages and plans visual content across brands and publication devices, and a designer who participates in a design thinking process of concept development.

In both cases there is a degree of separation from the editorial office, or concept development in a group, in order to concentrate on the visualization. When the AD of The Magazine is designing a visual update, the surrounding editorial office is not yet ready to make changes in their work, and the visual update becomes limited. The update has to be designed in a manner that allows others to continue their work as usual. The designer who participated in a workshop to create new business models founds himself working alone and in a hurry on visualizations for a presentation, since he is the only one in the team who has visual communication design skills.

A difference between craft and design is present in design research. Design is connected to thinking, while craft emphasizes the making, creating a separation between making and thinking (Groth 2017, 15). In design thinking the emphasis can be on multi-voicedness and collaboration in sharing and developing ideas in a site for designerly conversation (Lloyd 2019, 175). Further, design thinking has succeeded outside the design discipline to the extent, that design thinking can be a more familiar term to people than the design discipline (ibid., 174-175).

Both case studies showed contradictions where design activity was changing in the way that visual communication was used. These changes in activity might have resulted in a need for visual communication as a field to change. While this thesis has been finished the field that was called graphic design has been transforming to visual communication design. Visual communication design can be considered to have evolved from graphic design through the implementation of human-centered design methods and the emphasis of utilitarian and practical issues (Mejía & Sauman 2014, 30).

Product-centered design disciplines have developed towards more conceptual forms while the need for more products has changed into the need of developing services, systems, organizations, sustainability, societies and new futures. Meanwhile, the visual artifacts have not created a similar change, but transferred from
paper format to electronic publishing. From the results of this study, it seems that the exchange value is focused on design thinking, concept design and the management of content in different publications, but the visualizations still have use value. The use of the visual artifacts is not disappearing.

In the Peloton workshops there seems to be the expectation, that the inclusion of a designer would both facilitate design thinking and the design of the presentation of the concept. The presentation design of the Peloton workshops can be considered to aim for high Perceived Finishedness, which was counteractive for developing the concept. Low Perceived Finishedness, such as a hand made sketch, can increase a groups interaction and modifying of the content (Bresciani 2019, 105). As the presentation aimed at presenting the new business models with high Perceived Finishedness, the simultaneous developing of the concept became difficult, and the visual communication design was separated from the developing of the concept. It has been recognized, that there is a potential for improvement for introducing digital tools that support idea development (Seitamaa-Hakkarainen et al. 2016, 176). Different kinds of materials seem to stimulate different kinds of exploration in co-design situations (Heimdal & Rosenqvist 2012).

The same designers should necessarily not be integrated in a project from start to finish, but in prolonged processes, designers should be included depending on the need of each development phase (Murto 2017, 182). There is a need to clarify between different types of visualizations and their use in design processes. Visual communication designers could be more aware of what type of collaboration they are expecting or wanting to support with the type of visualizations that they present or make in a certain project.

The historical contradiction in visual communication design can be considered a primary contradiction of the use value and exchange value of visual communication design, crystallized below in Figure 12. The question is, whether there is exchange value in skilled visualizations where craft is strongly present. Only con-

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**Figure 12. The historical contradiction in visual communication design between craft and design.**

[Diagram: Crafted visualizations ↔ Visuals for co-designed concepts → New ways of doing visual communication design]
ceptual skills, where the exchange value seems to be, are yet not enough. There is perhaps a need to develop a stronger connection between design of visual communication and elements of design thinking or co-design. Or, develop completely new conceptual elements and technologies, that make it easier to discuss the conceptual phase of visual communication and allow different types of participation.

**Visual Communication Design Becomes Activity**

“design space is determined by multiple conditions that contradict each other: economic, cultural, stylistic, cognitive and others. These conditions are neither internal, nor external to design activity, but constitute the material base where from design activity emerges. This means design activity is not an individual cognitive activity, but a social pragmatic activity aimed at changing these material conditions.” (van Mastel et al. 2016, 220)

Since design problems are defined openly, they are complicated and to be able to solve them we need knowledge from different knowledge areas and co-operation between different actors (Seitamaa-Hakkarainen et al 2017). The international research done on design actions has grown rapidly and it has focused on design or crafts design as knowledge intensive professionalism (ibid.). Decisions and choices in visual communication design become understandable only when looking at visual communication design as activity where the object is shared with a client or content provider. Further, the community, division of labor and the rules need to be considered in relation to this activity.

According to Engeström “activities are open systems that depend on one another, forming various kinds of networks and partnerships around partially shared objects. Thus, in today’s interconnected world, it is often useful to take two interdependent activity systems as the minimal unit of analysis”. (Engeström 2009, 24)

On the next page you see a figure proposing how visual communication design activity could be depicted using the activity system. Here two activity systems are present: one called design activity, and one called the activity of the client. The client can be any type of collaborator, societal or commercial. The lower part of the activity system (rules, community and division of labor) of the designer becomes constructed in relation to the collaborator.

