

Back to the Roots

A New Ideal for Ethnographic Research for Interface Design

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Abstract: Ethnographic methods have become an important tool for interface designers over the last 30 years. However, as ethnography has been adapted to interface design, virtues of the approach have been lost. Based on the development of ethnography within anthropology, we highlight problematic issues in contemporary use of ethnography within interface design. The case study performed was planned based on the anthropological critique of how ethnography is performed within design. In the case study the timing of field insights were analyzed. Based on the findings we propose four issues which have been neglected in the ethnographic work of the interface design community thus far. These four issues make up a new ideal for ethnographic research in interface design: being properly prepared, analyzing the data properly and starting early, allowing the fieldwork to take time and finally the importance of getting first hand data.

Key words: *Ethnography, Interface design, Anthropology, Fieldwork, Human-Computer Interaction, Design methods*

1. Introduction

Ethnographic approaches have become very popular and somewhat of a household staple within user-centered design disciplines, such as interface design. Still, there is a surprising lack of knowledge about the method, its origins and theories, among many designers. In fact, many designers use the term ethnography to refer to any kind of field study. In this paper we set out to give an overview of the historical roots of ethnography within anthropology and how and why it was introduced within interface design. We then report on a study to inform the re-design of an interface. This study has been done closer to the anthropological way than is common within design. Based on the findings from this study we point towards several issues in which design could learn from looking back at ethnography's roots and adapt anthropological ways into common design practice.

2. Background

The background section of this paper is divided into two parts. First the evolution of ethnography from its historical roots to the current use within interface design is presented, and then follows an introduction to the case we discuss.

2.1 The evolution of ethnography

The word ethnography stems from Greek and literally translates “people writing”. Ethnography as such was born in anthropology where it also acquired formalization as a method. In fact, anthropologists speak of ‘doing ethnography’ when they do fieldwork. Over the years ethnography has spread from its historical roots to a number of disciplines, evolving into a family of various methods in this process with the roots in the original emphasis on participant observation.

In an essay of 1926, Bronislaw Malinowski urged the anthropologist to

... relinquish his comfortable position in the long chair on the veranda of the missionary compound, Government station, or planter’s bungalow, where, armed with pencil and notebook and at times with a whiskey and soda, he has been accustomed to collect statements from informants, write down stories, and fill out sheets of paper with savaged texts. [13, p. 123]

Instead, Malinowski continued, the anthropologist

‘... must 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. [13, p. 123]

The anthropological practice Malinowski argued against did indeed feature ethnographic fieldwork. First-hand experience through fieldwork had become an increasingly common practice among anthropologists since the last decades of the 19th century, gradually replacing an earlier preference for relying on correspondents in the field and other types of second- and third-hand information. Still, the fieldwork Malinowski dismissed was so very short-term in character that little else than information ‘squeezed out of reluctant informants’ was feasible. Anthropologist typically spent merely few days interviewing, observing, and collecting material culture.

Malinowski himself had practiced short-term ethnographic fieldwork. Due to World War I, however, Malinowski ended up doing fieldwork during two years in the Trobriand Islands, Melanesia, whether by design or by chance [11, pp. 9-12]. Returning to England after the war he was able to present a famously rich material on most aspects of life in the Trobriands. Not only did this place the islands on anthropology’s map of classics, it also established standards of anthropological ethnographic fieldwork that are still with us today. Main features of the Malinowskian fieldwork were his insistence on (cf. [11, p. 69])

- the importance of first-hand data-collecting by the anthropologist;
- that data-collecting takes place in the vernacular of the informants;
- that the anthropologist maintains a closeness to the informants; that is, the anthropologist is in the field around the clock, preferably living with or as close as possible to the informants;
- that ethnographic fieldwork is long-term. One year, preferably uninterrupted, in the field is often considered a minimum

No doubt, the Malinowskian standards were intended to awe, and awed they have generations of cub anthropologists preparing for their first fieldwork. The standards imply more a way of life, or a change of life, perhaps, than a research strategy. Given the expected deep immersion in the field, an anthropologist can’t be expected to do more than a few ethnographic fieldworks during a career.

