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Ethnography by design: On goals and mediating artefacts

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Abstract

Design ethnography is the appropriation of ethnography for the purposes of informing design. This paper investigates the effects of these appropriations, through a comparative study of how designers and anthropologists approach the same field site and by a review of new techniques introduced by designers to do ethnography. The techniques reviewed all apply artefacts to mediate the ethnographic process. Conducting ethnography through artefacts can be done in a number of ways and three ways are discussed here, including techniques which remove the researcher from the context of study. The implications for design ethnography of the comparative study and the introductions of artefacts to facilitate ethnographic work are discussed. The implications focus on potential methodological pitfalls of the 'designification' of ethnography as design ethnography matures.

Keywords

Design ethnography, design probes, ethnography through artefacts, mobile ethnography

Ethnography has made a long journey from when it was originally defined in contrast to other subjects, to what today is known as design ethnography. Just compare the following two quotations on what ethnography is, the first referring back to a teachers' meeting among British schools of Anthropology in 1909:

> In 1909 *[. . . a]* meeting of teachers from Oxford, Cambridge and London was held to discuss the terminology of our subject. We agreed to use *'ethnography' as the term for*

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> *descriptive accounts of non-literate peoples*. The hypothetical reconstruction of 'history' of such peoples was accepted as the task of ethnology and prehistoric archeology. The comparative study of the institutions of primitive societies was accepted as the task of social anthropology, and this name *was preferred to 'sociology'*. (Radcliffe-Brown, 1952: 276, our emphasis)

The second one is from one of the first high profile publications on design ethnography, in the *Design Management Journal* in 1999:

> Design ethnography is a way of understanding the particulars of daily life in such a way as to increase the success probability of a new product or service or, more appropriately, to reduce the probability of failure specifically due to a lack of understanding of the basic behaviors and frameworks of consumers. (Salvador et al., 1999: 37)

As can be seen when comparing the two, design ethnography focuses on gathering information which can be *acted upon*, whereas the early forms of ethnography were purely *descriptive*. In this paper we set out to explore some of the implications of the change in focus from traditional ethnography to design ethnography. We do so by means of a comparative study of how anthropology and design students towards the end of their education tackle the same field site, as well as a review of some of the new ethnographic techniques introduced by designers.

Background

The emergence of design ethnography in the late 20th century was made possible through a series of events and appropriations from the early works of the likes of Boas, the Torres Strait Island expedition and Malinowski. This is however not the focus of this paper, as our interest lies in *the effects of* the appropriation of ethnography into design. Readers interested in how ethnography came to be a crucial tool in design are referred to Blomberg and Burrell (2012), Dourish (2006) and Randall et al. (2005), among others.

Paul Dourish (2006) argues that the designerly approach to ethnography, to find insights to base design work on, leads to design missing the full potential of an ethnographic approach. He states that 'the term "ethnography," indeed, is often used as shorthand for investigations that are, to some extent, *in situ* qualitative, or open-ended' (Dourish, 2006: 543). Dourish has been joined in his criticism that ethnography for design is not proper ethnography by many others (e.g. Button, 2000; Jones, 2006; Räsänen and Nyce, 2006; Salvador and Mateas, 1997). This criticism has however not led to any major changes in how designers approach ethnography, but rather in how ethnography is described in text, as in this recent example:

> It is important to note that, although we are using ethnographic methods and techniques, we are not doing proper ethnography in its own right. Ethnography is a term

> that has had some use and abuse by designers over the past few years in the sense of 'Yeah, we did some ethnography and then got on with the design work.' Ethnography has a history, approach, and rigor that is much more loosely interpreted for design research, and when we borrow its methodology, we should be respectful of how and why it was developed in the first place—to understand and document the knowledge, relationships, and beliefs of social or cultural groups, often through long-term participant observation of a year or more. (Polaine et al., 2013: 50)

The introduced difference between doing ethnography and using ethnographic techniques is a helpful one, as it highlights how the same techniques can be used for various goals. Indeed, one anthropologist who had worked for design companies for several years highlighted the difference in goals for the ethnographic endeavours of design and anthropology as follows: 'Designers approach ethnography for the practical reasons of gaining a rich and deep understanding of users that can be easily integrated into design projects' (van Veggel, 2005: 5), whereas 'anthropologists approach, ethnography as the methodological component of a theoretical endeavor to understand humans as socio-cultural beings, who presumably act and think in a different way: ethnography is a method to understand other people – anthropology is that understanding' (van Veggel, 2005: 8).