From the perspective of visual communication design education, visual communication design activities need to be seen as a practice integrated into a critical research enquiry at the front end of research both framing and directing research agendas (Gwilt & Williams 2011, 82). Further, “the role of the designer has radically expanded and diversified in recent years. Being a designer is not so much about making ‘a medium’, for example a poster or book, but has become more directed at guiding or intervening in media-processes and about understanding how media
structure and influence society. Design has often been seen as having either an aesthetic market-driven view of stimulating passive consumers in order to make profit with a history in industrialization and technological development, or as socially useful design, driven by social change or social need and economies that are not striving to create private profit (Thorpe & Gammal 2011). Designers these days can be involved in a wide array activities, ranging from research, teaching, filming, editing and curating; their work is not ‘cut out’, rather, designers are increasingly inclined and challenged to initiate their own projects and create hybrid forms of communication (Sandberg Institute 2012, 4).

**Methodological Insights**

The application of concepts from activity theory that have been developed for interventions, and in particular the change laboratory, seem to give interesting results when applied to ethnographic data of design processes. In this study, the concept of contradictions has been used extensively. First, the discursive manifestations of contradictions (Engeström & Sannino 2011) are used in the analysis. Secondly, the contradictions that respond to the expansive cycle (Engeström 2010) are used to interpret the results of the analysis and form the historical contradiction.

It seems, that by locating contradictions, it is possible to point to particular challenges in the design process that influence directly the final design. The examples that are visible in the case studies give insights to visual communication students and professionals to what aspects of their work needs supporting. Further,
they points to the importance of facing challenges collectively, instead of pressing
the individual designer to seeking a creative solution.

Looking at the contradictions present in the case studies shows the difficulty
of making something truly new. Designers are familiar with the frustration of hav-
ing to compromise on which ideas are developed further. Some designers choose
to work for less pay with clients that give them more freedom in the design pro-
cess, just for the pleasure of not being limited in the process. The contradictions
visible in the design processes highlight the reasons why change is demanding,
if not impossible, and clarify for why even a small change can seem big from the
designers’ perspective.

The Media Concept (Töyry & Helle 2009) worked well in depicting the differ-
ent levels of the media organization. The levels assisted in recognizing the differ-
ences in change on the different parts of the organization, resulting in a dilemma
in the design of the visual update.

Limitations

The limitations of this work are considered from the point of view of the use of the-
ory, the methodology, the analysis, and the historical context. Further work pro-
poses the use of activity theory for better understanding the context of design.
Understanding contradictions can be useful when design is to be used for societal
change and we need concepts for studying the possibilities and challenges there.

This work is using concepts from cultural historical activity theory to under-
stand change in visual communication design. Even though it offers a rich set of
concepts that are applied to a variety of fields of study, it still offers only one theo-
retical perspective. In this thesis there are supporting concepts, such as the Media
Concept, and the historical types of work. They were chosen, since they have been
proven useful from the perspective of activity theory.

The Media Concept has been developed on the basis of cultural historical ac-
tivity theory. The historical types of work have been used in several writings of
activity theory. A dialogue between activity theory and another theory would have
been fruitful and would have significantly added to the value of the reflections of
the theoretical concepts and the discussion of the results.

Activity theory and the expansive learning cycle are often connected with in-
terventions called change laboratories. The analytical tools and theoretical con-
cepts are used together with the participants of the change laboratories. This work
was not an intervention, but the analysis, or parts of it, could have been done in a
dialogue between the research sites. Especially in the case of Demos Helsinki, it
could have been fruitful to invite their own researcher to discuss some of the pre-
liminary results, and get feedback from the field before making conclusions about
the present contradictions. This would have added to the credibility and reliability
of the conclusions.
The ethnographic data collection was done by one researcher only, which poses a limitation in this thesis. There was a plan for including Demos Helsinki researchers in collecting data, but it did not work in practice. There was no data received. The support of a research group that shares the research site and collects data together would have made the case studies richer with more dimensions, as there would have been more researchers looking into the same case, and data collected by different people who pay attention to different events. Making decisions on the spot and alone is different from discussing them with a group. If the data collection had been part of a larger research effort, it would have possibly added also to the time frame of the data, and allowed for a wider perspective on what was taking place.

A larger, long term research effort, would have been relevant, since the work is looking at development and processes, which happen over time. Considering, that the data was collected in 2011 and 2012, there would have been a possibility to follow up on what happened in the sites after the data was collected, since there is a gap in time from the collection to the publishing of the thesis. From the point of view of how the contradictions developed further, this would have been interesting. Now the time frame is limited, leaving questions unanswered.

A more thorough historical overview of the history of the case studies would have given a more robust context. There is the possibility, that the promised anonymity of the AD of The Magazine would have been lost if more information on the particular publication and its history would be given. Perhaps allowing the anonymity was a wrong decision, and should not have been promised. Considering that the historical context is relevant in understanding the contradictions, the somewhat light historical context can be considered a limitation.

The choice of concentrating the historical perspective on the historical types of work of Victor and Boynton is a choice that leaves out other historical perspectives, which might have been relevant. Since both case studies are located in Finland, a perspective, that takes the development of the Finnish design tradition more into account could have been useful, for example reflecting on the industrialization of Finland. The point of view of Valtonen could have had a more leading role in the dialogue with the found contradictions. The decision to use the historical types of Victor and Boynton were a way of creating a different way of looking at history as different ways of working, instead of connecting to a larger story of Finnish design in particular.