The standards set by Malinowski's fieldwork in the Trobriand Islands undeniably caused something akin to a quantum leap in the quality of anthropological data. In particular, they influenced British anthropological practice, while a parallel development, if less outspoken and systematic, was taking place in the US promoted by Franz Boas and his disciples, among them Margaret Mead [11, p. 7, *passim*].

However, the Malinowskian standards also tended to set up new limits to anthropological analysis. While producing better data on particular societies, the focus on deeply contextualised qualitative data tended to limit comparative studies between societies. Associated with this, the Malinowskian standards directed interests towards the studies of small-scale societies which were described not as simple but as rather socially homogeneous. Indeed, the standards implied a socially homogeneous, bounded society, or at least a society so presented by the anthropologist.

Clearly, anthropologists interested in other types of societies would find it hard to follow the standards to the letter. Leach's study [12] of the Kachin of Highland Burma is one fairly early example. Here informants were dispersed, spoke different languages, and ethnic identities were fluid. How indeed could a single anthropologist cope with such a field following the Malinowskian standards? Other examples, more contemporary, abound among the many anthropologists who study people in urban settings, settings that are often too large, unbounded and socially heterogeneous for the Malinowskian standards to apply rigidly. Anthropologists' fields may be from the start multi-sited, each site providing one part of a mosaic, while still others do not have any localised physical existence at all, as for example internet communities. Thus, what can be termed the nature of the field is one factor that has forced modifications on the Malinowskian standards. The solutions have been various, including a number of short ethnographic fieldworks at one or several locations [4, 7] or cooperating teams of anthropologist [5].

A related factor that has influenced anthropological practice is the chosen focus of the study. To tone down processes of change was explicit in Malinowski's early theoretical outlook [14], and this was carried over into the standards he set for fieldwork. Paradoxically, to immerse oneself in one particular society for a year or more tends to produce something of a snapshot of the contemporary. Obviously, this doesn't satisfy anthropologists who are interested in processes of change. They frequently need a longer time-span than given by the Malinowskian standards. Solutions have varied from restudies of one's own or others' field [6], to fieldwork consisting of a number of short field visits spread out over time [9], or 'chain-fieldworks' in which anthropologists work in relay [5].

Anthropologists' restricted focus demonstrates another cause for modifying the Malinowskian standards. Every focus is of course restricted, but some more than others. While Malinowski aimed at a socially holistic description, many anthropologists today are interested in only some particular aspects of people's lives, for example what they do at work [10, 19]. In such a case, a long-term continuous ethnographic fieldwork around the clock, as close as possible to the informants, does not apply. A restricted focus carries its own dangers,

however, as anthropologists have learnt from the debate about the quality of Mead's ethnographic fieldwork, particularly the one of Samoa [15]. The study of the part may well be flawed by partiality.

The Malinowskian standards have been considerably modified in today's anthropological ethnographic practice. Once formulated as an ideal, they still remain the ideal which anthropologists tend to use for a self-definition as well as a definition of what sets anthropology apart as a discipline. Nevertheless, while field and focus have introduced modifications that align anthropology with other research practices, at least one part of the Malinowskian standards is even stronger emphasized today than it was at the time of Malinowski. That is, the insistence of first-hand data-collecting by the anthropologist, motivated by the increasing awareness of the subjective qualities of human relationships, including that of the relationship between the researcher and the informants, and hence the subjectivity of anthropological ethnographic fieldwork.

As ethnography in the form of participant observation developed, the methodology received interest from other fields. Today the method is used within most, if not all, social sciences. An example of the early use of ethnography within interface design is the work which the anthropologist Suchman performed at Xerox [20], a work that stayed close to the anthropological notion of ethnography.

As ethnography became more commonly used within the academic world differences between the academic ideal and the realities dictated by companies became evident. The time available for a study was one such difference. Researchers tried both to overcome industrial resistance to long-term research and to shorten the time needed in various ways. A paper by Hughes et al [8] reported on a study in which they performed ethnographic studies during 18 months, analyzed the data and constructed prototypes in a series of iterations. They concluded that "although there is always more to learn, the payoffs for design, at least in this case, came relatively quickly in comparison with social research uses of ethnography" [8, p. 432]. A number of papers on ethnography, published around the millennium change, similarly tried to introduce ways of adapting ethnography to the constraints and needs of the design field. A typical title from the era is "Rapid Ethnography: Time Deepening Strategies for HCI Field Research"¹ [16].

