UNIVERSITY OF GOTHENBURG
FACULTY OF EDUCATION

“Where here are you”:

Overcoming mobility by location formulation

Kateřina Černá

Thesis:	30 credits
Program and/or course:	International Master of Educational Research
Department:	Department of Education and Special Education
Level:	Second cycle (advanced)
Term/year:	Spring 2014
Supervisor:	Ylva Hård af Segerstad and Alexandra Weilenmann
Examiner:	Dennis Beach
Rapport nr:	VT14 IPS04 PDA184

Abstract

Thesis:	30 credits
Program and/or course:	International Master of Educational Research
Level:	Second cycle
Term/year:	Spring 2014
Supervisor:	Ylva Hård af Segerstad and Alexandra Weilenmann
Examiner:	Dennis Beach
Rapport nr:	VT14 IPS04 PDA184
Keywords:	Affordances; mobile communication; communication chains; location

---

Aim: To explore mobile communication through location formulation

Theory: sociocultural theory

Method: mobile data collection and conversation analysis

Acknowledgements

I would like to thank to Ylva Hård af Segerstad and Alexandra Weilenmann for leading of my thesis work. Thanks to their approach to our cooperation, its practical implementation and stimulating communication I could benefit from thesis writing not only on the academic level but also on the personal one.

Contents

Introduction

This document is an additional text to my article called “Where here are you”: overcoming of mobility by location formulation. Together both texts form my master thesis in the program International Master of Educational Research at the Gothenburg University. This text addresses issues that could not have been addressed in the article because of the limited space. Firstly, a more extensive literature review is provided, placing the article in a broader discussion about technology and social practice. The second section is devoted to the methodology. The article is placed into a wider methodological field and later on methodology and methods used in the thesis research are presented into details. Thirdly, the aims of the article are derived, followed by a section highlighting learning in the text. Fourth section is devoted to the question of validity of the thesis research. Next, ethical issues are referred to and the following section focuses on the future research. Finally, a personal reflection on the whole thesis work is presented.

Development: from Vygotsky to Gibson

The aim of this part is to provide the reader with a background and place the article into existing research.

Social interaction and development: the background

Firstly, the socio-cultural theory will be introduced as the background framework of the thesis. The framework emphasizes the key role of communication in human interaction, but also extends the social interactionism with placing development in the communication. It also introduces tools as an important part of communication.

Socio-cultural theory

Socio-cultural theory is related to the work of Vygotsky and a group of his students. They were interested in human development: how is it possible that a person who is an individual, an isolated unit (body wise but also mind wise) apparently can learn all the things that all the other people can? (Vygotsky 1978). In other words, how are the socio-cultural processes connected to the individual psychological processes of individual people? How does the connection happen?

To understand these questions we need to view Vygotsky’s work in the context of his intellectual field first. His work emerged as a reaction to previous psychological perspectives that viewed human development as something that arises from the individual at first (for example Vygotsky’s critique of Piaget in Vygotsky 1962). In order to understand human

development Vygotsky viewed human action as always situated, always in the cultural context of the given social situation. The social activities were always mediated via a tool. These tools could be either concrete (like a shovel or a mobile) but also abstract (like concept but also language). And it was language (or in other words communication) that was the main tool that helped to mediate the situated practices.

This approach was then applied on the development by Vygotsky as well: what people learn is never an abstract process, it is always learning of something (LinCS Research proposal). The development of individuals (or in other words learning) is always carried out through a certain tool, through a language but further on it might be also pictures, computer or mobile phone.

So now we know how is learning viewed by Vygotsky as a social action, but how does it happen? To explain this process, Vygotsky developed two terms: the knowledgeable other and a zone of proximal development (Vygotsky 1978). Zone of proximal development represents a space where the minimal potential development of a learner can happen. To get over this zone however, a participation of the knowledgeable other is required. By being exposed to a person with more experience the learner can develop in a certain way. And finally, similarly as every human action even learning never happens without being mediated and it always happens through certain tools (Säljö 1999).

To sum up the relevant thoughts of this perspective, learning or human development in general is always social, it always happens within a social context and it is always a result of a social interaction. The development is mediated via tools, like for example a language. That points to a strong connection between learning and communication happening in the context of social interaction.

Goffman

Importance of social interaction can be also found in the work of Goffman. He explains human behaviour with his dramaturgical approach. He says that how people behave towards each other is not so much a matter of their psychological qualities, but more a set of reactions when exposed to each other. When people communicate they are trying to presents their self in a certain way that is then perceived (or not perceived) by others. “In the face-to-face interactions people assign meanings to actions of others and aim at making themselves being understood” (taken over from my Master research proposal). Who they are is then created not “inside” because the realization of the self happens only when in mutual

interaction (Goffman 1990). Further on, Goffman also brings the notion of analytical frameworks: those are organizing structures emerging from the social interaction but towards which people orient and by that structure their social interaction (Goffman 1986).

Garfinkel

And finally, it is also Garfinkel that provides us with deeper understanding of social interaction. With his concept of ethnomethodology he shows how people develop certain methods that help them understand the world around them. Wit these methods they make sense about their daily routines consequently constructing the social order (instead of the social order just being "given" as in traditional sociology) (Garfinkel 2009).

Altogether, Goffman and Garfinkel help us to understand social interaction and its connection to human behaviour. Their work has also important implications for mobile communication: what is said is not only a product of what the given individual wants to say, but it is a combination between certain analytical frameworks and the perception of being exposed to and influenced by other people. Further on the speakers develop certain strategies how to grasp the world around them. However when combined with Vygotsky's legacy that places development that happens through the communication on a prominent position in the social world, it highlights important implications for understanding of mobile communication as an adaption (in other words development) to the special circumstances that the mobile phones create.

The relationship of social and technological

Technology as social construction

The previous chapter showed how social interaction being shaped. Because we live in a society where machines and technologies are of such high importance, further on I will present a discussion related to an impact of technology on social relations. The influence will be considered not only in the expected areas (science, economic…) but also in its wider implications.

Technology and tools, like a mobile phone or a bike, are just ordinary things in our lives. They are designed in a certain way, in a form of quite useful contribution to our daily routines. They were made as finished products in some anonymous factory being designed by some anonymous engineers. This is not a citation of someone's research: this is a daily observation how is technology perceived in the "normal life". And this also how it was

perceived in the social science some decades ago as well. Technology was something we used, without noticing any impact on social relations: the machines, the technology were invisible to the social science.

However that had changed during the 80s when new perspective in social sciences started to emerged: social constructivisms. The main aim of social constructivism was to reveal that things (or identities or relations…) are not objectively given, but they are constructed by the social relations they are in (Berger and Luckmann 1979). Language and communication then play an important role because it is through their means that individuals can assign meanings to certain things and re/construct them in the social context.

One of these constructivist perspectives focused also on tools and on technology in their broader sense. For example Pinch and Bijker (1984) proposed to view technology from an integrated approach that combined *EPOR (The Empirical Programme of Relativism)* that has its roots in the science of knowledge; and SCOT (The Social Construction of Technology) that has been developed by Bijker and his colleagues (Bijker 1987). Combining of those two perspectives should benefit in understanding of construction and therefore also impact of technology in a society.

There are three basic concepts that constitute the integrated theory of sociology and technology. Firstly, it is interpretative flexibility. As Pinch and Bijker put it: “not only that there is flexibility in how people think of, or interpret, artefacts, but also that there is flexibility in how artefacts are designed” (Pinch and Bijker, 1984: 421). In other words, it is not only the use of the given technology that is impacted by its social context, but it is also the design itself that is being formed by the relevant social group (the people who actually start using the technology and not only those for whom it had been designed). This concept opposes the traditional view that technology is designed to served in the “best way”.

Secondly, it is closure and stabilization of an artifact. This concept is related to the question of when is a certain product or artifact finished: When it is released from the factory? When it is bought? Or when all the problems are fixed? Pinch and Bijker connect this concept again to various social groups pointing out that different usage might actually lead to conflicts in the designs (Pinch Bijker 1984: 424). .

And finally it is a wider context that plays an important role in the social construction of technology. It is not only the relevant social groups (the groups that are influenced by the

use of the given technology) but also wider social context, as sociocultural or political relations (Pinch Bijker 1984: 428).