**Further work**

If design is to truly help in creating a better society we need to find the activities that can share the outcome with designers, and participate in constructing the rules, community and the division of labor that is needed. By looking at visual communication design as shared activity where the outcome and the object are
shared, or partially shared, with another activity, the role of the designer can be positioned in the collaborative world, where futures are being created.

Further research on how new collaboration between visual communication designers and their clients is established and what types of challenges are present in the collaboration would show us where we need to develop in order to change our activity. Contradictions seem to be a useful tool for locating challenges in order to assist development.

If we look at visual communication design as activity of only the designer, we lack understanding of the larger context the design is participating in, and end up with a limited view of looking at the visualization tools and the brief, without understanding the whole context of the work: Why the design is needed, how the decisions are being made, for whom design is intended.
7. References


Madyarov, I., & Taef, A. (2012). Contradictions in a Distance Course for a Marginalized Population at a Middle Eastern University. *The International Review of Research in Open and Distributed Learning, 12*(2), 77–100.


Madyarov, I. & Taef, A. (2012). Contradictions in a Distance Course for a Marginalized Population at a Middle Eastern University. *International Review of Research in Open and Distance Learning, 13*(2), 77–100. DOI:10.19173/irrodl.v13i2.1180


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8. Appendix

Structure of Interview Questions for Demos Helsinki

What is your work task?
How has your work changed during the past few years?
What would you like to develop or change in your job?
How would you describe Demos Helsinki?
How has Demos Helsinki changed during the past few years?
How would you describe Peloton?
What is easy about Peloton? Can I get an example?
What is difficult about Peloton? Can I get an example?
What does design mean for Demos Helsinki?
How is it visible in the daily activity of Demos Helsinki?
Can you give an example of a project where it is visible?
Can you give an example of a project where it was not successful?
What kind of collaboration do you have with designers?
What kind of designers do you collaborate with?
How has that collaboration changed during the history of Demos Helsinki?
What has been good about the collaboration with designers?
Can you give an example?
What has been difficult? Can I get an example?
How would you like to change or develop the collaboration
with designers?

Interview question structure at The Magazine

Your work task
What is your work task in the magazine?
How has your work changes during your time at The Magazine?
When have you succeeded at your job?
What is hard or difficult in your work? Can you give 1–2 examples?
Who do you collaborate with? What is the collaboration with and when does it take place?
How do you find the collaboration?
What would you like to change/develop in your work?
What type of new skills do you need in your job?

The Magazine
How would you describe The Magazine as a printed magazine?
Who is the magazine for?
What do you know about the readers?
How has The Magazine changed during the past five years?
How do you think the magazine and the visuals should be developed and why?
How would you describe the functioning of the editorial office? Can you give an example?

The Update
What do you think is most important about the upcoming update?
Why are the visuals being further developed?
What will the update improve?
What kind of effect does the update have on your job?
Are you satisfied with the update?

A Detailed Description of the Change in the Visual Elements

Concerning the cover of The Magazine, the changes meant the development of a stricter concept that would enable a more streamlined and consistent structure repeated from cover to cover, for example in the division of space between picture and text. The repeating elements would ease the construction of the content by the editor-in-chief. Because the new logo has sharp edges, the vignettes and the arrows used on the cover were to repeat the same visual language.

Graphics are to be used more in the future, as a wish from the AD, meaning more informational illustrations that are not photographs. The style and use of photography changes so that the text would no longer cover the photos and instead the photos are made smaller if there is lack of space. The layout of photos should become more robust so that the pictures are placed in tight combination with each other instead of being spread out on the page. The layout changes a lot. There is a new grid, based on two different ways of using columns; one based more on the old one, and the other new with an empty column in it. There are new line elements. A “clothesline” is part of the grid, an invisible line in the top margin and a new lo-
cation for the bottom margin are defined to used to support the alignment of elements. Long stories are to be cut into smaller entities and the general atmosphere can be more technical, using more boxes and adding thin lines to for example point out details in pictures.

The new typography makes it possible to create more contrast between different levels in the text and clearer hierarchy between the different text types. There are now extra fonts to be taken in to use if needed. There used to be only one typeface, but now there are three typefaces. The special feature of the new fonts is that they have a duplex feature that keeps the length of text the same even if they would be used in medium cut (thicker letters), which is important when not wanting to extend the amount of text, but for example use light text on a darker background. The big change in the body text is that is now a serif font and used to be sans serif. The big amount of pages affected the choice of headlines for the more traditional and flexible typeface instead of the more modern one. There are now three levels of text, levels meaning a hierarchical structure creating contrast between the text types, instead of previously having two. There are two different kinds of body text when there used to be only one. The typeface for numbers is new. It goes together with the new typography and style. On the he contents page some numbers were emphasized and one picture was chosen to be larger than the others. There was to be one cut out picture always present on the content page.

