Virtual Ethnomethodology?
A study of the relation between ethnomethodology and CMC

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Abstract

Ethnomethodology is an established method of research in technology related fields. In work settings, ethnomethodology has helped researchers to deepen their understanding of how collaborative activities unfold in a social context. While much collaboration is now carried out online, through distributed teams for example, ethnomethodology, as a method of analysis, has not received considerable interest from internet researchers. In this paper we investigate ethnomethodology's relationship with technology innovation and ask has ethnomethodology a further contribution to make in relation to mediated social interaction?

1. Introduction

Ethnomethodology is a method of sociological inquiry that emerged from Harvard University in the late sixties. It was developed by Harold Garfinkel as an answer to the incongruities he saw in traditional sociological method. Over the past decade ethnomethodology has gained much currency in technology related disciplines, predominately as a forerunner to design. Much of this research took place at Xerox Parc where researchers sought to understand the broader implications new technology can have on work-related activity**.** This research inspired a range of studies in which designers applied ethnomethodology to work settings in an attempt to understand and subsequently design work-related technologies (Button and Dourish 1996; Dourish and Button 1998; Crabtree 2004). Indeed, the later writings of ethnomethodology's founder, Harold

Garfinkel, focus on the work setting as a basis for further, productive investigation. Discussing 'hybrid studies of work', he proposes ethnomethodology as a discipline of analysis ideally suited to the recurrent properties of work in discipline-specific situations (Garfinkel and Rawls 2002: pg100). Much work-related activity, however, has transferred from the physical world into the virtual domain. A great deal of this work has fallen under the banner of Computer Supported Collaborative Work (CSCW) or has been discussed in terms of the 'virtual organisation' (Ahuja and Carley 1999; Hlupic and Qureshi 2003; Carapiet and Harris 2007). Wikis have emerged as the dominant method of collaborative authorship. Researchers have emphasised the importance of learning in a social context, the process of enculturation through which people 'learn to be' (Lave and Wenger 1991). Similarly scholars turned to ethnography to further their understanding of society as it evolved online. Virtual ethnography, as described by Christine Hine (Hine 1998; Hine 2000), shaped a new mode of inquiry, one that recognised the limitations of the medium yet sought to remain true to the discipline's traditional foundations. Authors published ethnographic descriptions highlighting how online group interaction reflects the more traditional notions of community such as shared culture, social norms, reciprocity and solidarity (Rheingold 1998). However, reference to ethnomethodology in this context remains notably scarce. It would appear that while other methods of 'ethno' or group-related investigation have proven successful at negotiating the difficulties of mediated interaction, ethnomethodology has remained firmly rooted to its traditional foundations. This may be because online social interaction is either impervious to ethnomethodological investigation or that ethnomethodology has simply fallen out of favour with communication researchers. Nevertheless, this posits the question: If ethnomethodology has a proven history in technology related disciplines has it some further contribution to make in the context of mediated social interaction? It is this question that this paper will seek to answer.

In asking *what is ethnomethodology*, the first part of this paper seeks to address the origins of ethnomethodology and in particular discuss how ethnomethodology developed as an answer to the incongruities Harold Garfinkel recognised in traditional sociology. Having established some background, the second part of this paper explores the relationship between ethnomethodology and design. The final part of the paper addresses the research

question examining the relationship between ethnomethodology and mediated social interaction.

2. What is Ethnomethodology?

Eric Livingston defines ethnomethodology as the study of social order (Livingstone 1987: pg:13). Ethnomethodology seeks to treat the every day, mundane social interaction as a topic for empirical analysis. Our intention here is not to give an exhaustive account of ethnomethodology but rather to present a brief overview of the origins of the discipline and then, by way of example, illustrate ethnomethodology in practice.

2.1. The Origins of Ethnomethodology

The origins of the term, ethnomethodology, arise from a study carried out by the discipline's founder Harold Garfinkel in 1954. When investigating the way in which juries deliberate, Garfinkel conceived of the term, and ultimately the practice of, ethnomethodology; a combination of *ethno* – referring to the member of a social group, *method* – indicating the process of practical action and practical reasoning through which social actors create and recreate recognisable social order and finally *ology*, as in sociology - the study of these methods (Rawls and Garfinkel 2002: pg20).