Critique of social constructivism

However even this approach has been criticized. Winner (1993) for example turns to the notion of "opening of the black box". Social constructivist (such as in Pinch and Bijker 1984) sometimes criticized the traditional approaches that they view technology as a black box - that they take it as a given thing and are only interested what happens around it but do not really perceive the constructiveness of the box/technology. Though Winner appreciates the empirical model they provide us with, he questions the narrowness of the approach and he states several issues that the social constructivist approach avoids or do not consider.

Firstly, it is ignoring of possible social consequences. As Winner puts it, having explained all the possible ways how technology as constructed, it is not reflected at all how is it actually going to influence the users' personal experience and other related social interactions. Also some sort of coming back to the field of technology and proposals for possible application are missing.

Secondly, it is the irrelevant social groups that are completely avoided from the whole perspective. You might be wondering what do groups, for whom are the given technologies not relevant, have to do with their designing and social constructing? Winner turns the question around and asks:

"Who says what are relevant social groups and social interests? What about groups that have no voice but that, nevertheless, will be affected by the results of technological change? What of groups that have been suppressed or deliberately excluded? How does one account for potentially important choices that never surface as matters for debate and choice?" (Winner 1993: 369).

In other words they avoid the power dynamics (who has the right to decide) involved not only in the construction of technology but also in the construction of the groups that are going to be using the given technology. Further on, Winner also talks about the possibility that viewing technology only in the context of groups might be a too narrow scope as well. He brings the example of changes of structure as a possible explanation to the societal and technological changes. In other words he raises the issue of relevance or usefulness of such approach: what does it actually say it to us not only about the technology but also about the social practices the technology is being used in?

Affordances as critique

Also Hutchby (2001) uses critique of the social construction technology approach to create a starting point for his perspective. He divides the discussion related to socially construction of technology into two fields defined by their focus. The first one explores interaction between the social and the technical as its main theme, presenting the social as having impact on the technical (ibid p. 16). On the other hand the second field focuses on socio-technical networks, that do not view difference between social and technical as relevant (ibid p.19). But both fields present technology as something that is being socially constructed: its use depends solely on how the use is interpreted by the users themselves.

However as Hutchby points out, this approach does not reflect the existing materiality of the technologies. The use of telephone can be interpreted in many ways, however if the user will not be talking to the mouthpiece, the communication will not be successful. Hutchby therefore uses Gibson concept of affordances in order to connect the social context and the materiality of the technology.

Gibson (1986) talked about the relation between environment and animals living in it: they use or cannot use certain features of it. Those features are then called affordances and they express the possibilities or constraints the features of environment provide the animal with. The affordances are both positive and negative which depends on how they are perceived. The affordances are given by the physical qualities of the environment but at the same time they have to be perceived in a certain way to become affordances. For example water surface can have the affordance of “to be walked-on” if the animal is small enough (for example a marsh treader); for bigger animals the water surface would present a negative affordance because they cannot step on it. Gibson applies this approach to humans and artifacts too (ibid). But the affordances are not relative - they would not change because they are closely connected to the physical qualities of the material. But at the same time the affordances always depend on the person (or animal) who perceives them.

Affordance of telephony

Hutchby (2001) uses the concept of affordances and applies it to telephony. He places the telephony in a wider context of technologies for communication. Those are not only technologies we communicate via but they are also technologies that we communicate with (ibid p.2). He argues that the adoption of the telephone has led to transformation of the social interaction: using the telephone to communicate has brought novelty social practices to the ordinary social interactions. These novelty social interactions can be explored through

analysis of the telephone communication and in order to do so Hutchby applies the concept of affordances on the telephony.

Telephone as any other artifacts has certain affordances and because they are connected to communication Hutchby calls them communication affordances. However they are not the only thing that forms the mediated communication. There are also certain norms that comes from the "non-mediated world" that the speakers orient themselves towards: the so called normative structures. The mediated communication is then a result of interplay of those two aspects (communication affordances and normative structures). On one hand there is the telephone that promotes its use in a certain way (for example the earphone with hole suggests that something will be coming "out" of it), but at the same time the use is not infinite but it is limited by the physical qualities of the phone (you have to listen only from a certain distance to actually hear the other speaker). It is the combination of limits and the promoted possibilities that route or direct the use of telephones and the related social practices. Hutchby (2001) argues that all this leads to emergence of new social practices: because of the communicative affordances the speakers has to adapt or reconfigure their normative structures in order to adapt to the affordances.

Mobile phone: does it have an impact?

The Hutchby's book was published in year 2001. He brings extremely valuable perspective on the modern communication technology, however when talking about telephony, he explores only landlines. Because the use of mobile phone exceeds the use of landline (Fransén 2013), the Hutchby's use of the concept of affordances will be extended on the mobile communication. Mobile phone will be therefore introduced as a special technology, allowing us something nothing else can - communicate with others while we are being mobile. This chapter will provide discussion of research relevant to social practices connected with mobile phones.

The rising numbers of mobile phones has attracted attention of several social researchers. One of the questions that took over was: does this have some impact? Does using of mobile phones influence us? For example Ling and Donner (2013)bring their notion of mobile logic in order to explain impact of the mobile phone on the society. He argues that today people organize their lives according to the expectation that everyone has a phone. This expectation is not explicitly formulated, but it is "increasingly taken for granted to the degree that we only see it when it's not there" (ibid p.29). This "grantedness" can be observed on a

simple example of arranging of meeting somewhere. Not agreeing on an exact place or coming late has become a routine - everyone knows they can only ring and arrange a specific point for meeting or provide an excuse why they will be late. This micro-coordination would not be possible with regular phones - it can only happens with mobile phones (Ling and Peddersen 2005).

Also Katz and Aakhus (2002) are interested in how the mobile phone influences the society and therefore they focus on various cultures and social groups and their interplay with the mobile phones. They suggest a new framework termed with the name “apparatgeist” which describes the inner logic of the personal communication technologies. The technologies provide their users with a solution for their constant need of contact but also requirement of autonomy. Mobiles phones then provide a solution for this tension.

But those studies stay only on the cover of the problem: they describe the mobile phone use but not really what really happens. They do cover macro and micro level of the use of mobile phone, but they do not show what actually happens in the communication when done through the mobile phones. A new generation of researchers however started addressing this issue (how those approaches are reflected even in methodology you can read in the next chapter).

Similarly as many other new fields, even the field of mobile communication is quite messy and it is more useful to view it through a certain scope. Because this study is data-driven, location has been identified as something that the communicators do orient to therefore the field of mobile communication will be further on presented on the example of location.

For example Hutchby and Barnett (2005) present mobile communication in the comparison with the landline. They point out the similarities that both types of communication bring and use the term affordances to describe them. As they show the difference between affordances of mobile phones and of landline are not really radical but they do differ significantly in one aspect: in regard to mobility. They illustrate the difference for example on topicalization of location. When talking via landline, location of the speakers does not come up in the conversation, because both parties have some sort of idea where the other person is: at home, that is why they can talk to each other. Location comes up only when something unexpected happens for example when the answering party picks up the phone too quickly; then the location is exemplified (“were you sitting at the phone”?) (Hutchby and Barnett 2005). However when it comes to mobile communication, location of

the speakers happens to be questioned and formulated way more often because it is not necessarily mutually known.

Other authors have focused only on mobile communication but similarly as Hutchby and Barnett focused directly on the communication and what happens in it. Arminen and Weilenmann (2009) analyzed mobile through the concept of Godwin's mobile contextual configurations and argued that by sharing of knowledge and using surroundings as resources the mobile speakers can orient themselves and constitute their actions accordingly. One of such uses of surroundings and knowledge sharing can also happen by formulating of a location the speakers. Should be location formulated in a "seductive" way, it might be taken as an invitation to join the other speaker; an inquiry in a routine girlfriend-boyfriend call about location can reinforce their intimate connection.

Further on, formulating of location was identified as a way of signalling availability to talk (Weilenmann 2003) or serving various social functions as coordination of joint activities or mutual activity precursor (Arminen 2006).

In other words in order to understand mobile communication it was necessary to look at the way certain topics are formulated and how is the structure of the conversation created by the speakers. By focusing on what people do in mobile communication can we then assume on the related social practices. When a location is formulated in a certain way, it serve as a instruction or a initiation for the other speaker so s/he can do something (accepts, proposes, moves somewhere) – what they would not be able to do without communicating via mobile phones.

Methods and methodology

Aim of this chapter is to place the article in the wider field of methods and motivate the choice of methodology by presenting conversation analysis. Further on, it will discuss contemporary research on mobile phones. The next section is then devoted to the methods used in the research itself.