Color changes are getting rid of a distinctive color that was used on every page and replacing that with a new accent colors and clearly defined color palette, allowing other colors to be used if they fit the story. The logo and all its versions were changed, changing some specific used of the version. For example there is one version of the logo only for marketing. The vignettes are a new element supporting the navigating in the magazine. There will from now on be vignettes for all stories. The AD is hoping to get the headlines shorter so the work better in the vignette. Visuals of the tables change so that lines will be used to separate the numbers from each other instead of change in color. There are changes in particular special elements used in the magazine. One is a star element to be highlighted by giving is a clearly defined location. There is a new background element from one text type. Quotation marks will not be used as a visual element anymore. A horizontal line is used to cross the top of the page and vertical lines are added in between the columns of the body text.
<table>
<thead>
<tr>
<th>Name of code</th>
<th>abbreviation used</th>
<th>definition of coded content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research/feelings</td>
<td>rf</td>
<td>reflecting feelings</td>
</tr>
<tr>
<td></td>
<td>rf ed of</td>
<td>reflecting feelings of editorial office</td>
</tr>
<tr>
<td></td>
<td>Rf my</td>
<td>ing on my own feelings</td>
</tr>
<tr>
<td>Research actions</td>
<td>raa</td>
<td>settling, research permission, interview, e-mail</td>
</tr>
<tr>
<td>Location action</td>
<td>rai</td>
<td>meeting, brunch, orientation, publication meeting, editorial meeting, library, coffee, kitchen, lunch</td>
</tr>
<tr>
<td>Research /ideas</td>
<td>RI</td>
<td>readings, collegial comments, theoretical thoughts</td>
</tr>
<tr>
<td>Magazine content</td>
<td>MC</td>
<td>text, content, editorial office (floor plan, history)</td>
</tr>
<tr>
<td>Visuals</td>
<td>V</td>
<td>iPad, quality, value, photography, timetable, videos, cover, editing costs, camera crew, extra pictures, contracts with graphic designers, Kerava</td>
</tr>
<tr>
<td>Staff</td>
<td>S</td>
<td>feelings of the staff, collaboration, editor-in-chief, workflow, meetings</td>
</tr>
</tbody>
</table>