These differences in approach to ethnography mean that the same techniques are used in very different ways. What once was developed in anthropology has been appropriated to fit into design (Dourish, 2006; Segelström, 2013). However, there is still a very limited body of literature which has investigated how these differences manifest themselves. The aim for this paper is to investigate some of the effects of the differences in goals when using ethnographic methods.

The next section presents an empirical study of how anthropologists and designers approach the same field site. This is followed by a review of some of the new techniques which have been added to the ethnographic family by designers. Finally, design ethnography of today and its relation to traditional ethnography are discussed.

Comparing anthropological with design ethnography

To be able to investigate how these differences in approach to ethnography between anthropology and design manifest themselves we set up a research study, in which we gave anthropology and (interaction) design students access to the same field site with a similar broad brief; to investigate how the field site was experienced by its visitors. The field site in question was an advent fair,[1] held during one weekend each year. Using a field which was so condensed in both time and space was deemed as beneficial for the research study, as it would help lower the impact of any factors outside of the ethnographers' control and highlight the differences in how the ethnographic efforts were planned and performed. The fair is however popular, with an estimated 15,000 visitors the year the study was conducted (December 2011).

This section will give an overview of the results of that study, focusing on the methodology chosen by the field researchers, the implications thereof and which assumptions influenced their methodological choices. Readers interested in the findings of the studies are referred to Segelström & Holmlid (2012b) for a general overview, and Karlsson (2012) and Nyman (2012) for accounts of the work done by the anthropologists. Of course, there are differences in how the students of different schools and teaching environments would plan and conduct such a study, but a comparison with other descriptions of differences between anthropological and designerly ethnography showed that the tendencies were the same as in this study (see Segelström & Holmlid, 2012a).

Social anthropology

From an anthropology perspective, two thesis students from social anthropology were recruited to be a part of the broader study whilst writing their theses. Both were supervised in their process by the head of Social Anthropology at the university where the study was conducted, and he also wrote a summarising report on their efforts for the study reported here (Alm, 2012).

The two anthropologists, albeit working individually, took very similar routes through their field work. They quickly narrowed the scope of their study, to focus on a particular aspect of the fair experience. The changes in scope of study is visualised in the form a funnel in Figure 1. Inside the funnel, the distinct steps of the research process are shown. As can be seen in Figure 1 the anthropologists started as broadly as the interaction designers, but their early research efforts focused on narrowing down their scope, based on existing literatures within their respective general area of interest (one focused on shopping experience and the other on the effect of the environment in which the fair was held). This process led to the formulation of a research question which they set out to answer. This research question was kept intact during the whole study.

During the same time period in which they read up on the existing literature they recruited three informants each. These informants were interviewed a few weeks prior to the advent fair, focusing on their relation to the topics studied based on what had been suggested by the literature. The interviews were semi-structured. The interviews were then transcribed and a preliminary analysis was done, with the aim of verifying/falsifying what had been suggested by the literature and finding recurrent themes in the answers.

At the advent fair, the anthropologists did participatory observation with their three respective informants as the informants visited the fair. They used the insights gained by the analysis of the initial interviews to help them focus their attention during these participatory observations.