Methodology: creating focus for my own methodology

In this part I would like to present methodological framework that will place my research into a wider context of research methods. No similar corpus of both text and spoken production is known to the DNA research team at the moment of the text creation. Therefore methodology has a prominent position in the text because it is dealing with methodological issues as well as issues arising from big amount of data in this form.

Authors who are focusing on the field of mobile communication claim it is still under researched (for example Ling and Donner 2009, Katz and Aakhus 2002, Hutchby 2001, Laursen 2012, Arminen and Weilenmann 2009). Therefore the study has an exploratory character that is matched with a qualitative approach. The study does not try to get a representative sample, because no generalization will be made. More importantly following the premises of the constructivist perspective (that was described more into details in the previous chapter), it is not us (researchers) who should identify any variables either before coming to the "field" or after– the task of the researchers is to observe what is it that is important for the research participants themselves. In order to do so we needed to record the communication "as it really happened", in its most natural form (how we did that you can read about below in the Thesis methodology) so we can better insights on how people actually do it in the mobile communication.

Methods in Mobile research

On the first look, research on mobile phones might look quite extensive (considering the number of hits you get when searching for articles). But it is only when you focus on what is it the research actually focus on it becomes clear that it is mainly research providing technical inputs or studies based on theoretical approaches (for example Sakari and Fortunati 2014).

But how should we approach mobile phones when considering our methodological possibilities? Mobile phones have been recognized as an impulse to reconsideration for methodology because on one hand they open many new possibilities (for example to record communication over the phone) but on the other hand traditional methods are often difficult to use (for example it is difficult to observe mobile usage because the phones are quite small and access to screen is quite limited) (Wei 2007). Wei presents mobile phones not as a new tool that should supplement the traditional but she puts emphasis on using multiple methods to grasp better understanding of the social practice. She recognizes three types of mobile methods: traditional (for example interviews), self-collecting (for example mobile diaries) and finally automated recording or filming of the behaviour.

However only when we get direct access to the communication as it happen naturally can we find out how it is structured and consequently also related (possibly) to new social practices. But how do we get access? It depends on our technical (and possibly also financial) possibilities. For example Weilenmann (2003) focused on one participant in her study and let her record her calls via a headset that was connected to the mobile phone. The

calls were recorded on a small recorder in order to allow the participant decide which calls she wants to share with the researcher. That is a big step towards the possibility to record naturally occurring communication, however as Weilenmann writes herself the technical conditions were still not ideal: the participant was not used to to the headset as well as she had to press a button before receiving or making any call, that could have been interrupting the wanted natural character of the communication.

In comparison Hutchby and Barnett (2005) recorded mobile phone conversation and compare it with landline pointing to possible differences. While they used secondary landline calls, the mobile ones were collected through "integrated digital recording device" (ibid p.149).The calls were later on transferred to analogue tape and transcribed. They unfortunately do not mention how the device was integrated to the phone – if the participants had to receive a new mobile phone or if it was necessary to dismantle their own.

The final example brings even more developed way of getting data from the mobile phones: Laursen (2012), who focused her study on six teenagers, collected communication data with the help of a leading mobile company. The calls therefore did not need any special additional equipment.

So the methods of collecting started being really sophisticated and suitable for the mobile communication research, however the question of what is it that should be collected has become relevant. It has been gradually recognized that mobile communication does not involve only spoken production and therefore a study trying to explore mobile communication should not focus only on the calls but also on the textual production (Helles 2013). When considering the previous examples, it was only Laursen who actually managed to collect SMS as well.

However she/they talks "only" about mobile phones or should they be some smarter version, it has not been reflected in the data collection. However with the arrival of smartphones, that can be called "programmable mobile phones" (Raento et al 2009), even more possibilities connected to data collection opens in front of us. Smartphones bring changes on many levels: from what you can actually collect (recorded communication, location etc) to implications for ethics (more smartphone benefits as well as disadvantages in the Ethics section). The mentioned researches collaborated with phone companies. However is not there any other more simple way of doing that?

Smartphones

However one of the best options (or at least really good start) seem to be the possibility to directly access the whole package of mobile communication in order to understand the mobile communication and related social practices. Not asking, not writing about it but being "there", have the option to actually observe how do the participants do it with their phones. To get such access is of course not non-problematic. Mainly because of technical and ethical issues direct access to mobile communication that would happen without funny equipment attached to the phones were not possible. However with the arrival and a wide spread of smartphones, this has started to change and we might be standing on boarder of something big. There are still highly relevant ethical issues (see more on them below in a special section) but they are manageable in a better way due to the better technical solutions.

Smartphone as a tool for social research has been recognized for example by Raento et al (2009) that three possible uses of the smartphone. Similarly as Wei (2007) they do not promote smartphone as the only way to collect data, but as a tool that could enrich the traditional data collecting ways and consequently also enrich the understanding of human communication and behaviour. Raento et al (2009) talk about three examples of smartphone usage: in the first example he focuses on smartphone as a computer-mediated communication tool, emphasizing the notion of programmability of smartphone and consequently the range of data that are possible to collect via the phone. The second example belongs to the field of design ethnography: by combining of several traditional methods (like focus groups) and new modified and adapted methods (self-diary on SMS and workshops on the produced data) allowed the researchers to understand the behaviour connected with smartphone usage. And finally a social network analysis (that should not be mistaken with the social media analysis) that helped understand social dynamics in groups through information about mobile communication, position and state of the phone. What method was actually used in the research related thesis you can see in the next section.

Thesis methodology

The thesis is closely connected with a project called DNA and without its contribution it could not be done in such way it was done. Therefore some comments on the project will be made. The project focuses on mobile communication and has two main aims: first is to create a platform for studying mobile communication that is going to cover not only a lot of data (organized into a corpus) but will also develop techniques and methods how to handle the data. The second aim then is viewing the naturally occurring communication as a

chains or sequences that can be analyzed as such. That involves for example following using of different communication channels. In other words, the importance of the projects lies in developing new ways of exploring social practices connected with mobile communication that is still viewed as an under researched field (for example Ling and Donner 2009).
How is my thesis connected to the DNA project? It follows the logic of the project and presents smart phone as a suitable research tool gaining first sets of data for the corpus; as well as reflects on intertwining of sequences through different communication channels (Laursen 2012).

Research tools

As we could see in the overview, there has been a lot of development happening in the sphere of data collecting related to mobile communication. The research, to which my thesis work is related, is trying to deal with most of the previously mentioned issues. Therefore the collecting tool should be unobtrusive (should not disturb the communication and the usual behaviour of the callers in any way), should be easily accessible, if possible at low costs (for example avoid any technical modification); on one hand it should be collecting data through automated means, on the other hand the research participants should be able to keep control over what they are sending where. As it was said, smartphones are basically programmable phones and therefore we could found all those qualities in one simple solution – applications.

Applications - choices

Application is simply a software that can perform an action. We started with ACR Call Recorder and SMS Back Up.They can be used for mobile communication research due to following characteristics. Firstly, both applications were developed for Android and they are can be used for no costs. Secondly, they can be installed and uninstalled within few minutes, both actions can be done very easily (not requiring special technical skills from the researcher or from the participant). Even when the application is installed the research participant can use the phone as s/he is used to; the recording of the calls does not require any additional action from the side of the participant; neither do the SMS. Although the calls were recorded automatically, the participants could either turn off the application should they know a situation/call is coming which they do not want to share (interview with a research participant) or they could erase the calls after they were made. The applications turned out to be quite intuitive (the participant found the turning off himself) but also useful for the participants themselves (one of the participants decided to keep the application even after the

research, because he found it useful to have his calls recorded). Erasing worked for SMS as well – they could keep the original SMS and erase only the copies that were sent to the research team. By this approach it was reached the ideal balance: it was very easy to record the communication, but at the same time it was very easy for the research participants to keep control over the materials they were sending to us.

The use applications therefore points out to the relevance of a smartphone as a research tool: though it may not be possible to gain access to any other smartphone related activities (as for example which apps are used when, access to the internet and so on), it is the possibility to record communication almost without any interruptions that makes it so valuable. The materials produced through this way are one of the closest natural personal communications we can gain access to.