It is important to understand the origins of ethnomethodology as Garfinkel developed the practice as an answer to the incongruities he saw in traditional methods of sociological research. Much of his early theorizing was developed in reaction to the work of Talcott Parson his supervisor in Harvard University. In short, Parson subscribed to the belief that society was effectively rule determined, and persons in pursuing their individual interest will do so in accordance to social norms. But Garfinkel refuted this theory for two fundamental reasons: Firstly, rule governed behaviour vastly underestimates the huge complexity evident in even the most basic of social actions. Secondly, many social situations, and the action that is practiced in those situations, are not analysable by reference to clear explicit rules. Rather, Garfinkel theorised that reasoning procedures, that drew form a vast area of background common-sense knowledge, were in fact employed to accomplish social action in many different social settings (Heritage 1984: pg128). His discord with formal analysis extended to the method by which traditional sociology was undertaken. He

maintained the approach of aggregating data across large populations and then framing this data according to some widely held taxonomy obfuscates the very process of social order. Thus, although formal analytic devices ostensibly 'get the job done', 'the technical skills in administering them lose the very phenomenon they profess' to discover (Garfinkel and Rawls 2002: pg116). Garfinkel argued that the entire method of investigation - the formulation of a research question based on prior literature and the underlying assumption of formal rules and structures governing society – renders the very nature of social structure impervious to formal analysis.

2.2. Ethnomethodology by Example

Having discussed the origins of ethnomethodology, and described how the discipline emerged as an answer to Garfinkel's discord with traditional sociology, here we will present some of ethnomethodology's principle concerns.

By way of illustration, let us consider a simple example, the social interaction of a greeting as described by John Heritage in (Heritage 1984: pg106). A social actor is walking down a corridor in an office building. He is disengaged from others around him, however once he is greeted by another his situation is dramatically reconstructed form one of social disengagement to one of, at least, minimal social engagement. The greeter's initial action, the greeting, reflexively reconstitutes the scene for both parties. The recipient must now decide on whether to reciprocate the greeting via the social norm. If the recipient does indeed choose to reciprocate the greeting, then the scene undergoes a further transformation from one of interactional engagement that was unilaterally proposed to one of interactional engagement that was bilaterally accepted. However, if the recipient chooses to not return the greeting, then the scene develops in another direction in which the greeter's initial proposal is counteracted. The scene will not revert back to before the initial greeting, however; it has been irrevocably altered throughout this process. This example illustrates some of ethnomethodology's principle characteristics, such as accountability, practical action and reasoning, reflexivity and prospective social action. Here we will discuss each in turn.

Firstly, integral to the study of ethnomethodology is the notion of accountability. Accountability refers to the ability of those engaged in a social interaction to observe the

actions of others also engaged in that same specific social interaction. So, in the simple greeting example above, both the greeter and the recipient have the ability to account for their own and each other's actions. The scene is locally organised through concerted social interaction (Crabtree 2004).

Secondly, the simple greeting example helps to illustrate the symmetry between production and recognition or what Garfinkel describes as practical action and practical reasoning (Garfinkel 1967: pg4). The greeter produces practical action, in the form of an initial greeting, which the recipient acknowledges through the application of practical reasoning, and, through a process of reflexivity, chooses to correspond accordingly. Dourish describes this production of social action as 'reflexively accountable' {Dourish, 1998 #145. Firstly, social action provides others with the means to recognise it (the greeting is accountable in this sense). Secondly, this recognition, and subsequent action, unfolds, reflexively, during the social action's production (the greeting scene develops reflexively). It is important to recognise that the scene is thus developed bilaterally, that both the greeter and recipient, in this case of the example above, cooperate in producing recognisable social order.

Finally, social action unfolds in time. In the case of the greeting example, the social actors work together, moment by moment, to produce observable social order. Accordingly, the scene develops within a very specific time frame. When viewed retrospectively, however Garfinkel maintains that social action can appear to have followed a set of rules. Yet, this is not the case when viewed prospectively or at the immediate instant it at which the event unfolds or occurs {Rawls, 2002: pg35 #130}. For this reason it is important to make the distinction between prospective and retrospective observation. As Lucy Suchman points out, 'rather than situated action, rationality anticipates action before the fact and reconstructs it afterwards' (Suchman 1987: pg 53).