Table 19. Codes for analysis of research diary from the field and fieldnotes

Table 20. Data driven codes used in of coding of meetings at The Magazine
<table>
<thead>
<tr>
<th><strong>General categories of the codes</strong></th>
<th><strong>Abbreviation used</strong></th>
<th><strong>Definition of coded content</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHY RENEWAL WAS DONE?</strong></td>
<td>BC</td>
<td>because</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>readers</td>
</tr>
<tr>
<td></td>
<td>Rb</td>
<td>Reader feedback</td>
</tr>
<tr>
<td></td>
<td>O</td>
<td>looking old</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>color</td>
</tr>
<tr>
<td></td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Photo</td>
<td></td>
</tr>
<tr>
<td><strong>WHY RENEWAL IS SMALL?</strong></td>
<td>QR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NF</td>
<td>No feedback from readers</td>
</tr>
<tr>
<td></td>
<td>Con</td>
<td>Conservative readers</td>
</tr>
<tr>
<td></td>
<td>Sales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Modern</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>text</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>Font</td>
</tr>
<tr>
<td></td>
<td>Ah</td>
<td>Ahdas [Too tight]</td>
</tr>
<tr>
<td></td>
<td>Att</td>
<td>Attractivity</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>Stylish</td>
</tr>
<tr>
<td></td>
<td>Attread</td>
<td>attract readers</td>
</tr>
<tr>
<td></td>
<td>Comp</td>
<td>competition</td>
</tr>
<tr>
<td></td>
<td>DN</td>
<td>Don’t know about visuals</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>Good as it is (no need to change)</td>
</tr>
<tr>
<td><strong>CHANGE</strong></td>
<td>GC</td>
<td>general change, not about visuals</td>
</tr>
<tr>
<td></td>
<td>Gnew</td>
<td>General renewal</td>
</tr>
<tr>
<td></td>
<td>BCD</td>
<td>Why is change difficult</td>
</tr>
<tr>
<td></td>
<td>Org</td>
<td>organizational structure</td>
</tr>
<tr>
<td></td>
<td>History</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>Content of the renewal</td>
</tr>
<tr>
<td></td>
<td>T&amp;P</td>
<td>text and picture relation</td>
</tr>
<tr>
<td></td>
<td>Adprofss</td>
<td>AD very professional</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>renewal affecting work</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>Planning</td>
</tr>
<tr>
<td></td>
<td>Pictures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Picture ed</td>
<td>picture editor</td>
</tr>
<tr>
<td></td>
<td>Assistants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workflow</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>difficulties</td>
</tr>
<tr>
<td></td>
<td>QR</td>
<td>fear of feedback</td>
</tr>
<tr>
<td>Phase</td>
<td>Content of phase</td>
<td>Location or group and actions</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td><strong>1. Setting up the workshop (Helsinki)</strong></td>
<td>Starting the preparation of the entrance hall</td>
<td>Helsinki 1–12</td>
</tr>
<tr>
<td></td>
<td>Preparing the workshop rooms</td>
<td>Helsinki 13–65</td>
</tr>
<tr>
<td></td>
<td>Finalizing the entrance space and auditorium</td>
<td>Helsinki 66–95</td>
</tr>
<tr>
<td></td>
<td>Checking the program and the location</td>
<td>Helsinki 96–104</td>
</tr>
<tr>
<td><strong>2. Motivational presentation: topic and tools</strong></td>
<td>Starting the workshop day</td>
<td>Helsinki 1–10</td>
</tr>
<tr>
<td></td>
<td>Auditorium presentations and starting the group work</td>
<td>Helsinki 11–25</td>
</tr>
<tr>
<td><strong>3. Facilitated ideation in groups using post-it notes and flip boards</strong></td>
<td>Demos Helsinki facilitation: Introduction to group and task at hand</td>
<td>Low Cost Railway, 1–7</td>
</tr>
<tr>
<td></td>
<td>Organizing ideas and developing concept</td>
<td>Feisty Journalism, 26–44</td>
</tr>
<tr>
<td><strong>4. Independent group work and visitors</strong></td>
<td>Group starts to share ideas</td>
<td>Low Cost Railways, 8–15</td>
</tr>
<tr>
<td></td>
<td>Group work and Journalists’ visit</td>
<td>Feisty Journalism, 45–48</td>
</tr>
<tr>
<td><strong>5. Sparring by Demos Helsinki and experts</strong></td>
<td>Work in small groups with sparring taking place</td>
<td>Low Cost Railways, 16–29</td>
</tr>
<tr>
<td></td>
<td>First presentation of idea</td>
<td>Low Cost Railways, 30–31</td>
</tr>
<tr>
<td></td>
<td>Back to small group work and more sparring</td>
<td>Low Cost Railways, 32–33</td>
</tr>
<tr>
<td></td>
<td>Sparring intertwined with group work</td>
<td>Feisty Journalism, 49–56</td>
</tr>
<tr>
<td><strong>6. Design and realization of a video pitch</strong></td>
<td>New task: Making a video pitch</td>
<td>Low Cost Railways, 34–44</td>
</tr>
<tr>
<td></td>
<td>Making of video pitch and planning of final presentation</td>
<td>Feisty Journalism, 57–71</td>
</tr>
<tr>
<td>7. Design of presentation slides and answering questions</td>
<td>Groupwork on the presentation using the wall</td>
<td>Low Cost Railway, 46–53</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Demos Helsinki researcher Tuuli Kaskinen and a judge visit the group</td>
<td></td>
<td>Low Cost Railway, 54–59</td>
</tr>
<tr>
<td>Coming up with the next step in the work process: starting to work on the slides – Critical conflict becomes aggravated</td>
<td></td>
<td>Low Cost Railways, 60–90</td>
</tr>
<tr>
<td>Graphic designer Kirmo Kivelä finalizes the visuals of the presentation with the group – Critical conflict is solved</td>
<td></td>
<td>Low Cost Railways, 91–109</td>
</tr>
<tr>
<td>Rehearsing the presentation and making handout</td>
<td></td>
<td>Low Cost Railways, 110–112</td>
</tr>
<tr>
<td>Group work starts with new name and design of presentation visuals</td>
<td></td>
<td>Feisty Journalism, 71–79</td>
</tr>
<tr>
<td>Group work, sparring and conflicts</td>
<td></td>
<td>Feisty Journalism, 80–100</td>
</tr>
<tr>
<td>Looking through the presentation with the group for the first time</td>
<td></td>
<td>Feisty Journalism, 101–106</td>
</tr>
<tr>
<td>Small group work, sparring and visit by the judges</td>
<td></td>
<td>Feisty Journalism, 107–126</td>
</tr>
<tr>
<td>8. Final presentation of concept</td>
<td>The final presentations and end of the workshop</td>
<td>Feisty Journalism, 127–143</td>
</tr>
</tbody>
</table>
Table 22. The themes of the discursive manifestations of contradictions and examples.