Application – data collecting

After installing ACR Call Recorder records every call that is done with the phone (both incoming and outgoing) is recorded. After a certain period of time the participants we asked to send us the recorded calls via email. The other application, SMS Back up, worked on a bit different principle, because it backed up all the SMS present in the phone (both send and received). The backing up had to be triggered by the participants themselves. Similarly as with ACR the backed up files were then sent to us via email.

However we wanted to get logs of calls too, therefore only those two applications were not sufficient and we had to use another one, developed specifically for our case: CommRecorder that was collecting both SMS (incoming and outgoing) and logs (outgoing, incoming and missed calls). Data from it were sent through email. At the end we therefore used only ACR and CommRecorder. However, during the data collection an application similar to SMS Back Up one, but backing up logs, turned out to be useful too.

Participants

The thesis is based on data from 4 participants. Though that might seem as a low number, because the data collection lasted at least 2 weeks, each of the participants generated rather a lot of data. The participants were not chosen randomly, since the character of the thesis is exploratory and therefore do not appeal to generalibility, it was not even my intention. As the main criterion therefore served technical requirements, specifically those connected with the ACR application. Therefore we were searching for users with Samsung Galaxy S3, because this type was pointed out as the best for the application by the app developer himself.

After the interview the participants were rewarded with a gift card. The participants were addressed through social networks. When those sources were used up, we expanded the technical requirements also to Samsung Galaxy S4 and consequently could involve more participants.

It is also interesting to comment on motivation of the participants. Meanwhile two of them stated that they took part in the research because of the reward, other two of them stated it was more to help (both to the research and to me as a friend). Other two users who also expressed interest (it seemed also because of the reward) said no till the end, because of a too much invasive character of the application. They did not feel comfortable with someone else listening to their conversation with their loved ones and found it “creepy”.

Participants were addressed through social networks first. Then an initial meeting was arranged, where they got all relevant information, the applications were installed and explained and they also signed an informed consent. One of the initial meetings happened online, when the participant received all information in a written form, covering information about the research, informed consent and instructions for the applications. During the collection period they were contacted twice: to send us the data. After the data collection, an individual interview was arranged with each of them. The participants received gift certificate for taking part in the research.

Data and their collection

The primary data that this thesis is built on consist of two types. Firstly, it was materials collected from the phones; secondly it was interviews that were conducted after each collection. Because of various nationalities of the participants and also because of different countries they were in during the data collection, the materials involves following languages: Czech, Slovak, English, Swedish, French and Arabic. Only first four were accessible to us, others could not be analyzed.

Phone data

As it was mentioned above we received many materials from the phones. The data collection through the phones lasted around two to three weeks. During that time it was collected 200 of calls. Due to various reasons (initial technical problems, some calls involved only ringing and so on) only 93 of them were possible to analyze. Those were organized into Excel sheets and transcribed. The materials were searched for the word “here” in all the accessible languages and also in an indirect way. Consequently 27 of the calls served as the grounds for the deeper analysis.

Secondly, it was written material, which involved SMS but additionally also Viber and WhatsApp messages. Those were discovered as relevant during the initial meetings with participants and therefore we decided to involve them into the analysis as well. Around 590 of SMS was collected, together with 9 Viber and 23 WhatsApp messages. Those were organized into Excel sheets and also searched. Logs collected from the CommRecorder were also organized into tables and compared with information from ACR Recorder in order to get more details about the calls (for example it helped us to connect names from the participants' contact lists to the called numbers).

Interviews

And finally, the interviews were conducted as semi-structured. They served mainly to get insights into the mobile behaviour of the participants but also to gain possible clarification of the recorded materials if needed. The interviews were recorded (only audio) and transcribed later on.

Challenges

Since the data collection had highly exploratory character, there were many challenges we met during the process. Firstly, it was technical problems. During the first two data collections, many of the calls turned out to be useless because the recordings were only partially audible. That turned out to be fixable (setting a microphones in a different way) however it only stressed out the importance of trying out the applications during the initial meeting. And during the first meeting it is also important to simulate the call as much as it is possible (for example do not stay in the same room etc). However it even led to confusing one of the participants who erased the “bad” calls because of this though we could have still used some of them. On one of the participant's phones our application did not work. Therefore it came handy that we knew about other applications too (the SMS and Log Back Ups).

Further on, it was sending data via email that turned out to be potentially problematic, because through email only a certain amount of data (20MB) can go through. That is without problems when it comes to SMS or other textual materials, because they almost never reached so high number. However calls did and then it was not possible to send them all at once. That they were not really sent completely was also not clearly visible and the action had to be checked in the email itself. Right now this could be fixed only by sending the data after a shorter period.

In comes also the completeness of the data. Though we managed to collect textual data from Viber and WhatsApp (instant messengers), it did not involve photographs and pictures that were sent quite often that seemed to serve as a communication source themselves not only as a illustrations. It was also not possible to record calls via Skype and Viber. And finally and most importantly, we could not collect data from Facebook that seemed to be an important communication channel for all the participants.

Also the language abilities of the participants happened to be a surprise. Although it made the corpus a rich source and it might contribute more on the international level, no knowledge of two of the languages (French and Arabic) limited our research possibilities. Also parts of the original transcriptions had to be translated in order to make them usable in the analysis. That was a rather difficult task, since English as a Germanic language (the target language) has a very different structure than Czech and Slovak (Slavic languages) and therefore there has always existed the danger of "losing it" in translation.

Finally another challenge emerged connected to the type of participants. Because I was using mainly my social network to gain research participants, some of them are actually my friends. That was a challenge mainly for me, because I often had to keep separate what I know from what I can say. Because not only I could not mention the information I know to other friends, but I could not do it in front of them who actually indirectly provided me with the information in order not to disrupt some sort of . This was an interesting dilemma.

Conversation Analysis

When the data were transcribed and the relevant parts were chosen, a deeper analysis was conducted. Due to the character of the data (naturally occurring conversations over the phone) the conversation analysis has been chosen as a suitable tool.

As it was stated before, the underlying approach of the research can be described as constructivist, expressing the premise that it is the research participants (the mobile phone users) who try to reach understanding through mutual interacting. And qualitative research can then understand the meanings the individuals are assigning to the behaviour of others.

However, drawback of the constructive approach in research is that even though it does bring interesting insights on how individuals construct their perception of the world, the results might turned out to be too "constructed" (see further critique of constructivism). And the social constructivism have been criticized for lack of anything not-constructed. However conversation analysis is a method that uses qualitative approach (and keep a strong

connection to the individuals as the creators of the meanings) but at the same time maintain a certain level of "objectivity", because the analysts do not reconstruct the conversations, but they in a way "only describe" what is happening in the conversations.

Conversation analysis has emerged during 70ties from work of Sacks, Schegloff and Jefferson (Hutchby 2001). It uses analytical descriptions (a sort of a non-participatory observation of text) in order to identify the structure of human communication. CA focuses on naturally occurring conversation: that does not mean that the communication participants did not know they were part of the research but the recorded communication was not produced in an artificial way (as for example interview is). Therefore the original studied data often involved calling to emergency, police communication, or also a radio show (Hutchby 2001) and other conversations that were recorded due to different than research reasons.

Though it might seem logical, the crucial aspect of CA is that it does not focus on what people talk about, but it analyses how people talk about certain things. One of the basic assumptions of the conversation analysis is that what people do has to be carried out through the means of communication. Therefore when have a chance to explore this communication we can identify the social practice related to the given communication. In other words, by observing how people structure their talk (for example to accept something is to do something) we can reveal what people actually do in the communication.

Learning in the study

Though it might not be visible on the first sight, learning is actually present in the work on many levels. Firstly, the red line of development or adaptation goes through the whole literature review: starting from Vygotsky and his interest in human development and finishing going through Hutchby and his use of affordances and finishing at the texts explaining mobile communication with the help of new ways of location formulating. No specific definition of learning was used in the text, because I view learning as a part of a bigger process: human development.

This point of view also follows the socio-cultural perspective that views learning as always situated in a social activity. Learning as all other social activities is then mediated through tools, mainly through communication. We can then highlight communication as having a crucial position when it comes to learning.

And because today communication is closely related and often performed via mobile phones, it is necessary to understand mobile communication as well.

And finally on the most practical level, I see it as useful for teachers to understand what role does a mobile phone play in communication of their students. It does not have to go that far to consider mobile phone as a tool for learning, but they should be aware of digital literacy as an emerging part of daily (school or not) routines.