As discussed in this section, ethnomethodology is the study of social order. Garfinkel developed ethnomethodology due to his discord with formal sociological method. Integral to ethnomethodology is the notion of accountability, the practice of practical action and reasoning and the concept of reflexivity.

3. Ethnomethodology and Technology Design

The rise in social computing precipitated a 'turn to the social' (Crabtree, Nichols et al. 2000) by which technology designers drew on sociological method to better understand and subsequently design more responsive systems. Ethnomethodology is one of the main methods that researchers adopted in this context. Our goal here is to briefly illustrate how ethnomethodology has been incorporated into the process of technology design.

Lucy Suchman's widely cited work, *Plans and situated actions* (Suchman 1987), helped propel ethnomethodology into the realms of computer supported collaborative work (CSCW) and to a lesser extent (HCI). Ultimately influenced by the work of Garfinkel and, to a lesser extent Sacks, Suchman rallied against the cognitivist view of applied logic insofar as plans or abstract theory is regulative of action irrespective of situation or circumstance. Rather, from an ethnomethodological position, Suchman argued that action and effective communication is situated and thus requires contextualised knowledge. Her work inspired a range of studies in which ethnomethodology provided a means to re-orientate design towards the social.

Graham Button, an ethnomethodologist, and Paul Dourish, a computer scientist, brought forward ethnomethodologically-orientated investigations and developed the notion of *Tehnometholdogy*, in which ethnomethodology was employed as a precursor to technology design and innovation (Button and Dourish 1996; Dourish and Button 1998). Reflecting Garfinkel's hybrid studies of work, their concern lay not with ethnomethodology as a method of sociological reasoning, a position they were already in agreement with, but rather in how ethnomethodology may be effectively employed in the process of technology design. In the context of this paper the authors drew on two important studies. The first, from CSCW, investigated the implementation of workflow systems that ultimately served to disrupt the contextual and situation specific nature of work (Bowers, Button et al. 1995). The second, from HCI, involved work into software abstractions (Kiczales 1992) that sought to provide an external interface to the ongoing internal organisation of a computational system (Maes 1987). Button and Dourish took this metaphor and sought to apply it in the world of the everyday user. This re-orientation resulted in the notion of accountable interfaces. As the user engages with some form of abstraction, a folder icon for example,

(which is called a base-level interface), they are simultaneously presented with the internal workings of the mechanism via a meta-level interface. The base-level interface and meta-level interface can be 'casually connected' but any change in the base-level interface is sufficiently reflected in the meta-level interface and vice versa. In this way the meta-level interface holds the base-level interface accountable for its actions. Arguably, the greatest contribution of *technomethodology,* however, is the process by which design influenced by ethnomethodology is undertaken. There is a considerable challenge in this respect involving the reorientation of ethnomethodology from design critique to design practice. From this perspective, the authors sought to bridge the gap between ethnomethodology and computer science by suggesting designers learn from the practice of ethnomethodology as opposed to learning from the ethnomethodologist or indeed from ethnomethodological accounts. While this approach is in keeping with ethnomethodology, the removal of layers of interpretation for instance, the practicality of such a method is open to question.

More recently Andy Crabtree developed the idea of *technomethodology* with the introduction of the breaching experiment (Crabtree 2004). Although acknowledging the work of Button and Dourish, Crabtree expressed some reservation at the way in which ethnomethodology is brought to bear on design. Supporting the view of learning from ethnomethodology, however, Crabtree introduced the notion of a breaching experiment. Breaching experiments, as discussed, were developed by Garfinkel to render naturally occurring social order observable. In fields such as social psychology, the breaching experiment has developed into something of a cottage industry and given rise to a surfeit of approaches that seek to violate generally accepted social norms. Andy Crabtree has taken the principle behind the breaching experiment and applied it to the innovation of technology. His work is informed by the earlier attempts of Button and Dourish to meld ethnomethodology and design into a hybrid discipline, which involved the designer either learning from the ethnomethodologist, learning from ethnomethodology accounts or learning from the practice of ethnomethodology itself. In contrast, however Crabtree does not attempt to reconfigure ethnomethodology to dovetail into some diluted hybrid study of work. His approach, as put into practice in Lancaster University, is to allow innovation develop unimpeded. Accordingly, technologists are given a free reign to play with ideas and create new technologies without external interference. However, when the technology has