<table>
<thead>
<tr>
<th>6 themes</th>
<th>79 discursive manifestation of contradiction</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CONTENT VERSUS VISUALIZATION</td>
<td>Dilemmas 5</td>
<td>It is kind of funny that well made videos give credibility to a topic, but that is the way they work.</td>
</tr>
<tr>
<td></td>
<td>Conflicts 6</td>
<td>I probably think about this too much, but one of the most important things in the world is to consider how printed materials can give credibility.</td>
</tr>
<tr>
<td></td>
<td>Critical conflicts 9</td>
<td>We aim at empowerment and feeling of accomplishment through an outcome, instead of the usual boring end results.</td>
</tr>
<tr>
<td></td>
<td>Double binds 0</td>
<td></td>
</tr>
<tr>
<td>2. WHAT IS DESIGN THINKING</td>
<td>Dilemmas 7</td>
<td>Design has been continuously present, or increased recently.</td>
</tr>
<tr>
<td></td>
<td>Conflicts 3</td>
<td>It is difficult to think of what we do as design thinking, but of course that is how we work, it is a good frame work, we don’t just fool around.</td>
</tr>
<tr>
<td></td>
<td>Critical conflicts 3</td>
<td>Many people we work with want to know the results in advance, but we explain that we can’t say, and now people expect surprises.</td>
</tr>
<tr>
<td></td>
<td>Double binds 0</td>
<td></td>
</tr>
<tr>
<td>3. DESIGN THINKING - NOT FOR DESIGNERS</td>
<td>Dilemmas 6</td>
<td>Graphic designer are used for visualization, not concept development.</td>
</tr>
<tr>
<td></td>
<td>Conflicts 4</td>
<td>Of course I design processes, but I am in no way a designer, actually in order to do design thinking you have to let go of the idea of designer.</td>
</tr>
<tr>
<td></td>
<td>Critical conflicts 4</td>
<td>Designers should be solving wicked problems instead of designing products</td>
</tr>
<tr>
<td></td>
<td>Double binds 0</td>
<td></td>
</tr>
<tr>
<td>4. COLLABORATION BEFORE OUTCOME</td>
<td>Dilemmas 5</td>
<td>Should we work with best designers or the designers who share the ideology. It is important to be able to work together.</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Conflicts 5</td>
<td>We emphasize collaboration, so too strong protection of professional graphic design territory does not work</td>
<td></td>
</tr>
<tr>
<td>Critical conflicts 5</td>
<td>It is important to understand the content and be able to change the plan, unlike with corporate and commercial projects.</td>
<td></td>
</tr>
<tr>
<td>Double binds 2</td>
<td>A video form each rapport would be great. It could be quite simple, but of course creative expression is important. We just haven’t found a designer we like of whom we can afford.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. DOING IT OURSELVES, BUT VALUE QUALITY</th>
<th>Dilemmas 9</th>
<th>We have had the idea that everyone does everything, but it would be fun if we had a designer working with us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicts 1</td>
<td>To get better material like videos we should know how to make them ourselves or find someone really good who can work with us.</td>
<td></td>
</tr>
<tr>
<td>Critical conflicts 1</td>
<td>More important is the feeling of trying hard and doing bold solutions, than being perfect style wise</td>
<td></td>
</tr>
<tr>
<td>Double binds 0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. BRAND OR PROJECT</th>
<th>Dilemmas 2</th>
<th>The Peloton brand is stronger than Demos Helsinki, but usually Demos Helsinki is the brand that carries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicts 2</td>
<td>We use task specific designers such as brand design for Peloton, but on the other hand we use one graphic designer, who does many kinds of tasks well. He is cheaper but finds our work valuable and likes doing it.</td>
<td></td>
</tr>
<tr>
<td>Critical conflicts 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double binds 0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 23. Visual artifacts used in the group work.
facilitation

<table>
<thead>
<tr>
<th>Visual artifacts in Demos Helsinki facilitation: tools for working, sharing of information, tools for sparring, and graphic design with Kirmo Kivelä</th>
<th>Used for</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Tools for group working</strong></td>
<td></td>
</tr>
<tr>
<td>flip board paper</td>
<td>as example for posting post-it notes</td>
</tr>
<tr>
<td>post-it notes</td>
<td>for writing introductions, and as example for posting on the flip board or the concept sheet</td>
</tr>
<tr>
<td>a concept sheet</td>
<td>as example for filling in</td>
</tr>
<tr>
<td>images on USB stick</td>
<td>idea for video pitch visuals, pictures for presentation</td>
</tr>
<tr>
<td>USB-stick with materials from graphic designer Kirmo Kivelä</td>
<td>Visual material for the groups to use</td>
</tr>
<tr>
<td>Bull's eye square</td>
<td>For finding the focus of the concept, communicate care and value to the workshop participants</td>
</tr>
<tr>
<td>marshmallow challenge structure</td>
<td>example of prototyping and team work</td>
</tr>
</tbody>
</table>
### 2. Sharing information in the groups

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>printed sparring info</td>
<td>For encouragement to order sparring</td>
</tr>
<tr>
<td>program poster</td>
<td>As instructions for the workshop</td>
</tr>
<tr>
<td>Name sign printed by Demos Helsinki</td>
<td>Placed in the working space and used in the video pitch</td>
</tr>
<tr>
<td>Written handout about the concept</td>
<td>For Demos Helsinki to use for communication with media</td>
</tr>
<tr>
<td>Peloton cards</td>
<td>Information on carbon emissions for living, transportation, food</td>
</tr>
<tr>
<td>photographs of all participants in the entrance hall wall</td>
<td>Presenting participants</td>
</tr>
<tr>
<td>printed time table in the entrance hall</td>
<td>The schedule</td>
</tr>
<tr>
<td>info board with wlan password, web page address</td>
<td>For workshop participants and other visitors to use</td>
</tr>
<tr>
<td>sparring reservation poster</td>
<td>For booking sparring times</td>
</tr>
<tr>
<td>information package for participants with handwritten name tags</td>
<td>Information on the workshop and contact details of participants</td>
</tr>
<tr>
<td>printed instructions for presentation</td>
<td>Instructions for final presentation</td>
</tr>
</tbody>
</table>