Aims

Based on the text presented so far, I have derived following aims: Firstly the aim lies in the more theoretical realm, but it is implications are nevertheless important. It is to explore and extend our knowledge about mobile communication because mobile phones are part of our daily routines and we need to find out if using of them influences us and our behaviour – and if they do how. But the findings are still not clear and therefore I can agree with some of the authors (for example Ling and Donner 2009 or Katz and Aakhus 2002) that the field is still under researched and argue that mobile research is still of high relevance.

Second aim is connected with the data. The aim is then to explore how mobile users formulate their location in order to overcome their own mobility and mobility of their communication partners. By analyzing of their location formulation can we then assume on the possible new emerging practice.

And thirdly, my aim is also to promote a change in the present methodology connected not only to mobile communication. This aim is then constituted of viewing mobile communication as a chain of communication and not as isolated modes (Laursen 2012, Helles 2013) but also to show smartphone as a suitable tool for social research (Raento et al 2009).

Assessment of validity

This section addresses the issue of validity. Validity is traditionally connected to quantitative research, where there is usually possible to test the used variable (Golafshani 2013). However in qualitative and highly data driven study as is this one, to reach validity is therefore quite challenging. Also because of its exploratory character, that more of a opens a discussion than claims possible generalizability, the issue of validity has to address from a different point of view. Instead of viewing it as something that has to be achieved, it needs to be viewed as something that should be maximized. There were several ways I tried maximizing of validity of my results.

Firstly, it is the tool for data collection: smartphone. Raento et al (2009) presents smartphone as a way of improving ecological validity. It provides the researchers with access to areas of life that has not been possible to observe or record directly. Because smartphones are an “invisible” part of daily lives, they present an unobtrusive way of data collecting. The

possibility to collect naturally occurring data when they happen (or as they happen) without the disturbing presence of the researcher leads to limiting of bias and rising of validity.

Another way of trying to reach higher validity is triangulation. For my triangulation served two other "points": discussions with my supervisors and discussing my results in the context of relevant research. My supervisors has been doing research no mobile communication for more than 10 years, both of them are docents in applied information technology and they have been part of many research projects focused on mobile communication (many example can be seen in the text). Therefore I consider them as experts that I could discuss my results with. Further on, I also discussed "virtually" with other authors when I compared and contrasted my results with their. By that I not only placed my article in a wider research context, but I also reached higher validity.

And finally it is conversation analysis that brings an improvement of validity (when it is done right) because conversation analysis does not interpret or assume but it only states what is happening in the analyzed communication (Hutchby 2001).

Discussion of ethics

The most challenging aspect of our research was the related ethical issues. Ethical issues do not emerge only during the data collection, but it is important to consider them during : "all steps of the research process, from planning, research conduct, publication, and dissemination" (Markham and Buchanen 2012). Although we were not dealing with any highly vulnerable groups, whose rights could have been endangered with our research, we were dealing with private conversations of people. Though they were mostly routine calls of seemingly no relation to sensitive topics, it was crucial to keep in mind that though it might not seem to be "big deal" to us, it might have important effects on the participants' lives.

The sense of privacy can be distorted quite a lot by having recorded all the phone conversations. That has been confirmed to us when two other mobile users were approached but refused to participate; should they be "forced" to take part in the research, the whole experience would be very traumatic for them and possibly they would come out "hurt".

It was also interesting to observe how the process of "acceptance" of taking part in such research went for the ones that actually did take part (from the interviews with the research participants). Two of them explicitly mentioned that first they view it as unpleasant to take part such in such research but then they came to realization that it is for a good cause and the reasons why we want to listen to their private communication is science-motivated and therefore it lost the threatening feeling. That might be an useful information for

researchers who would like to conduct similar research and would like to reassure their research participants.

However we did our best to keep the research as ethical as possible. Therefore the participants were provided with all the relevant information (what the applications are going to do, how long they are going to be recording etc.). They were also informed about the possibilities of the applications, like erasing of certain calls or SMS they did not want to share with us or turning the applications off completely. The information also involved ensuring that they can always stop participating during the whole data collection or even after it. When organized, the data were anonymized and unidentified so it will not be possible to identify identity of the participants in any way. All the names in the transcripts were changed for pseudonyms. The file with the key to the pseudonyms was accessible only to me. Further on, all the participants signed an informed consent.

During the analysis certain parts of communications turned out to be interesting and I realized I could find some useful material in my own communication with the participants when we were arranging the interviews. It was also naturally occurred communication because in the time of writing it I did not know I would be using it later on. It allowed me to access at least partly those otherwise inaccessible communication channels (for example Facebook). I viewed it first as potentially ethical issue – can I use them or not? To make sure I am simply being fair to the participants I asked them if I could use even our communication. They all agreed.

Comments as to further research (and motivation for this).

Even though the article tries to answer some of the issues motivated by the data, it almost seems that there are more questions at the end of it than at the beginning. We could observe how the mobile users formulate location with the use of here but the analysis could not go very deep. Following questions should suggests the possible ways of going dealing with this issue:

- How do speakers select here formulation?
- Where in the conversation is here placed?
- Who says it?
- How is the formulation structured? Is there anything missing?
- How do speakers respond/react to here?

As it was suggested viewing communication as both text and spoken production is still quite a novelty and if we accept this approach there is still a lot of work that needs to be done in order to understand mobile communication properly.

Using smartphones for social research also brings in the issue of not only different communication modes (spoken/text) but also different communication platforms: can Viber be treated in the same way as SMS? Can we use data from Facebook without disturbing privacy issues? And what about Snapchat – is there place for it in the mobile communication? And is it even meaningful to explore something (be it a smartphone or some of the mentioned communication platforms) that might be exchanged for some other technical innovation within a spectacularly short time?

Further on it is also important to mention that exploring location formulation in the mobile communication might be translated into concrete design solutions. Not only smartphones but for example cars or various services (public transport) might find useful how are locations formulated “in the wild”.

To conclude: personal motivation and reflection

Instead of a conclusion I would like to devote this final part to presenting some of my personal motivations and reflection. Firstly, mobile phones have always fascinated me: on one hand regular objects of daily use; on the other hand machines that we let rule our lives not only in the communication sphere, but in all spheres: through our phone we can work, enjoy our hobbies but also learn or teach. The way smartphones integrate everything we do into the small metal box that we carry around everywhere we go fascinates me so much that mobile phones has always been the first choice for my thesis (and not only this one). My inner assumption (if you use something so much it has to influence you) has been translated in findings I found in the contemporary research and finally also in my own data. The initial fears that mobile phones are going to harm us both physically and mentally, does not seem to be supported by the present findings. After all all those overcoming of affordances, adapting to new communication situations or developing strategies to cope with our mobile friends: that is learning and in my eyes that is always a good thing. However, we need to stay (or maybe become) aware of these options we are provided with by the phones, but also the drawbacks it can bring. As a teacher, I still see a mobile phone as a great tool for human development and I sincerely hope it is going to stay like that.

Reference

Arminen, Ilkka. (2006). Social functions of location in mobile telephony. *Personal and Ubiquitous Computing*, 10(5), 319-323. doi: 10.1007/s00779-005-0052-5

Arminen, I., & Weilenmann, A. (2009). Mobile presence and intimacy—Reshaping social actions in mobile contextual configuration. *Journal of Pragmatics, 41*(10), 1905-1923. doi:10.1016/j.pragma.2008.09.016

Berger, P. L., & Luckmann, T. (1979). *The social construction of reality: A treatise in the sociology of knowledge*. Harmondsworth: Penguin books.

Berger, P. L., & Luckmann, T. (1979). *The social construction of reality: A treatise in the sociology of knowledge*. Harmondsworth: Penguin books.

Bijker, Wiebe E., Thomas Hughes, and Trevor. J. Pinch. (1987). *The social construction of technological systems : new directions in the sociology and history of technology*. Cambridge, Mass: MIT Press.

Fransén, K. (2013). *Rapport. Svenskarnas användning av telefoni & internet 2013. PTS Individundersökning 2013.* Rapportnummer PTS-ER-2013:20.

Garfinkel, H. (2009). *Studies in ethnomethodology*. Herndorn: Paradigm Publishers.

Gibson, James J. (1986). *The ecological approach to visual perception*. Hillsdale, N.J: Lawrence Erlbaum Associates.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. The Qualitative Report, 8(4), 597-606. Retrieved [19-05-2014], from http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf

Goffman, E. (1990). *The presentation of self in everyday life*. London: Penguin.