suitably matured it is released into a perspicuous setting and studied over a short period of time. Deploying the technology in this way is considered a breaching experiment. The technology's essential social properties emerge or are rendered observable through the process of the breach. The findings can be used to inform further development in an incremental approach to design (Crabtree 2004; Crabtree 2004). This approach, Crabtree maintains, remains true to ethnomethodology's strong research programme.

In summary, realising the social properties inherent in new technology researchers turned to sociological method to further their understating of the design process. It was within this context that ethnomethodology emerged as one of the favoured methods of analysis. However, as discussed, the difficulties of incorporating ethnomethodological findings into the process of design forced researchers to re-evaluate the relationship between ethnomethodology and design. The resulting 'technomethodolgy' sought to bridge this gap. However, it must be recognised that sufficiently melding both disciplines requires some comprise.

4. Ethnomethodology and Ethnography

There is some confusion as to the place that ethnomethodology might hold in relation to the more widely adopted ethnography. Both are methods of social inquiry, often concerned with group interaction and practiced widely in technology related fields. However, both have different goals, are approached with different research methods and have been adopted by different research communities. Our goal here is to highlight some of the seminal points that characterise ethnomethodology as a different method of inquiry from that of ethnography.

There is a propensity of authors to discuss ethnomethodology under the broader banner of ethnography. In his book Andy Crabtree *Designing Collaborative Systems* illustrates the effectiveness of ethnomethodological-led design in collaborative work systems yet refers to this method as ethnography (Crabtree 2003). Similarly, John Brewer describes ethnomethodology as a reflection of a more humanistic ethnography in which the human ability to construct social reality is realised (Brewer 2001 pg: 22). The fact that established ethnographers have difficulty reaching consensus regarding an exact definition

of ethnography only serves to contribute to the confusion. One view, described in terms of 'big' ethnography, suggests a broader understating of ethnography in which the researcher adopts a perspective as opposed to a set of research methods. In contrast, there is another view that ethnography is just that, a set of research methods for carrying out fieldwork and nothing more. As ethnomethodology is a departure from the traditional method of sociological inquiry it fits comfortably into neither category. At the same time there is growing debate in the HCI community as to the role of ethnography has to play in design. This debate stems from two different ethnographic traditions that have developed over the last decade. The first is grounded in design, as discussed above, and favours an ethnomethodological approach to ethnography. In contrast, the second evolved from anthropology and is more concerned with cultural or literary studies (Crabtree, Rodden et al. 2009). Indeed virtual ethnography is unconcerned with the creation of new technology concentrating instead on exploring the way society develops online. In addition, neither an ethnomethodological nor ethnographic approach to inquiry is mutually exclusive. From this perspective, Garfinkel suggests both should be practiced in tandem, helping illuminate different aspects of the same phenomenon (Garfinkel and Rawls 2002: pg116). Here we will discuss both approaches in relation to the phenomenon under observation, the method of the researcher and the analysis of results.

Ethnomethodology focuses on the scene while ethnography focuses on the group. From this perspective, the ethnographer will seek to spend long periods of time immersed in a field setting. They will attempt to broaden their understanding of relationships and activities of the group. They will take account of how the group live and make sense of their surrounding world. Often the ethnographer takes the position of participant-observer pursuing two roles, both as a member and reporter of the group (Hine 2000: pg5). Thus the focus of the ethnographer is firmly fixed upon the group - how the group develop rituals and create culture. The ethnomethodologist, in contrast, is more ambivalent towards how the group's culture develops. Rather, the ethnomethodologist is concerned with how recognisable social order is created within the group. If the group is the locus of investigation Garfinkel suggests sociological method as appropriate. On the other hand if the locus of investigation is the processes that the group operate, then this is the realm of the ethnomethodologist (Heritage 1984: pg199). Thus, ethnomethodology shifts the focus

of analysis from the population to the scene - a view inconsistent with other forms of sociology.