After the fair had ended the observations were analysed together with the previously collected materials, and the informants were interviewed once more for follow-up questions which came to light when the analysis was being done. The final analysis was based on all the material collected and the insights therefrom in

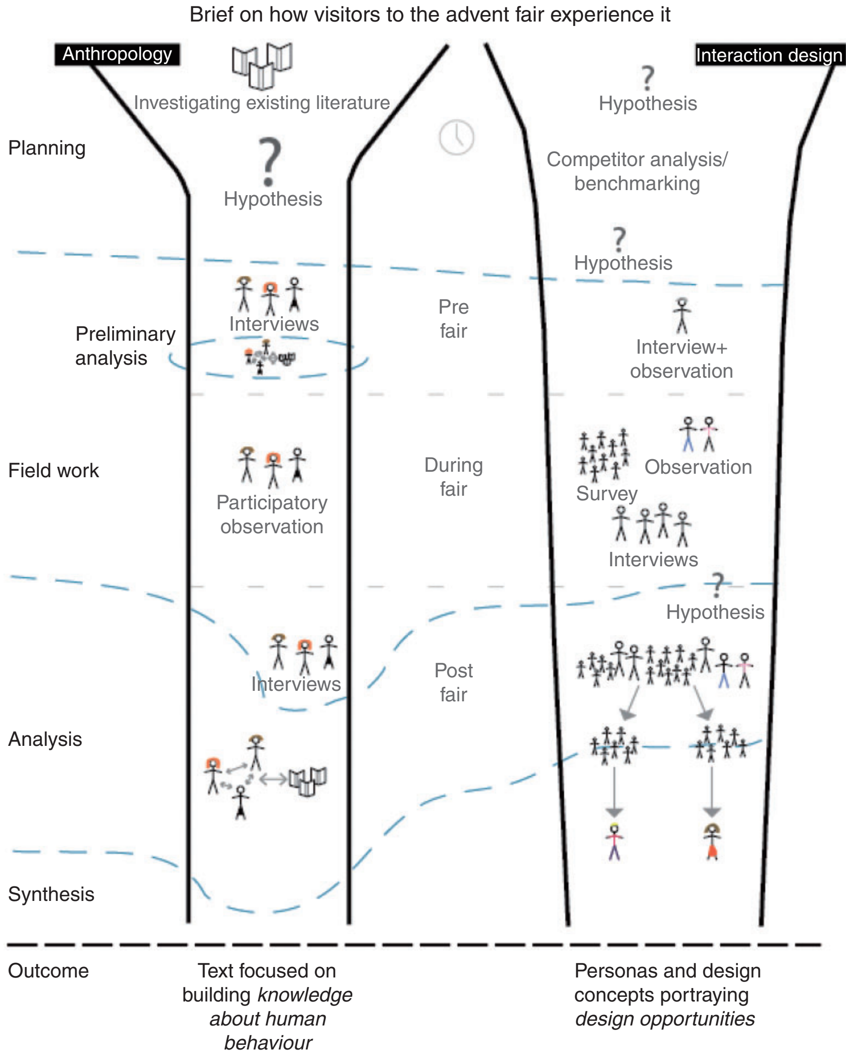

Figure 1. A comparison of the research process and outcomes of the anthropologists and interaction designers studied. The shape of the research funnel broadly matches how the scope of the study developed over time.

the light of existing literature. The analysis was driven by the search for themes in the material, taking advantage of the differences between the various types of data which had been collected. The various data sources were used together to build a stronger argument for the conclusions, showing how the conclusions were based on different types of input to the research process.

By working in this way the anthropologists managed to abstract their conclusions away from specific data points to larger trends in the material, while still

maintaining the individual voices of their informants. One great example was how one of the anthropologists noticed that all her informants complained about the presence of knick-knacks at the fair, but when she investigated it further she found that all had different ideas of what actually constituted knick-knacks.

By framing their analysis as they did, with the individual voices of the informants being important for the final analysis, the anthropologists designed their research in such a way that synthesising the material never became a focus. The little synthesis which happened in the anthropologists' projects can best be described as a by-product of the analysis.

When the analysis had been concluded the anthropologists produced written reports to communicate their insights. The reports were text based and presented the insights and how they related to the existing body of knowledge within the student's scope of the study. The focus of the reports was to describe human behaviour in the existing situation, in such a way that it fitted into what can be seen as the goal of anthropology as an area of study – to understand humanity by puzzling together many small pieces.