Goffman, E. (1986). *Frame analysis: An essay on the organization of experience*. Boston: Northeastern Univ. Press

Helles, Rasmus. (2013). Mobile communication and intermediality. *Mobile Media & Communication*,1(1), 14-19. doi: 10.1177/2050157912459496

Hutchby, Ian. (2001). *Conversation and technology: from the telephone to the internet*. Cambridge: Polity.

Hutchby, Ian, & Barnett, Simone. (2005). Aspects of the sequential organization of mobile phone conversation. *Discourse Studies*, 7(2), 147-171. doi: 10.1177/1461445605050364

Katz, J. E., & Aakhus, M. A. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge: Cambridge University Press.

Laursen, Ditte. (2012). Sequential organization of text messages and mobile phone calls in interconnected communication sequences. *Discourse & Communication*, 6(1), 83-99.doi: 10.1177/1750481311432517

LinCS Research programme (Appendix A). 2006. It was recognized as part of the original application by Emma Petersson, who was our main contact person. [online] Accessible from http://lincs.gu.se/digitalAssets/769/769303_LinCS__programme.pdf

Ling, Richard Seyler, & Donner, Jonathan. (2009). *Mobile communication.* Cambridge: Polity.

Ling, R. S., & Pedersen, P. E. (2005). *Mobile communications: Re-negotiation of the social sphere*. London: Springer.

Markham, A. & Buchanen, E. (2012). Ethical Decision-Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0). AoIR.

Pinch, Trevor & Wiebe E. Bijker. (1984).The social construction of facts and artefacts: Or how the sociology of science and the sociology of technology might benefit each other. *Social Studies of Science, 14*(3), 399-441. doi:10.1177/030631284014003004

Raento, Mika, Antti Oulasvirta, and Nathan Eagle. (2009) "Smartphones: An Emerging Tool for Social Scientists."*Sociological Methods and Research* 37.3 426-54. Print.

Sakari Taipale, & Leopoldina Fortunati. (2014). Capturing methodological trends in mobile communication studies.*Information, Communication & Society, 17*(5), 627

Säljö, R. (1999). Learning as the use of tools. A sociocultural perspective on the human-technology link. In P. Light & Littleton (Eds.), *Learning with computers: Analysing productive interactions* (pp.144-161). New York: Routledge.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, Mass: Harvard U.P.

Vygotsky, L. S. (1962). *Thought and language*. Cambridge, Mass: MIT pr.

Weilenmann, Alexandra. (2003). "I can't talk now, I'm in a fitting room": formulating availability and location in mobile-phone conversations. *Environment and Planning A*, 35(9), 1589-1605. doi: 10.1068/a34234.

Winner, L. (1993). Upon opening the black box and finding it empty: Social constructivism and the philosophy of technology.*Science, Technology & Human Values, 18*(3), 362-378. doi:10.1177/016224399301800306

Wei, Carolyn Y. (2007). *Capturing Mobile Phone Usage: Research Methods for Mobile Studies. Professional Communication Conference, 2007. IPCC 2007. IEEE International.*

Apendix 1

“Where here are you”: overcoming mobility by location formulation

Abstract

When communicating via mobile phones, the phones users have to deal with certain circumstances connected to the mobility of the phones. More specifically, the biggest benefit of mobile phones (their mobility and disconnection to a place) might lead to difficulties in communication. For example due to lack of visual contact the communicators have to overcome certain challenges in order to be successful in the communication and in the related activities. This study focuses on how location is formulated in naturally occurring mobile communication. Two applications which recorded all the voice calls, collected SMS and call logs were installed on the research subjects’ smartphones. Other textual material (such as text messages from Viber etc) were collected manually. Through an example of how location is formulated by the use of the word “here”, I argue that users develop certain ways of coping with the mobile phone affordances, when trying to coordinate with each other, and that they are able to use various mobile phone affordances to overcome possible communication challenges. Further on I argue that in order to understand these emerging mobile practices we need to view them in communication chains and not in isolated modes (text/calls).

Key words

Affordances; mobile communication; communication chains; location

Introduction

The possibility to be mobile when we communicate with others has brought many benefits to us. For example we can be quite flexible and do not have to set a precise place for meeting because we can finish the arrangement on the way. But at the same time this way of communicating exposes us to possible difficulties for example because of the lack of the visual contact or that we do not know where the other person is. For example when trying to arrange a meeting point on the way we might not know exactly where the other person is therefore the arrangement is more difficult. However the communication situation might be challenging, mobile communication seems to work well enough for the users (otherwise the numbers of sold and used phones would not be rising so steeply). Is it possible that mobile phone users have learned to cope with these challenges that come with the use of this type of technology? This article aims to explore exactly this area: by analyzing how the users

formulate their location, specifically by the use of the word “here” when trying to coordinate with each other I want to show how they overcome possible problematic implications of their mobility.

Affordances of mobile communication

But first we have to ask: do we still need to talk about mobile communication? Many has pointed out that the field of mobile communication is still under-researched [for example 9, 13]. But we need to ask: is really the possibility to be mobile when communicating with others so influential that it produces new social practices? Do we do things differently because we communicate via mobile phones? Are the mobile affordances, the possibilities and constraints mobile communication have, so influential that it actually changes what people do? Or is the communication simply “transferred” to the new mobile environment? These questions lead us first to a broader discussion focused on the relationship between the social and the technological – which makes which?

One of the possible perspectives that provide us with an answer is the social construction of technology approach. Bijker et al show us that technological artifacts are not objectively given things that are neutral to the social practice of people. They view them as social products, as something that is socially constructed: the way an artifact is used is given by its social context [2].

In contrast, Hutchby brings a different perspective: by using the concept of affordances he explains the way artifacts are used is not only formed socially but it also reflects the qualities of the artifact itself [6]. Affordance, a term developed by Gibson [3 p.127], describes the range of positive and negative possibilities that a certain environment or artifacts bring. Affordances cannot be called only objective because they are always relative: for certain qualities to be viewed as affordances they have to be perceived by someone as such in the first place [3]. Therefore the affordances are always a combination of two sets of qualities that have to match: both from the side of the artifact and from the side of the user. For example a knife can be viewed as having the affordance of cutting but only if the person trying to use it perceive it as something for cutting (because a knife can be used for other activities as well) .

Hutchby [6] then extends the use of the concept of affordances to the field of mediated communication, and applies it to (landline) telephony. A telephone is presented as an artifact that has certain communicative affordances that the users have to respond to should they want to use the phone successfully; on the other hand there are certain conversation norms that they

orient themselves to. In other words, the emerging social practice are produced both by the telephony and by the social context [3].

In Hutchby's book from 2001 the reference to telephony means only landlines. However due to rapid increase of mobile use (instead of landline use) this article aims to explore mobile communication through the concept of affordances. Mobile phones are going to be viewed as artifacts posing certain affordances that the users have to adapt to. Due to the increase of mobile phone use, to communicate via mobile phones seems to be unproblematic. But already in 1986, Gibson pointed out that affordances are both negative and positive, therefore even the users mobility will be viewed as a possible challenge.

Location in the mobile communication

But what has mobile communication to do with location or a place – something that is objectively given? But is it really? Already in the 70s in the conversation analysis development Schegloff showed that locations, places to which it is referred to in the conversation are not perceived as geographically or objectively given points, but are formulated in a conversation in a certain way [16]. The formulations then depend on the social contexts – who talks when to whom. That implied that communication via phones differs not because of the topics but because of the structure it has.

However Schegloff explored only communication via landline phones. But how is it with mobile phones? The "mobile" in mobile communication suggests that place is irrelevant and because users do not have to be in a certain place to make the call or send a text mobile communication might be considered to be "dislocated". So why should we even talk about location when researching mobile communication – is there really any difference?

Hutchby and Barnett compared the two types of telephony and stated that the difference between the structures of the talk is not really that "revolutionary" [7]. But they also showed that there where they could find differences, those differences were connected to the mobility of the speakers. For example, because location is "potentially infinite" [7 p.163] when using a mobile, it is topicalizable more than when talking via landline, where the location of the users is usually clear. Similarly Arminen [1] recognizes the importance of location formulations in mobile communication not only as a "place to be" but as serving various social functions. He identifies five different formulations of location and relates them to joint activities of the speakers. In another study, Weilenmann [17] showed that location often comes as an explanation of an activity or a claimer of a non/availability making it an important part of the structure of the mobile communication.