The method of the ethnographer contrasts greatly with that of the ethnomethodologist. The breaching experiment, for example, was developed by Harold Garfinkel to illustrate how social action can be rendered visible when generally accepted social norms are violated. In a now famous experiment, Garfinkel enlisted ten undergraduate students to undergo a counselling session under the guise of a project run by the Department of psychiatry (Garfinkel 1967: pg79). The subject was asked to discuss some serious problem on which they would like advice. Each was asked to frame their question in such a way as to illicit either a 'yes' or a 'no' answer. The subject was told the counsellor would try to answer the question to the best of his ability. Each response, however, was pre-determined. The result led to confusion. Several students tried to make sense of the responses, applying sense making patterns in a process of interpretation (called the documentary method of interpretation). In others, the experiment provoked anger, especially during moments in which the student expected reciprocity or solidarity. This is not exactly a method consonant with those of the ethnographer. Firstly the method is carried out in experimental surroundings. Secondly, the subject under investigation is proffered with questions and stimulated in response. It is beyond the remit of the ethnographer to carry out investigations in this manner.

In addition there is the issue of analysis. Ethnographic material often comprises of notes taken by the ethnographer during their time in the field. Several analytic steps are employed to organise these data. Not all the steps described here are required but the ethnographer will choose the steps that best suit their approach (Brewer 2001 pg: 109). Firstly, the data is organised into manageable units (this step is merely a prelude to analysis and should not involve any interpretation). Secondly, it is coded according to a set of coding instructions and a predefined, external classification schema. Classification is never neutral. Garfinkel maintains that coding carried out in this manner is informed by the Documentary Method of Interpretation and only serves to obfuscate the social methods it seeks to reveal. Thirdly, the ethnographer develops the data into a more thorough qualitative description, often through the application of master narratives or grand theories. While the initial field notes may capture fundamental elements of the scene and not necessarily out of keeping

with ethnomethodology, the systematic processing of the data is anathema to the ethnomethodologist. Indeed, Garfinkel maintains that to carry out work in this manner reveals more about the process of the researcher than it does bout the topic under study (Rawls and Garfinkel 2002: pg29). From this perspective, Andy Crabtree developed an ethnomethodological approach to the analysis of ethnographic description. His approach replaces the coding of ethnographic material with short and precise ethnomethodology descriptions (Crabtree, Nichols et al. 2000).

As the advent of social computing has altered the methods traditionally employed by the technology designer, it is not surprising that both ethnomethodology and ethnography have undergone re-evaluation. While there are similarities, here we have identified that both methods are differentiated by perspective, method and analysis.

5. Virtual Ethnomethodology?

Despite its success in design related fields, ethnomethodology has not been adopted readily in the study of mediated environments. Certainly Harold Garfinkel argued against the use of ethnomethodology in this context. His argument was directed at the work of Harvey Sacks. Sacks, a contemporary of Garfinkel's, developed conversation analysis as a branch of ethnomethodology that concentrated on naturally occurring conversation. Conversation analysis sought to illustrate that social interaction is structurally organised. Sacks' initial work was carried out on mediated interaction – taped conversations – because he wished to formally describe social interaction in an approach that would retain a relationship with the primary, raw data (Heritage 1984: pg235). It was in the interest of developing a more scientific method involving empirical observation and repeated experimental procedure that led Sacks to this approach. And while his results have stood up exceptionally well to those generated from face-to-face studies, Garfinkel, when discussing ethnomethodology, vehemently maintains that recordings cannot replace actual embodied experience (Garfinkel and Rawls 2002: pg37). Adopting Garfinkel's position our goal here is twofold. First, we will examine how ethnomethodology is inconstant with the study of social interaction in mediated environments. Second, having established the problems that mediated environments present to ethnomethodological inquiry, we explore how designers

have drawn on ethnomethodology to develop more sophisticated social interfaces and collaborative technologies.

5.1. Ethnomethodology and mediated interaction

There are three, complementary ways in which to emphasise the inconsistencies raised by the application of ethnomethodology in mediated environments. The first concentrates on ethnomethodology, the practice of ethno-methods and the elements of social phenomenology that came to inform ethnomethodology. The second focuses on the medium and examines how the absence of visual and paralinguistic cues inhibits the application of ethnomethodology in mediated environments. The third builds on the first two and discusses the problems a researcher will encounter when wishing to apply ethnomethodology in mediated environments. Here we will cover each in turn.