Interaction design

For the interaction design segment of the overall study, six master students enrolled in the final interaction design course on offer for students with their background (students were enrolled in either design or cognitive science master programmes). As working in teams is the common practice in design, the students were split into two teams. The brief they were given was to develop concept ideas for interactive artefacts, based on the wishes and driving forces of the visitors to the advent fair. The user research and presentation of it was stressed as a key learning moment in the brief. The two teams were not given any instructions in how to conduct their research, which meant some differences in their field work.

Both teams started out by formulating a hypothesis of what they thought could be interesting aspects to study. However, their hypothesis wasn't seen as anything that should guide all the research efforts. The hypothesis was rather seen as an initial direction for research which could be (and indeed was) changed as research findings pointed towards other areas which were more suitable for design ideas. This is reflected by the research funnel of the interaction designers as depicted in Figure 1, which looks more like a cone than a funnel. Research findings helped the interaction designers narrow their scope over time, but they never became as focused as the anthropologists in their research efforts. The designers and anthropologists thus made different choices in the trade-off between flexibility and depth in their studies.

The two interaction design teams took somewhat different approaches to what needed to be done prior to the fair; one of the teams researched other similar fairs and how they had solved the issues which the team had hypothesised would be interesting, as well as making a visit to another regional fair together with informants. These informants were observed and interviewed in conjunction with their

visit to the competing fair. The other team focused on formulating more distinct hypothesises and decided to concentrate on two user groups in their interactions during the fair (young families and the elderly). Based on this, they formulated a questionnaire for each group.

Once the fair started, the group which had constructed questionnaires set out to get people to fill out their questionnaire. After the first day of the fair they had however only reached a quarter of the amount which they were aiming for in total, which made them change their approach to the second day and do undirected observations on that day. The team which had done benchmarking and competitor analysis repeated their formula from the competing fair and did a combination of observation and interviews with a group of friends which visited the fair. Additionally they approached fair visitors to do short structured interviews with them.

After the fair was over the two teams went straight into analysis mode. Both teams relied heavily on their interview/questionnaire data in their analysis, with one team even stating that 'we've only used a small section of the observational data' (author's translation) in their project report. The analysis work in both teams focused on finding patterns in their material. These patterns served as a bridge from analysis to synthesis which was given a prominent role in their work. Both teams synthesised their information into personas/user profiles, depicting typical fair visitors according to their research. This result of the synthesis was given a higher importance than the rest of their insights when the teams presented their research efforts.

The focus amongst the interaction designers on synthesising the insights into typical visitors had the effect that the outcome of the analysis and synthesis was very different compared to that of the anthropologists in regard to the nature of the material presented. There was no attempt to abstract the findings into a larger context; rather the aim was to pinpoint the design opportunities for this specific fair. Also in contrast with the anthropologists was how far removed the individual voices of the study participants were – they were nowhere to be seen in the material presented.

When reporting on their project, a mixture of visual tools and texts was used by both teams; the personas and user profiles were put at the heart of their reports together with the design concepts based on their insights. This was supported by explanatory text, going into more detail. The personas/user profiles all hinted at design opportunities, which the design concepts then took up and proposed solutions for. The goal of the ethnographic work was to find design opportunities, both by improving current solutions and by finding new ones.

To summarise the results from the study, we see that the designers and anthropologists use the same techniques in similar fashion to conduct their ethnographic work. The difference lies in what is seen as the goal of the ethnography and how the influence from the participants is analysed. Looking beyond this singular study, we see however that the circumstances under which designers do ethnography have led to the development of new techniques. Tight budgets, both money and time wise, together with projects which are often multi-sited, have been the main driving forces behind this development. These new techniques frequently rely on the

insertion of artefacts into the context of study. The next section introduces some of the ways designers have expanded their ethnographic practice with the help of artefacts.

Design ethnography through artefacts

As designers introduced artefacts to help them do ethnography, they did so in a number of ways. We see how the artefacts have been used both to help the designer in context and to allow the designer to stay outside the context and still get contextual data. Furthermore, we see that the artefacts are used to enhance the focus on aspects which designers see as important in different stages of their projects: underlying values and motivations, experiences and needed functionality. Below we give examples of three common types of design ethnography by artefacts, all highlighting different aspects of the participants' relation to the service or product studied.