Chains of communication

In the discussions opened above we could see that it is relevant to explore location formulation when studying mobile communication. But why should we analyze both text and spoken production together? Is not one of the modes enough? As it was mentioned above mobile phone communication and the possible consequences for social practices are still under-researched. One of the indicators pointing to this is that actual mobile communication is only seldom analyzed, but has often instead is only being inquired about in interviews [for example 14]. The number of research works focused on recording and collection of naturally occurring mobile communication has risen [for example 11].

However then it comes to another problem: they only focus on a text or a spoken production. But that does not tell us the whole picture: today conversation can be developed and maintained over various platforms, using different modes (text, spoken production, pictures etc) [4]. Recognizing this issue as relevant, Laursen [10] investigates the different affordances of text and calls only to present them as interconnected aspects of mobility. Together they create one communication sequence that allows us to understand what happens in the conversation (for example establishing what "here" means). She views mobile communication as "continuous communication sequences" that involves both voice calls and text. She identifies four types of text-call combination in which a text is followed by a call for various reasons: an answer, a reminder, a resumption of conversation and a confirmation.

Similarly Helles [5] proposes the concept of intermediality as a way of understanding new social practices in mobile communication. And also Hård af Segerstad and Weilenmann [4] stress out the methodological implications: it is important to collect data in a holistic way, focusing more on interactions and its constituents than on separated events like text messages or calls.

This article intends to contribute to the discussions suggested above in several ways. Mainly I want to show how mobile phone users respond to the mobile affordances by formulating their location in a certain way typical for mobile communication. By focusing on the formulation of "here" in the mobile communication when people are coordinating with each other, I am going to illustrate how the users cope with and manage the simple problem that they do not know or see exactly where their communication partner is. Formulations of their own position (such as "I am here") were chosen as a suitable example because unlike other locations (for example public places or concrete landmarks) "here" always has to be established at a certain point in communication – some work has to be done to come up with a mutual understanding what this particular "here" actually means. Further on the article also

aims to view mobile communication as a chain of communication (and not only isolated pieces of conversations) in order to understand the communication better.

Methods and data

This study is part of a larger research project studying spoken and text-based mobile communications from a holistic approach by collecting and analyzing series of interactions and its constituents [cf. 4]. The primary data supporting the article involves recorded naturally occurring voice calls, text messages (both SMS and instant messages), communication logs and interviews. Two applications were installed on the smartphones of four research participants, which recorded their mobile communication between 2 to 3 weeks. The data consists of 200 mobile calls (102 incoming, 76 outgoing, 22 missed), 585 SMS (318 incoming, 267 outgoing) , 23 Whatsapp and 9 Viber text messages were collected. Finally, follow-up interviews were conducted with each participant to get more insights about their mobile phone usage.

This type of research (based on collecting of personal communications) deals with quite a lot of ethical issues, therefore it had been paid an extreme attention to it. Following ethical guidelines was considered at all stages of the research. All the data were anonymized and unidentified. The participants were provided with all relevant information but also with full control over the data they were sending to the research team. Informed consents were signed by all the participants (Markham and Buchanan 2012). There are two nicknames used in the article however the conversations were produced by various people.

Mobile communication in several languages (English, Swedish, etc…) was collected. The data was transcribed and if needed translated into English (by the author). Later on they were analyzed using conversation analysis. That is a highly valuable tool that can bring a deeper understanding of mobile communication. Hutchby defines it as "study of talk-in-interaction, the systematic analysis of the kinds of talk produced in everyday naturally-occurring situations of social interaction" (2001: 55). By analyzing of **how** we say things not **what** we say helps us reveal the social practices being produced and constructed by the talk [6].

Two uses of "here"

The following section is devoted to analysis of the collected data. I analyzed the material the word "here" was used. However it turned out to be used in different ways and I

have identified two uses of it: use of “here” to make a difference (different here) and use of “here” to make a point of orientation (orientation here).

1. Here to make a difference

Table 1 below shows two SMS messages exchanged between two friends: one of them was staying at Gothenburg and the other one in Stockholm.

Example 1

Date	Time	Sender	Mode	Content
26.1.2014	15:12	Alis	text	It seems so cold here, is it the same over there? (What are your plans today? we have been to a French café for brunch! :))
26.1.2014	16:25	Chris	text	It is cold! (No plans to speak of. I thought about going to ikea but got only as far as Willys ;) Taking it easy before the big day tomorrow I guess! Huh I wonder what a french brunch looks like.. choice espresso or filter coffee and an assortment of cigarettes? :p)

Table 1. Using “here” to make a difference in a SMS conversation

They two friends both know they are located in different cities (this information was gained from their previous communication). “Here” is then used in order to make a difference – Alis makes a distinction by pointing out the difference between the places where she and Chris are at. They did not know where exactly the other person is but it does not matter to them: “here” is sufficient, it simply refers to the minimal location where the other person is not. She is of course not referring to any concrete place – she does not have to, because the only quality that defines the location she talks about is that Chris is not there. Chris response and no correction in the following messages can be viewed as demonstrating understanding of what here means [15].

2. Here to make a point of orientation

However, when trying to coordinate with another person, making a distinction is often not enough – often it is necessary to formulate the location in such way that the other person knows exactly where they are meeting. Let us have a look at the next example.

Example 2 (voice call)

```
1          Ringing
2          Alis: well
3          Chris: well I am here
4          Alis: coming bye
5          Chris: bye
```

This is the transcription of a voice call in its entirety between the friends Alis and Chris. Chris arrived at a building in which Alis is inside (found out from previous communication). As they had agreed he calls her and lets her know he has arrived. Alis announces that she is on her way and both abruptly end the conversation.

We can see that by using the formulation "here" Chris creates a point to which Alis should orient towards. Even the concise and to-the-point character of the conversation suggests that it has only one aim: to point out that Chris is on a place they have established in a previous call. We can see that though there are almost no additional information [as for example no opening sequence, cf. 16] the simple formulation of location as "I am here" is enough for the purpose of their coordination: Chris does not need to explain that he is in the agreed place and waiting for Alis; they both understand what here means as it has already been established in their previous communication and other joint activities. Therefore he does not even need to say which exact place he is at; formulating his location in this way allows him to save time but also avoid any misunderstandings: it is obvious that "here" is the place where he should be. By formulating his location in that simple way he is navigating Alis: he does not need to say I am waiting for you, you should come: simple "I am here" is enough. Chris does not know where Alis is exactly but it does not matter at this point– but by formulating a location as here and placing Chris to this location, Alis can orient towards it and gets there. Coordination was successful.

<u>Here as a problem</u>

However , using "here" to coordinate with others is not always easy. As mentioned above, the mobility of the two speakers does not allow them to be in a visual contact with one another. Example 3 below involves a part of a piece of communication between Alis and Chris who were trying to coordinate in order to meet up in a public place. Table 2 illustrates the log data of the calls, followed by a transcription of the second call (Call_2) in its entirety.

Example 3

Date	Time	Caller	Mode	Duration (SEC)	Code
6.12.2013	19:56	Chris	Call	0 sec	Call_1
6.12.2013	19:58	Chris	Call	12 sec	Call_2

Table 2. Location formulating as "here" as a problem in a sequence of calls

Table 2 illustrates that Chris tries calling Alis first but the number does not seem to be accessible at that moment. But he apparently wants to talk to her, and therefore calls again after two minutes.

Call_2

1 Ringing
2 Alis: well
3 Chris: so how does it look like
4 Alis: well we are here
5 Chris: where here are you
6 Alis: well we are now walking up cause we stopped to
7 Chris: I see okay then
8 Alis: two seconds (.) we're going

After the initial ringtone, Alis answers and Chris inquires about her situation. Alis provides the answer that they "are here". That information is not met with understanding, because rather than confirming his understanding, Chris answers with a request for specification where this "here" actually is. Alis corrects her claim and states that they are on their way up adding an explanation. Chris interrupts her by expressing understanding and approval and with Alis' estimate of time until they meet they end the conversation.

By inquiring about Alis' situation, Chris wants to know where is Alis, or perhaps more specifically why is she not in the place where they have agreed to meet, where he is waiting. She recognizes his inquiry by providing him with an explanation (line 4, above). However this answer is confusing because she formulates her location as "here" which actually does not match with Chris' "here". He is already in the agreed place, but he does not see her, and therefore inquires in a rather untypical way (line 5, above). Only after this inquiry Alis correct herself and admits that she is actually on the way and not therefore there yet. By that utterance Chris has finally understood where she is (on the way to "here").