5.1.1. The problem of Inter-subjectivity

Ethnomethodology drew heavily on social phenomenology and in particular the work Alfred Schutz. Schutz sought to develop a phenomenology of the social world. Rejecting neo-positivism, Schutz argued that the world is meaningfully interpreted by social participants, a view consonant with Weber's earlier work into meaningful action (Schutz 1967: pg15). Much of Schutz's theorising laid the foundation for ethnomethodology. Here we will concentrate on the application of ethno-methods – the process of practical action and practical reasoning through with social actors create and maintain observable social order. How, however, is this so? Garfinkel developed his ideas in this direction from Schutz's work on inter-subjectivity. Schutz treated this problem as a practical one and a brief examination of his reasoning will help to shed light on issues concerning virtual ethnomethodology. While we are unable to do much justice to Schutz's work in a single paper, we will limit our analysis to the domain of consociates[1] or directly experienced social reality as this is the domain of Garfinkel's investigation.

Shutz concentrated his investigations on the relation between subjective and objective meaning and how we as social actors come to interpret subjective meaning from the social world. To begin with Schutz discusses the physical presence as a field of

[1] It is important to recognise that Schutz's work also factored in....

expression where the body is thought of as 'no mere physical object, like a stick or a stone, but a field of expression for the life experience of that pyscophyscial unity we call the other self' (Schutz 1967: pg22). Schutz highlights the transcendent properties of physical presence in which the body is suggested as an outward visible expression of some inner subjective state. An outward physical expression does not suggest some objective meaning is at hand. Rather two subjects will attribute different subjective meaning to the very same action performed by a third subject. However, let's consider the two subject's spatial perspectives. The position of the first subject's body constitutes the 'here' while the position of the second subject's body constitutes the 'there'. Although the first subject can never experience the second subject's 'here', he can attribute a 'reciprocity of perspectives' because he perceives the objects and events in the same way from his 'here' as the second subject does from his 'there' (Gorman 1977: pg 47). The 'reciprocity of perspectives', or 'inter-changeability of standpoints' (Heritage 1984: pg55), is a necessary condition for establishing a common inter-subjective world and a crucial development in the genesis of ethnomethodology. Indeed Schutz discusses the structure of the social world in similar terms to Garfinkel, describing the process of meaning establishment and meaning interpretation as inextricably interwoven (Schutz 1967: pg162). It was from this foundation that Garfinkel conceived the concurrent and synchronous practice of practical action and practical reasoning.

5.1.2. The problem of Reduced Social Cues

From the outset CMC has been discussed in terms of an 'improvised' or 'lean' medium (Herring 2003). The basic argument is that CMC lacks the qualities of face-to-face communication and thus will always be inferior. There have been several theories developed to support this argument such as social presence and cluelessness theory (Thurlow, Lengel et al. 2004). One theory that rose to some prominence, however, is the media richness model created by Daft and Lengel (Daft and Lengel 1986). The media richness model postulates that the use of richer media will increase performance for equivocal tasks. In turn the use of leaner media will increase performance for mundane tasks as much superfluous information transmitted with richer media is not required. The media richness mode has four key dimensions:

1) Bandwidth – the ability of the medium to transmit information in the form of multiple cues.

2) Feedback – the ability of the medium to elicit immediate response.

3) Language variety – the ability of the medium to support natural occurring language.

4) Personal focus – the ability of the medium to degree the intent of the communication at the recipient.