### 3. Tools for sparring the groups

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>laptop</td>
<td>For sparring, showing slides, sparring presentation</td>
</tr>
<tr>
<td>written notes</td>
<td>Giving instructions</td>
</tr>
<tr>
<td>flip board</td>
<td>Giving feedback</td>
</tr>
<tr>
<td>Good News magazine</td>
<td>Benchmarking reference</td>
</tr>
<tr>
<td>Drawing on flip-board paper (Palmu)</td>
<td>Developing concept</td>
</tr>
<tr>
<td>the presentation of Hukkatila (winner of Seinäjoki camp)</td>
<td>Reference for good argumentation</td>
</tr>
<tr>
<td><strong>4. Graphic design with Kirmo Kivelä (Low Cost Railways)</strong></td>
<td><strong>Laptop with Power point</strong></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Laptop with Key note</td>
<td>to be able to use Keynote file after Kivelä’s modification</td>
</tr>
<tr>
<td>USB stick</td>
<td>sharing presentation slides</td>
</tr>
<tr>
<td>Image of a button</td>
<td>Group member creates a button for entering the Low Cost Railway service, made with Kivelä being present.</td>
</tr>
<tr>
<td>paper and pen</td>
<td>Group members drawing sketches for visuals needed for Kivelä to do an a computer</td>
</tr>
<tr>
<td>Title slide using an image made by group member</td>
<td>Kivelä makes some alterations to the colors but uses the image that a group member made from the visuals he made for the groups</td>
</tr>
<tr>
<td>Laptop with Key note, other design programs</td>
<td>Finalizing the visuals of the presentation, making symbols</td>
</tr>
<tr>
<td>Visual elements, lay out, graph, typography, Bullets, colors, Logotype, margins</td>
<td>Modifying visual elements</td>
</tr>
<tr>
<td>Title page, sub title</td>
<td>Adding convincing presentation elements</td>
</tr>
<tr>
<td>Photo</td>
<td>Kivelä is Finding a photo online for another group</td>
</tr>
</tbody>
</table>
5. Creating the workshop space (entrance hall, auditorium)

<table>
<thead>
<tr>
<th>Peloton sign with logo’s of partners and sponsors</th>
<th>background for presentations (auditorium and entrance hall), give visibility to Peloton partners and sponsors, and to create a setting to be photographed and visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peloton flag</td>
<td>stage for addressing the workshop participants (entrance hall),</td>
</tr>
<tr>
<td>balloons, balloons fetched for auditorium, balloon colors</td>
<td>auditorium decoration, Peloton brand</td>
</tr>
<tr>
<td>Partners names</td>
<td>the Demos Helsinki presentation slides, give visibility to Peloton partners</td>
</tr>
<tr>
<td>sign for directions in colored scotch</td>
<td>Marking directions for moving around in the building</td>
</tr>
</tbody>
</table>

6. General communication of Demos Helsinki

| Publications: Diili magazine (Demos Helsinki publication), Peloton magazine (Demos Helsinki publication), Book on seasonal food to buy (reserachers Tuuli Kaskinen and Outi Kuittinen are some of the authors), Keksi (= invent) magazine and leaflets for developing innovation, Helsingin Energia and Sitra paper sheets | Presenting Demos Helsinki publications and partners |

7. Documentation of workshop

| Photo by Demos Helsinki intern of group work | Unknown use |
| photographer takes photo of group work | Unknown use and used in final presentation by Demos Helsinki |
| photographer taking pictures in the hall | Unknown use |
| talk about sharing photos online and naming them | Unknown use |

8. Presentations by Demos Helsinki and invited speakers

<p>| presentation slides | information and motivation for participants on technological, economic and behavioral changes behind the workshop, changes in energy consumption, instructions for work, |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>big presentation screen</td>
<td>For presentation giving in the auditorium</td>
</tr>
<tr>
<td>photo of participants on day 1</td>
<td>Shown in the final presentation by Demos Helsinki</td>
</tr>
<tr>
<td>examples from media coverage (Talous Sano-mat, Kauppalehti)</td>
<td>Shown in the final presentation by Demos Helsinki</td>
</tr>
<tr>
<td>photos from group work: Bull’s eye and Marshmallow challenge</td>
<td>Shown in the final presentation by Demos Helsinki</td>
</tr>
<tr>
<td>photo: people sitting in the auditorium (taken by photographer)</td>
<td>Shown in the final presentation by Demos Helsinki</td>
</tr>
<tr>
<td>Pitch video for the judges (used also Peloton signs, laptop for timing, video camera)</td>
<td>Short explanation of the concept</td>
</tr>
<tr>
<td>Eric Lowitt's slides (invited speaker)</td>
<td>Presentation in auditorium</td>
</tr>
<tr>
<td>Innovation foundation speaker’s slides (invited speaker)</td>
<td>Presentation in auditorium</td>
</tr>
</tbody>
</table>
Table 24. Visual artifacts present in the concept development (Demos Helsinki).