Here in chains

What we have already seen in the previous examples, will be emphasized even more in the following example: formulation of location as here often happens in more than one call or text, but it is formulated across several modes of communication (both text and spoken production). In example 4 below, we can see that it might also happen in more than one mode (textual/spoken). The table 3 below involves call logs and SMS message in the order they were done, and they are followed by a transcription of part of the call done by Chris (Call_2).

Example 4

Date	Time	Author	Mode	Duration (SEC)	SMS content	Code
22.1.2014	19:25	Alis	Call	0 sec		Call_1
22.1.2014	19:26	Alis	text		Inside willys	SMS_1
22.1.2014	19:28	Chris	Call	59 sec		Call_2

Table 3. Formulating of here in a communication chain (both text and calls)

Call_2

1 Ringing

2 Alis: hej hej

3 Chris: halo (.) I was e: fumbling with my keys (.) before

4 Alis: you were what

5 Chris: I was fumbling with my *key*s

6 Alis: (.) ookej

7 Chris: at my door (.) so eme:

8 Alis: aha:

9 Chris: the trams comes in like one minute so Ill be there in I dont know four minutes or something five minutes

10 Alis: okay okay **well Im Im Im inside willys so its fine**

…

The whole sequence starts with Alis trying to reach Chris; when not successful she sends him a message (“Inside willys”). Two minutes later he responds with a call (an excerpt of this call is the transcription in example 4 above). In the call Chris first gives an explanation why he was unable to answer the phone (line 3, above), stating his own location (line 7, above), followed by his time options (line 9, above). Alis then repeats what she sent in the message formulating her own location, this time as a complete sentence.

This contribution is interesting for several reasons. Firstly, the affordance of being mobile and consequently the lack of visual cues lead Alis to call Chris when he actually cannot pick it up. But without hesitation (within a minute) she manages to overcome the problem that she cannot reach him by switching to another mode (Laursen 2012) and sending Chris an SMS. He reacts by calling her up and that allows her to formulate her location as "here" again, this time in a full sentence. We can again see that stating one's location as "here" (even though in an indirect way) serves again as an instruction for Chris: when she announces she is here, he calls her and provides her with more information. Further on we can also observe how the same location is formulated differently in a text and in a call: while in a text she formulates her location without any pronouns and in a very simple way, in the talk it is developed as a full sentence. That suggests that though both texting and calling are connected with the affordance of being mobile, they also come with affordances connected to spoken and written production: in the text message Alis formulates her location in a very short and straightforward way, in the call she can fully expresses where she is now.

Discussion

In this section the results will be discussed with the relevant research. Firstly, we could see that mobile communication comes with special affordances connected to the very mobility of mobile phones (in my examples it was a combination of mobility and the possibility to write text messages). These affordances allow the users simply to stay in touch and possibly also to coordinate with each other while on the move. Similarly as in Hutchby and Barnett's study [7], the situations we have seen were not radically different from landline phone calls, but on the other hand they were produced due to the mobility of the users.

Having the possibility to talk to someone who is not at the same place as you are is not always only beneficial, because even the mobile affordances can be both negative and positive [3]. However, even though communicating with someone while not having visual contact might cause misunderstandings in the communication, the mobile users seem to have learned how to cope with this challenge. Even though mobile might be connected with the notion dislocated, it is actually formulation of location that helps them to cope with the given problematic situation. For example Arminen [1] also recognizes the connection of formulating a location to joint activities, but in contrast with our work none of his recognized categories points to mobility as a possible problem and formulation location as a possible solution.

And finally, we have seen that when it comes to the formulation of "here" it does not happen only in one piece of communication (e.g. one voice call), but it is often established in a whole sequence or a chain of communication. Similarly, Laursen [10] argues to view

communication as continuous sequences of both text and calls. Interestingly none of her four types of text message-call combinations matches with my example where a text is followed by a call even though it seemingly was not required. However when inspected more deeply, in the text message the sender's location was formulated as "here", therefore instructing the recipient to do something. Additionally, analyzing whole chains of communication allows us to understand how the mobile users overcome possible difficulties when exposed to the mobile affordances, for example by switching modes.

Conclusion

To sum up, in this article I intended to show how mobile phone users are exposed to both positive and negative affordances of mobile phones. This however, does not seem lead to interruptions in conversations, but the opposite happens: the users seem to have learned to cope with the possible difficulties by formulating their location in a certain way. In other words, we could observe that they have adapted formulating of their location in order to overcome the mobility.

Concrete examples from my data of how "here" was formulated showed that there are actually two types of here formulation that help the speakers either to create a difference or to orient towards a certain point. The second example showed that formulating one's location as "here" is not always without problems but that the mobile users are able to reach common understanding in such situations. And finally we have also seen that location formulation as "here" can be expressed indirectly and in different modes, that consequently can be used for overcoming certain affordances connected to mobile communication as well.

To conclude we can say that firstly it might seem almost nonsensical when considering using "here" as a formulation of the mobile users own location - when you call to someone and say "I am here" - what does it mean? How can you say something like this, when both of you are located in a "different" here? But when explored more into details - as we could see in the examples - to formulate their own location as "here" might be quite useful when coordinating with others. By formulating their location as here the mobile users managed to overcome the mobile affordances when they turned out to be problematic. In other words by formulating their own location with here they have managed to adapt to the mobile affordances. And finally we could see that viewing the analyzed communication as sequences or as "chains" will provide us with deeper understanding.

REFERENCES

1. Arminen, Ilkka. (2006). Social functions of location in mobile telephony. *Personal and Ubiquitous Computing*, 10(5), 319-323. doi: 10.1007/s00779-005-0052-5
2. Bijker, Wiebe E., Thomas Hughes, and Trevor. J. Pinch. (1987). *The social construction of technological systems : new directions in the sociology and history of technology*. Cambridge, Mass: MIT Press.
3. Gibson, James J. (1986). *The ecological approach to visual perception*. Hillsdale, N.J: Lawrence Erlbaum Associates.
4. Hård af Segerstad, Ylva, & Weilenmann, Alexandra. (2013). *Methodological Challenges for Studying Cross-Platform Conversations.*
5. Helles, Rasmus. (2013). Mobile communication and intermediality. *Mobile Media & Communication*,
   1(1), 14-19. doi: 10.1177/2050157912459496
6. Hutchby, Ian. (2001). *Conversation and technology: from the telephone to the internet*. Cambridge: Polity.
7. Hutchby, Ian, & Barnett, Simone. (2005). Aspects of the sequential organization of mobile phone conversation. *Discourse Studies*, 7(2), 147-171. doi: 10.1177/1461445605050364
8. Kamler, Barbara, & Thomson, Pat. (2006). *Helping doctoral students write: pedagogies for supervision*
   / [Elektronisk resurs]. London: Routledge Falmer.
9. Katz, James Everett, & Aakhus, Mark A.(2002). *Perpetual contact: mobile communication, private talk, public performance*. Cambridge: Cambridge University Press.
10. Laursen, Ditte. (2012). Sequential organization of text messages and mobile phone calls in interconnected communication sequences. *Discourse & Communication*, 6(1), 83-99.doi: 10.1177/1750481311432517
11. Laursen, Ditte, & Szymanski, Margaret. (2013). Where are you? Location talk in mobile phone conversations. *Mobile Media & Communication*, 1(3), 314-334. doi: 10.1177/2050157913493773

12. Ling, R. S. (2004). *The mobile connection: The cell phone's impact on society*. San Francisco, Calif: Morgan Kaufmann.
13. Ling, Richard Seyler, & Donner, Jonathan. (2009). *Mobile communication.* Cambridge: Polity.
14. Markham, A. & Buchanen, E. (2012). Ethical Decision-Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0). AoIR.
15. Mondada, L. (2011). Understanding as an embodied, situated and sequential achievement in interaction. *Journal of Pragmatics, 43*(2), 542-552. doi:10.1016/j.pragma.2010.08.019
16. Schegloff, E.A. (1972). Notes on a conversational practice: Formulating place. In D. Sudnow (Ed.), *Studies in social interaction*, pp. 75-119. New York: Free Press.
17. Weilenmann, Alexandra. (2003). "I can't talk now, I'm in a fitting room": formulating availability and location in mobile-phone conversations. *Environment and Planning A*, 35(9), 1589-1605. doi: 10.1068/a34234