There has been some debate as to the validity of this model (Dennis and Kinney 1998), however, the main tenets of Daft and Lengel's work support the impression that computer-mediated communication is deficit due to reduced social cues. Their theory posits a spectrum of communication media ranging from the most to the least effective. We can take this spectrum as a yard stick to measure the applicability of ethnomethodology in mediated environments. Previous work by (Heath and Luff 1991) for example illustrates how technology distorts the common frame of reference required for reciprocity, mutual understanding and socially organised interaction. Their study explored how video-mediated communication in collaborative work environments transformed verbal and non-verbal communication. Their analysis and subsequent findings suggest persons communicating over video-mediated environments presuppose the 'interchangeability of standpoints'. Thus gestures are committed as if the speaker is in the presence of the recipient. However, each speaker has only a limited view of the recipient, and while each behaves as if communicating face-to-face, their social interaction is relayed and thus shaped by an inconsistent mutual environment. Other investigations of this type, again carried out by Dourish at al. at Xerox, have concluded that social interaction undertaken in video-mediated spaces requires a reorientation of social behaviour by co-participants. Thus mediated environments engender new patterns of social behaviour structured around the medium itself. In this view researchers dismiss the underlying assumption of the 'real-world baseline' in which mediated environments are evaluated in relation to face-to-face communication (Dourish, Adler et al. 1996). Also, wishing to analyse social activity in mediated environments, researchers must factor into account the medium not only as a tool of interaction but as an all-encompassing environment of social activity. While it has

been found that video-mediated communication distorts the common field of experience, text-based environments goes further rendering any field of expression more opaque. Accountability, integral to the application of ethnomethodology, is severely limited when communicating across text-based CMC for instance. Although conversation analysis has provided some interesting contributions (in relation to Internet Relay Chat for example (Stommel 2008)), the majority of web-mediated interaction takes place in the form of asynchronous communication. Thus feedback, crucial to structuring and repairing communication, is not immediate.

5.1.3. The problem of mediated ethnomethodology

Computer-mediated communication presents a further difficulty in relation to the method of research. Outside of a laboratory setting as illustrated above, how is ethnomethodology applied to the study of mediated interaction? Christine Hine's approach to virtual ethnography, although reflective of a more cultural form of ethnography, is conducted entirely in mediated space. There is no laboratory. There is no physical contact with participants. The role of ethnography is shaped by the medium in the same way that communication is shaped by the medium. Taking snapshots of conversations as material for analysis is inconsistent with the more immersive approach of traditional ethnography (Hine 2000: pg15), however, ethnography was not conceived of to study mediated culture. This is not to say that, like virtual ethnography, a reconfiguration of ethnomethodology is required. Unlike virtual ethnography, ethnomethodology is founded on the principles of accountability and reflexivity, both of which are heavily influenced by the introduction of a medium. The researcher employs the same reasoning facilities as those interacting and thus the introduction of a medium will impact the researcher in the same way as it impacts inter-subjectivity and the creation of a shared social space. Furthermore, the goal of virtual ethnography is not to develop new technology but to understand the evolution of community online. In contrast, ethnomethodology is applied with exactly that goal in mind, to understand how social and situational practices impact on new technology.

5.2. Ethnomethodology as an influence on design

Ethnomethodology has had a considerable influence on the design of new technology. Here, firstly, we will focus on the creation of new and innovative social interfaces that

promote accountability and increase awareness. Secondly, we will briefly examine how researchers have developed ethnomethodological architectures in a bid to better support community understanding.

5.2.1. Social Interfaces

While ethnomethodology may not provide the best analytic tools to investigate mediated social interaction, it has been established by researchers as a promising foundation for the design of new and innovative communication technologies. Kellogg's and Erickson's work on social translucent systems, for example, has sought to bridge the gap between interacting in physical space and communicating online. Their approach is informed by ethnomethodology - highlighting the importance of *awareness* and *accountability* in unfolding social situations – and was aimed at developing a richer communication model that enabled users to 'draw on their experience and expertise to structure their interactions with one another' (Erickson and Kellogg 2000). The properties of physical space, or properties that help marshal successful interaction in physical space, are modelled on the metaphor of a door leading into a stairwell. The introduction of a small glass window presents each co-participant with the ability to sufficiently re-orientate their actions in accordance with each other. Thus, the small glass window renders their actions visible (to each other), accountable (to each other) and develops a collective sense of awareness (neither participant will slam the door in the other's face as such an action is not in accordance with behavioural norms). In their system, the small glass window is manifested as a *social proxy* – a visualisation that illustrates to those participating in a social situation the presence of others in their immediate environment. More recently Erickson and Kellogg advanced the notion of socially translucent systems to cater for groups collaborating on very specific activities in mediated environments. This work suggested the lecture proxy, a social proxy that reflects the physical environs of a lecture theatre, the auction proxy, in which the dynamics of a physical auction is recreated, and the line proxy, a very ethnomethodologically oriented interface that reflects the natural social construct of a queue (Erickson, Halverson et al. 2002).