Joint contextual exploration of functionality

One example of this is the 'magic thing' as presented by Iacucci et al. (2000). This 'magic thing' was an answer to the need for increasing cooperation and decreasing the loss of knowledge through communication between designers and ethnographers (Blomberg et al., 1993, 1996). Blomberg and colleagues had earlier used ethnographic techniques to study technology use, both existing technology and prototypical technology. The 'magic thing', in contrast to the earlier studies by Blomberg et al., is a blank piece of prop that is introduced in a user research situation. The informant is supposed to use this prop to achieve his/her goals and the study is then done with ethnographical techniques. In essence, the ethnographical situation is equipped with a device that triggers reflection and insights, for ethnographers, designers as well as users.

This approach has been taken up especially in the interaction design field as part of a design ethnographical practice, sometimes referred to as enactments (Hagen et al., 2005), or empathic design (Fulton Suri, 2003; Vaajakallio and Mattelmäki, 2007). By design, ethnography is then transformed into not only a practice that promotes passive/active participation, but also a proactive/interventionist practice. The ethnographic researcher participates in the context of the informants. Blomberg et al. (1993) say that one ultimate goal of such a setup would be that 'understanding and insights derived from the study would not necessarily be represented in a written report, but instead would be reflected in a co-designed artefact'.

Participants in context: Exploration of their values

Another example is the different varieties of 'probes' that have been used. They were introduced in the format of 'cultural probes' by Gaver et al. (1999), with the aim to 'provoke inspirational responses from elderly people in diverse communities' (Gaver et al., 1999: 22). The probes were used in an EU project in three

different cities, as instruments for informants to share empathic and ethnographic understanding with the designer, even when the designer would not be in context. The goal of these cultural probes was not ‘trying to reach an objective view of the elders’ needs through the probes, but instead a more impressionistic account of their beliefs and desires, their aesthetic preferences and cultural concerns’ (Gaver et al., 1999: 25). ‘Cultural probes’, then and now, are typically a package with material, props and instruments that allows an informant to document the everyday in specific ways. Diaries, cameras, maps, activity suggestions, visual tools and questionnaires, postcards, etc. are often found in these packages. Gaver recalls his experience from the Presence project:

> I stood up and said, ‘We’ve brought you a kind of gift,’ as we all passed the clear blue plastic envelopes to the group. /.../ ‘They’re a way for us to get to know you better, and for you to get to know us.’ Already people were starting to unwind the strings fastening the envelopes. ‘Take a look,’ I said, ‘and we’ll explain what’s in them.’ An assortment of maps, postcards, cameras, and booklets began accumulating in front of them. (Gaver et al., 1999: 22)

In the analysis of the results of these cultural probes, only designers participated, thus introducing a directed interpretation of the material. Even though being framed as ethnographical tools, they diverged from ethnographic practice in three ways: by not requiring the researcher to be in context, by serving mainly an inspirational role and by excluding informants from interpretation.

Other variants of probes have been developed by other designers, where the probes and their analysis focused on information and not only inspiration (Beaudouin-Lafon et al., 2001; Crabtree et al., 2003; Hemmings et al., 2002; Wensveen, 1999; Westerlund et al., 2003). Some were used in larger participatory design contexts, but still the researcher and the informant were disconnected during collection and analysis. Some of the adaptations of the original probes methodology have been criticised by Graham et al. (2007), especially those that leave important aspects such as open interpretation and the designers’ stance behind, in favour of more positivistic models of knowledge production.

Through Mattelmäki’s (2006) work on empathic probes, the technique has been appropriated into practices of design ethnography, as a technique for inspiration, information, participation and dialogue. Matthews and Horst (2008) look at a wider range of probes that have been developed and connect the method as a research method to a documentary method of interpretation.