<table>
<thead>
<tr>
<th>Visual artifacts in concept development</th>
<th>Used for</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>group developing the idea</strong></td>
<td></td>
</tr>
<tr>
<td>Drawing and writing on flip board paper on the wall</td>
<td>for posting and organizing post-it notes with ideas about the concept, writing, explaining, sharing and presenting ideas, referring to idea, catching up with what the group has done, pointing to visual artifacts in discussion in argumentation, making notes, writing down notes while other talk, reflecting on what has been discussed previously through the notes</td>
</tr>
<tr>
<td>post-it notes</td>
<td>for sharing ideas about the concept and for reading about others ideas, for reading others ideas, for negotiating the groups content, presenting ideas</td>
</tr>
<tr>
<td>flip board paper on the wall and post-it notes</td>
<td>for negotiating work tasks, presenting ideas, organizing ideas, planning next steps and story for presentation</td>
</tr>
<tr>
<td>laptop</td>
<td>for writing and presenting group ideas, writing ideas, organizing ideas, writing ideas, and possibly other work</td>
</tr>
<tr>
<td>Post-it notes in Bull’s eye square</td>
<td>reflecting on what has been talked about</td>
</tr>
<tr>
<td><strong>group preparing for pitching</strong></td>
<td></td>
</tr>
<tr>
<td>Pitch instructions printed on paper</td>
<td>Instructions to follow,</td>
</tr>
<tr>
<td>notes on flip-board paper</td>
<td>suggestion for content of pitch</td>
</tr>
<tr>
<td>Drawing from sparring</td>
<td>explaining the concept</td>
</tr>
<tr>
<td>Group member’s drawings used as a basis for a comic strip like drawing</td>
<td>explaining the concept</td>
</tr>
<tr>
<td>laptop</td>
<td>story board for video pitch</td>
</tr>
<tr>
<td><strong>group developing idea and a presentation (Low Cost Railways)</strong></td>
<td>smart phone</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>written notes</td>
<td>sharing ideas about the concept</td>
</tr>
<tr>
<td>USB stick</td>
<td>sharing material that has been made</td>
</tr>
<tr>
<td>USB with visualizations from Demos Helsinki on laptop</td>
<td>designing logo for presentation visuals</td>
</tr>
<tr>
<td>laptop with power point slides</td>
<td>Idea for back ground visualization for the video pitch – not used, making presentation proposition</td>
</tr>
<tr>
<td>the wall with flip boards and post-it notes</td>
<td>prototype and presentation</td>
</tr>
<tr>
<td>laptop with notes for time line</td>
<td>continuing an idea from yesterday</td>
</tr>
<tr>
<td>USB stick</td>
<td>sharing material that has been made, sharing work</td>
</tr>
<tr>
<td>post-it notes on the wall</td>
<td>making notes of comments from Kaskinen and judge</td>
</tr>
<tr>
<td>post-it note timeline on the wall</td>
<td>reference for what is needed in the presentation</td>
</tr>
</tbody>
</table>
Continuing: group developing idea and a presentation (Low Cost Railways)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laptop</td>
<td>making content for slides, making the slides, putting together the slides for presentation</td>
</tr>
<tr>
<td>Peloton web page</td>
<td>used in presentation as example for location of advertising the concept</td>
</tr>
<tr>
<td>Pencil and note pad, sketching</td>
<td>sharing and developing ideas for presentation, sketching for content in presentation slides</td>
</tr>
<tr>
<td>Visuals (Photos and graph) from Demos Helsinki</td>
<td>Used by the group as back ground picture for presentation slides, and graph is altered.</td>
</tr>
<tr>
<td>Laptop with presentation</td>
<td>giving the presentation and rehearsing it, and anther used for writing a handout for Demos Helsinki</td>
</tr>
<tr>
<td>Notepad with sketches</td>
<td>making sketches for visuals in slides</td>
</tr>
<tr>
<td>Demos Helsinki printed instructions for presenta-</td>
<td>following guide lines</td>
</tr>
<tr>
<td>tion</td>
<td></td>
</tr>
<tr>
<td>Comic strip from video pitch</td>
<td>continuing video pitch idea</td>
</tr>
<tr>
<td>Dramatization</td>
<td>to show details that are not in the slides</td>
</tr>
<tr>
<td>Manuscript with user story on laptop</td>
<td>developing the concept and presentation, deciding who presents what parts of the concept</td>
</tr>
<tr>
<td>InDesign, Illustrator</td>
<td>Software for design of visual elements and slides</td>
</tr>
<tr>
<td>Photos from internet</td>
<td>Suggestion for picture use in the slides</td>
</tr>
<tr>
<td>Post-it notes and the Bull’s eye</td>
<td>checking content of the presentation</td>
</tr>
</tbody>
</table>
Continuing: group developing idea and a presentation (Low Cost Railways)

<table>
<thead>
<tr>
<th>presentation suggestion (made at home)</th>
<th>Alternative for presentation slides to be made visually better</th>
</tr>
</thead>
<tbody>
<tr>
<td>notes on flip board</td>
<td>convincing other group members of presentation content</td>
</tr>
<tr>
<td>copy right law</td>
<td>For the use and correct referencing of on-line images</td>
</tr>
<tr>
<td>laptop with slides</td>
<td>To show other group members the slides, to rehearse presentation</td>
</tr>
<tr>
<td>presentation cards</td>
<td>Notes to support the presentation giving</td>
</tr>
<tr>
<td>glasses and a hat (dramatization part)</td>
<td>Possible elements for dramatization</td>
</tr>
<tr>
<td>e-mail</td>
<td>Sending the final presentation slides to graphic designer Kirmo Kivelä</td>
</tr>
<tr>
<td>phone</td>
<td>Suggestion for use of presentation notes</td>
</tr>
<tr>
<td>laptop with presentation notes</td>
<td>Support in giving the presentation</td>
</tr>
<tr>
<td>slide 1. with name, logo and concept definition, slide 2. The need depicted with news article titles and explosion photo in the background, slide 3. Simple visuals: The story process reader, journalist and service slide 4. Financing the story</td>
<td>Giving final presentation in auditorium to judges and other participants</td>
</tr>
</tbody>
</table>