At the same time there have been several articles published addressing awareness and accountability in relation to collaborative work (McGrath and Munro 2003; Lederer and

Heer 2004). The notion of work as a social activity preoccupied Garfinkel's latter writings. He proposed that ethnomethodology as a method of analysis is ideally suited to the recurrent properties of work in discipline-specific situations (Garfinkel and Rawls 2002: pg100). This he encapsulated in the notion of the Shop Floor Problem – how generic descriptions of work obfuscate the actual ongoing practice employed by the worker in the workplace, i.e. the shop floor. Often physical work environments provide the necessary social cues and other points of orientation crucial to efficient collaborative work. Distributed teams, however, do not share a common work environment. From this perspective, awareness in collaborative systems has focused on sharing social information and on highlighting the concept of shared cognition as part of collaboration. Shared cognition is important so that the user operating in a collaborative environment understands their position and corresponding relationships in context of a broader social system (Leinonen, Järvelä et al. 2005). In addition, there have been suggestions that accountability and social awareness can be increased through the application of Social Network Analysis. (Fisher, Smith et al. 2006; Kelly, Fisher et al. 2006) have carried out research on the social network analysis on the several newsgroups seeking to discover the nature and structure that underpin community interaction.

5.2.2. Emergent Semantics

The rise of the folksonomy is probably the most widely recognised way in which communities have come together to collectively organise a domain of knowledge. Sites such as Delicious and Flickr, both pioneers in the evolution of social tagging, have provided a forum for community members to create subject-based indexes. Granted, tags such as *mydog* illustrate a need for guidelines however the success of tagging serves to illustrate a willingness on behalf of the community to structure their domain. Srinivasan argues that supporting the community in this way reflects an ethnomethodological approach to information architecture – information spaces that emphasise the social and situational practices fundamental to a community (Srinivasan 2007). Reflecting Garfinkel's discord with the coding practice of formal sociological method, he contends that standards research, the creation of classification schemas and ontologies for example, neglect the cultural and context specific nature of community practice. Conversely, he proposes community-articulated metadata to complement the creation of broader or professionally-created

classification schemas. He maintains that this approach 'engages a community to reflect on its practices'. From this perspective, Díaz-Kommonen et al. maintain that it is not the task of the information designer to 'chew the world for the user' (Díaz-Kommonen and Kaipainen 2002). The designer, they argue, should develop tools that empower the community rather than restrict it. This view is identified as '*open interpretation approach to information design'* (Collao, Diaz-Kommonen et al. 2003) in which community members are allowed the freedom to structure and interpret information according their personal needs. Certainly both approaches reflect the work of Suchman and the reasoning that saw ethnomethodology rise to prominence in design orientated fields.

5.3. Summary

This section has discussed ethnomethodology from two perspectives: form the perspective of social phenomenology and from the perspective of mediated communication. The first describes some of the founding principles of ethnomethodology emphasising the importance of physical interaction to ensure common and inter-subjective understanding. The second described the media richness model as a way to judge the applicability of ethnomethodology. We discussed the inconsistencies of applying ethnomethodology in mediated environments comparing virtual ethnomethodology with virtual ethnography. The section concluded with a discussion on how ethnomethodology has emerged as an influence to design of new and innovative social software.

6. Conclusions

In this paper we considered ethnomethodology as a research method in relation to computer mediated interaction. The paper was motivated by the inroads that ethnomethodology has helped researchers to make in other technology related disciplines. However, the nature of CMC - reduced social cues, predominantly text-based and asynchronous communication - does not lend itself well to ethnomethodological investigation. Indeed, distorting the natural field of experience reduces the ability of social actors to experience accountable social action and thus inhibits the application of ethnomethodology in mediated environments. Conversely, ethnomethodology has been proposed as a set of design principles for a new generation of interactive platforms. Much of

this work draws inspiration from ethnomethodology's focus on accountability and therefore seeks to encourage more intuitive and communicative social interfaces.

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