The way interface design appropriated ethnography by shortening the time, and also by seeing it as just another way of collecting data, has however met an increasing amount of critique, partly from anthropologists working within design [17, 21] but also from interface design-professionals [2, 3]. Dourish, for example, notes that:

[T]he dominant view of ethnography is that it provides HCI researchers a corpus of field techniques for collecting and organizing data. The term "ethnography," indeed, is often used as shorthand for investigations that are, to some extent, in situ, qualitative, or open-ended.[3, p. 543]

Van Veggel similarly remarks that:

[D]esigners approach ethnography for the practical reasons of gaining a rich and deep understanding of users that can be easily integrated into design projects. [21, p. 5]

[A]nthropologists 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. [21, p. 8]

¹ HCI stands for Human Computer Interaction

2.2 The Case

The study presented in this paper is a re-design project of the graphical user interface (GUI) of an internal cell phone network simulation tool at one of the largest telecom companies in the world. The software was first developed during the early 1990's and has been continuously developing. Many new functions have been added but no major GUI work has been done since 1998. One major issue identified by the development team was the huge increase in the elements of the cell phone network. In 1998 a large cell phone network consisted of up to 75 elements, whereas it was common with networks of over 10 000 elements in 2008 (which is the time of the study) It is estimated that networks are to be able to handle 30 000 elements by 2011 [18].

3. Methodology

The methodology used for the field study was influenced by the anthropological approach to ethnography as described by Agar [1] and by the critique of ethnography for design put forward by van Veggel [21]. Two important points from van Veggel's critique can be summarized as follows:

- Designers are often not properly prepared for fieldwork
- Designers do not analyze the data as thoroughly as they should

The fieldwork was prepared during seven weeks. The preparations included a discussion of methodology and a study of the then current version of the software. The fieldworker worked closely with the GUI development team during this phase, creating various mappings of the system, such as an idealized work flow in the program (from the developers' view) and a map of the menu system (which did not exist earlier). In this way the researcher learned the 'local language' before entering the field. While learning the system, a number of potential focus points was suggested, which were intended to aid the researcher in the field.

The fieldwork lasted 18 days, and took place at a different site than where the development of the GUI was carried out, starting on Tuesday Week 1 and ending on Thursday Week 4. The first week was used to build rapport with informants, explore the work environment, and to decide on focus points for the coming weeks. A large part of Week 1 was spent in the company of a member of the GUI development team, who was visiting the site to provide support.

The following weeks consisted of work directed by the selected focus points, and a preliminary analysis of collected data was done. The preliminary analysis helped to direct further investigations, particularly pointing out gaps which then were filled by informal interviews with key informants. The preliminary analysis was continuously written down in the form of summarized field notes.

A more thorough analysis of the collected material was performed after the fieldwork had been finished and a design rationale was constructed. From this a suggestion for a new GUI was designed. After that, several iterations with user tests and improvements were made, leading to a high-fidelity prototype of the suggested system that was handed over to the GUI development team.

The design rationale was also analyzed in regard to when the various data points that lead to items in the design rationale were collected. Insights were categorized as either observation-based (one single observation leading to a point in the design rationale) or analysis-based (when the analysis of the material pointed towards a pattern which was worth noting).

4. Results

This chapter is divided into two parts; one summarizing the main insights from the field study and one focusing on the analysis of the results.

4.1 Insights from the field

The field study and the subsequent analysis yielded a large number of insights. Three patterns, which importantly influenced the final design suggestion, are presented here.

First, the development team's work on the current GUI had been oriented towards user groups, and these user groups had been developed according to their work tasks. However, it was noted that there are better ways of grouping the users. One such way is not to divide the users according to the organizational structure but according to the role the system has in the daily work routine: as a primary tool, as a secondary tool or as a background tool.

Second, divided in this way it is evident that knowledge and functional proficiency vary extremely between the groups. This implies that the design has to support the work flow of those who work in the system eight hours a day as well as of those who use the software maybe once a month. Indeed, different users speak about the software in different ways; those who use it often refer to it by its name, whereas those who use it irregularly add a 'the' in front of the name. The latter also see the software as the simulation it provides (as an example, try putting 'Excel' and 'the Excel' in a sentence).