With the use of probes, there comes a *pre-structuring* of the ethnographic interest through the way in which the probes are designed. This pre-structure is chosen by the designer, sometimes based on field study or interview work. Probes may also work in an interventionist manner, depending on the content and design. The specific tasks given, although open-ended, make the informant reflect and articulate their understanding of phenomena that in a non-interventionist study would have been studied indirectly or left for interpretation.

Participants in context: Documenting their experience

Yet another example of the development of tool usage in design ethnography is the use of participants' (smart)phones as a data collecting source. This allows researchers to get snapshots of the participants 24/7 (if so needed) without being present with the participants the whole time. As a design ethnographic practice these techniques makes it possible to collect information from multiple sites in parallel, capturing phenomena that are not tied to the culture of a place or a *genius loci*, but rather to phenomena that appear across these.

There are various approaches to this, often referred to as mobile ethnography (Stickdorn et al., 2014). Approaches range from prompting tasks through text messages (Raijmakers et al., 2009) to apps developed to let participants document their journey through services over time, such as ExperienceFellow (Stickdorn and Frischhut, 2012). What is common between these approaches is that they allow for a great number of participants in a variety of locations, who get tasks from the researchers which they perform as they see fit. In many cases, the tool is viewed as being neutral, although it also brings a pre-understanding of the phenomena under study, such as in the case of ExperienceFellow where concepts for documentation were collected from a vocabulary of service design.

Discussion

As we have seen, design ethnography has evolved from traditional ethnography as practiced within anthropology, and the standard design ethnographic study makes use of the same methods and tools as anthropologists would. The goals for the kind of knowledge design ethnography should produce have not changed from how they were framed by Salvador et al. (1999: 37), quoted in the introduction: 'to reduce the probability of failure specifically due to a lack of understanding of the basic behaviors and frameworks of consumers'. Looking at how the designers in our study used their insights obtained through design ethnography, that goal still seems valid – they synthesised the material in such a way that the basic behaviours were highlighted and the insights were later used to explain why the proposed design solutions were good.

The main difference between the designers and the anthropologists in our study is their motivations for using ethnographic tools, differences which lead to the dissimilarities we see in the process. The procedural differences are the strongest once the ethnographic material has been obtained, in how the material is analysed and synthesised. However, the review of newer developments within design ethnography highlighted the introduction of various artefacts as supporting tools for design ethnography (Gaver et al., 1999; Stickdorn and Frischhut, 2012; Vaajakallio and Mattelmäki, 2007). We argue that this is a sign of the maturation of design ethnography as praxis in its own right, equally influenced by both its 'parents', design and ethnography.

Maturing into a praxis in its own right brings new possibilities, but also new responsibilities. The establishment of design ethnography can hopefully lead to that the old question ‘is it really ethnography?’ (see Button, 2000; Dourish, 2006) being put aside, allowing a focus on developing its own tools. In doing so, design ethnography should however make sure not to forget lessons learned throughout the history of ethnography. Below we discuss some of the issues we see on the horizon and what can be done to avoid them.

Potential pitfalls for design ethnography

First and foremost, we want to highlight the somewhat ironic fact that using artefacts for ethnography removes the design ethnographer from the context. The research is still contextual, but the researcher might never enter the context which is designed for. This means that the introduction of artefacts not only brings positive aspects but also has a number of potential pitfalls. We discuss some of these below.

One of the potential pitfalls we see is that the cost-efficiency of ethnography through artefacts will lead to the approach(es) being used even when inappropriate. Looking at design’s recent history we see the use of the persona technique as an example of such a case – its effectiveness in communicating insights has led to an overuse (Pruitt and Grudin, 2003). It is seen almost as a panacea and often used without reflection on whether it is the most suitable tool for the specific case. Using artefacts to save time and money during the research phase might be a good idea when developing a new product or commercial service, but when designers work on social cases, care needs to be taken. Designers increasingly get the opportunity to work on social cases which have a large impact on people’s lives and/or society, in which it is important to be as thorough as possible and create a deeper understanding of those who are being designed for than the artefact-supported techniques offer. We, as design ethnographers, need to avoid the pitfall of becoming overreliant on any approach and always to make sure to choose the most suitable approach for the current case.