Third, it was also noted that users are interrupted frequently in their work flow. There are three major types of interruptions: colleagues coming over to the desk to discuss something, incoming phone calls, and a large amount of incoming e-mails. These are all rather formal ways of interacting and exchanging information – they are goal oriented. Indeed, very little informal exchange of information about the software appeared to take place within the site. The site is located in a small community and has several hundred employees. Many employees have friends working in the same complex, and prefer to spend lunches and coffee breaks together, instead of associating with close colleagues. This pattern of behaviour tends to limit the potential for informal information exchange.

4.2 Analysis of results

When the design rationale had been constructed, the insights that led to a point in the design rationale were tracked in the field notes. These insights were grouped as either Observation or Analysis. Observation was tagged by the day when it was first noted and Analysis was tagged by when the first note that led to the final insight was made - not when the insight as such was formulated. Insights that were discovered in the analysis

after the fieldwork are entered as a Week of their own in the summary below. Figure 1 and Figure 2 give the results of these mappings, on a daily and on weekly basis, respectively.

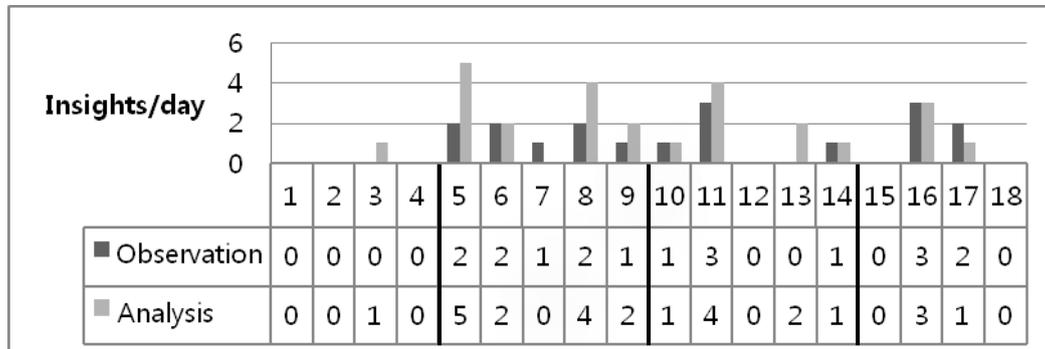


Figure 1- Number of insights from the field study for each given day of fieldwork, with markers emphasizing which days belong to which week of the study.

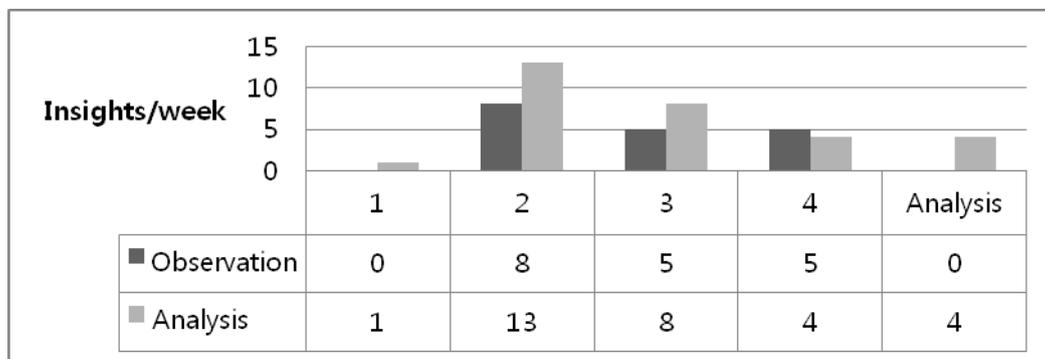


Figure 2 - Number of insights from week to week.

The results point to three observations:

- Most insights were generated in Week 2 and Week 3. Week 1 yielded only one insight.
- There is a weekly decline in insights from Week 2 and onwards. However, there is no such pattern in the daily findings. Instead, there are peak days as well as low days.
- Out of a total of 48 insights, 30 are categorized as Analysis and 18 as Observation.

5. Discussion

Van Veggel [21] criticized the lack of preparations before designers enter the field to perform ethnographic studies. This study was designed to include thorough preparations before entering the field. The designer learned the software from the developers, which corresponds to learning the local language in Malinowski's terms. Furthermore, a list of potential focus points was prepared to facilitate the continuous analysis and to direct the fieldwork. After the completed analysis and mapping on the major insights according to the point in time in which they emerged it was found that Week 1 only yielded one substantial insight for the design rationale. During this week rapport was built with informants, and we propose that the initial time in the field also should be viewed as a form of preparation. The week lets the designer find which focus points are relevant as well as lets the informants get used to being studied. Thus the field prepared itself to being studied. With this view the border between preparation and observation becomes fuzzy.

Van Veggel [21] also criticized the lack of analysis of the collected material, in the designerly way of doing ethnography. The analytic aspects of fieldwork were given a large role in this study, and the mapping of insights showed that a majority of the insights came through the analysis of the material. The continuous analysis had two main goals; to summarize the data collected (analysis aimed at insights) and to pinpoint the gaps in knowledge which existed (reflexive analysis). The reflexive analysis led to a number of new insights in both categories, when the fieldworker focused on filling in the identified knowledge gaps. Most findings in Week 4 were due to probing into questions raised by the reflexive analysis. We want to stress the help the continuous analysis provided in focusing the fieldwork.

6. Conclusions

From the results presented in this paper a new ideal for ethnographic research emerges. We propose that designers who want to take full advantage of the potential in ethnographic approaches need to consider the following points:

- *Be properly prepared:* Although the fieldworker spent several weeks learning the system, Week 1 of fieldwork did not yield many insights. Instead Week 1 should be seen as period during which rapport was built, that is as a way of letting informants prepare themselves to being studied. Rapport was built through formal introductions and also by showing that the fieldworker would not disturb the normal workflow. This first week also enabled the researcher to identify the focus points to guide the fieldwork. After selection of focus points and preparations for and of the field, there was a large increase in insights. These insights were in many cases vital for the fieldworker's understanding of the field, for example, the identification of new user groups.
- *Analyze and start analyzing early:* The importance of simultaneously analyzing insights, as well as a continuous reflexive analysis, is underscored by the fact that the design rationale to a large part was constructed by these. A simultaneous analysis also provided a good way of structuring impressions for the fieldworker. Indeed, many insights were noted already during the preliminary analysis during the fieldwork. Moreover, the simultaneous analysis also provided a foundation for the reflexive analysis. Reflexive analysis may help the fieldworker identify issues not articulated or directly visible. When such issues are identified, the reflexive analysis raises new research questions. Nevertheless, it is also important to stress the need for a thorough analysis after the fieldwork is completed, as this is where the larger patterns commonly emerge.
- *Let the fieldwork take time:* Ethnographic style fieldwork for design often only lasts a few days, but as shown here, insights cannot be planned. A glance at the weekly summary of insights gives the impression that the earlier quoted statement by Hughes et al [8] regarding the quick pay-offs for design when it comes to ethnographic research holds. However, a closer look at the mapping of insights per day makes it evident that this view needs to be nuanced. Not only in Week 1, when no substantial insights appeared, but also in following weeks, there were slow days. If the study had been aborted after Day 12, in which no new insights appeared, a third of the direct observations would not have been made. Focusing on the two different types of insights, it is also worth noting that the decline in the weekly findings is in the Analysis-category. The point is that although one never knows when the next insight will appear, it is clear that they consistently appear over a longer period of time than a few days.

- *Get first hand data*: As the collected data needs to be analyzed continuously and, the importance for the designer to do the fieldwork him/herself has to be strongly stressed. Moreover, if the designer lets someone else do the fieldwork, he/she will often lack the empathy and contextual knowledge needed for the analyses. To the point, if the fieldworker and designer are different persons – many details may become lost in translation.

The new ideal we propose for designers in ethnographic research retains the fundamental principles that have been developed in anthropology. Although it differs from the Malinowskian standards, it aims at respecting the fundamentals in ethnographic research of time, closeness and contextuality. As anthropological practices have changed since Malinowski's day, there is no need for the designer to become a Malinowskian anthropologist. Nevertheless, in the more pragmatic view, designers can learn from going back to the roots of anthropology, just as anthropologist can learn from the practices of the designers.

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