Another major pitfall to avoid when doing ethnography through artefacts is to under-estimate the effect of removing oneself from the context. In fact, looking at ethnography’s history we see that the call for the researcher him/herself to be in context, rather than relying on someone else being there, was one of the main points made by Bronislaw Malinowski. Anthropologists, he stated, rather than ‘collect statements from informants, write down stories, and fill out sheets of paper with savage texts’ from a ‘comfortable position in the long chair on the veranda of the missionary compound, Government station, or planter’s bungalow’ (Malinowski, 1954: 123), should:

> go out into the villages, and see the natives at work in gardens, on the beach, in the jungle; he must sail with them to distant sandbanks and to foreign tribes, and observe them in fishing, and ceremonial overseas expeditions. Information must come to him

> full-flavored from his own observations of native life, and not be squeezed out of reluctant informants as a trickle of talk. (Malinowski, 1954: 123)

Thus, to remove oneself from the context when doing ethnography goes against the fundamental reasoning behind modern ethnography. Designers doing ethnography through artefacts without entering the context of use need to be aware of this. Just as a mixture of techniques is used in traditional ethnography, designers need to make sure to use several techniques when performing design ethnography. Using ethnography through artefacts is often a suitable idea when doing design ethnography, but should not be the only technique used. Using ethnography through artefacts without being in context reduces the chances of serendipitous findings which can create great designs; it is also more likely to give the designers a less nuanced understanding than being in context themselves.

A final pitfall is that design ethnography may develop so strongly in the direction of ethnography through artefacts that it loses the connection to traditional ethnography. Design ethnography practitioners should work on keeping the discussion going with other types of ethnographers and continue to learn from the more established types of ethnography, which in many cases have come much further in their methodological and ethical discussions. However, the development of ethnography through artefacts in design has the potential of being a helpful set of techniques for other forms of ethnography as well. It is thus important to have a mutually beneficial discussion with other branches of ethnography where all sides can learn from each other and improve their own practice.

Implications for teaching design ethnography

The two-fold view of design ethnography which has been presented in this paper leads to implications for design ethnography educators. Looking to the traditional ethnographic techniques, educators need to highlight how the difference in goals changes how the information obtained is treated and analysed. Designers have plenty to learn from the more rigorous analysis performed by anthropologists.

As for the newer techniques discussed here, such as ethnography through artefacts, design (ethnography) students need not only to learn the various approaches but also to critically reflect on when they are suitable and when not. As highlighted, artefacts can support design ethnography in a number of different ways, and being knowledgeable about these different ways is just as important as training in the traditional ethnographic techniques, while technological evolution provides an increasing number of opportunities to gather information about participants' values and needs.

Conclusions

Design ethnography has evolved into an approach in its own right by appropriating ethnographic practice to the needs and reality of design practice. In doing so, it

has been criticised for not being proper ethnography. We claim, however, that design ethnography should not be judged on how its practice differs from ethnography but rather on how it can contribute to design practice. The techniques may to a large degree be the same as in traditional ethnography, but the goals differ so much that the analysis of the material leads to distinctly different results.

Furthermore, design ethnography has developed a number of new techniques which rely heavily on the insertion of artefacts in the ethnographic process. We have referred to this as ethnography through artefacts and see that design ethnography could contribute to other ethnographic approaches if these techniques become more widespread.

Design ethnography has an important role to play within design practice and as the approach continues to mature, its importance will only grow.

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Note

1. The advent fair is held in a small neighbourhood which also is an open air museum. The neighbourhood was constructed in the 1950s as the city, like most others, was modernised in terms of building standard. The neighbourhood consists of houses originally built in other parts of the town, but rather than being torn down they were moved to the old part. The neighbourhood is meant to give its visitors a feeling of what the town looked like in the early 20th century. Some smaller adaptions to modern life have however been done, such as opening up a gravel path in the streets to ease the pushing of trolleys and replicas of old houses being built from scratch.

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