

YOU, ME AND THE OTHERNESS:

SOCIAL CONSIDERATIONS IN TECHNOLOGICALLY MEDIATED INTERACTIONS

Robert Cox¹
Christopher Newell²
Paul Turner³

School of Information Systems^{1,3}
University of Tasmania
Hobart, Australia

[Email: Robert.Cox@utas.edu.au](mailto:Robert.Cox@utas.edu.au)
Paul.Turner@utas.edu.au

*School of Medicine*²
University of Tasmania
Hobart, Australia

Christopher.Newell@utas.edu.au

ABSTRACT

Communication is a social act that has functions and purposes beyond the exchange of any content. Technologically mediated communications (TMC's) restrict elements of the communication act that contribute to the 'social dimension' of human-to-human communication. In the context of an increasing reliance on TMC's, we have seen the emergence of a particular set of social structures and beliefs which impact on human-to-human communication. Therefore, if we examine these influences, we are in a position to make judgments about the ways in which technology parameters constrain 'social communication', both within the 'ways' of the device and beyond in society, through the creation of communication 'norms'. This would, subsequently, require the need for alternative designs to be found for the development of TMC's.

KEYWORDS

Context, Content, Mediated, Communication, Interaction, Natural Language, Human-Computer Interaction,

1. INTRODUCTION

you 1. the ordinary pronoun of the second person. 2. anyone... [other than me].
(Macquarie Dictionary, 2001)

me 1. the objective case of the pronoun *I*.
(ibid)

otherness 1. "...an ambivalent phenomenon encompassing both beneficial and uncanny elements: the fascination of novelty and the threat of the familiar, the possibility of innovation and the danger of loss."
(Münkler, 1998)

Communication is a social act that has functions and purposes beyond the exchange of any content. Winograd and Flores in their insightful book '*Understanding Computers and Cognition: A New Foundation for Design*' cite that "...the world is encountered as something already lived in, worked in and acted upon before we start thinking and speaking about it. World, as the background of obviousness, is manifest in our everyday dealings and every possible [interaction] presupposes it. That which is not obvious is made manifest through language. That which is obvious is left unspoken, but is as much a part of the meaning as what is spoken"(Winograd & Flores, 1986, pg: 58).

Technologically mediated communications (TMC's) restrict elements of the communication act that contribute to the 'social dimension' of human-to-human communication. These elements are encountered as people try, for example, to include emotion into their mediated interactions through the use of emoticons – those peculiar groups of symbols mimicking a face smiling or sighing. And there is also a broader debate concerning aspects of 'social atomization'- see Durkheim, Weber, and Marx for foundation principles - which support the concept that TMC's provide a less-rich communications environment for humans to interact within than face-to-face interaction. Yet, the increase in the sheer scale of recent social organization,

probably one of the most significant trends of our times, is a growth made possible, at least in part, by modern technologically mediated communication tools.

In this context of an increasing reliance on TMC's, we have seen the emergence of a particular set of social structures and beliefs which impact on human-to-human communication. So much so that the breaking down of social groups into individuals or 'elementary communication units', may leave untouched a host of sociological problems, which concern not just the properties of the individual parts but their complex relationships; just as breaking down a person into atoms and electrons such as DNA, loses sight of the whole person.

Therefore, if we examine these influences, we are in a position to make judgments about the ways in which technology parameters constrain 'social communication', both within their use and operation, the 'ways' of the device, and beyond in society, through the creation of communication 'norms'. For example, the inherent lack of ephemerality in many mediated interactions such as SMS and email may interfere with communicative spontaneity, creativity and candor, thereby reducing what may be conceived as the pleasure of human-to-human interaction.

This would, subsequently, require the need for alternative designs to be found for the development of TMC's to: (a) determine communication norms that maintain human-to-human interactive 'richness' and; (b) allow 'inclusive' social structures to develop, reducing the possibility of otherness within mediated interactions.

This paper uses a critical research methodology (Ngwenyama, 1991) to investigate current technologically mediated communication tools and the design directions that established them. Further, the format of our paper is in a 'conceptual mode' rather than any current research model, such as Action research. The first section of this paper looks at the present structure of technologically mediated communication technology; the second section offers comment on face-to-face human interaction and some of its peculiarities; the final section proffers some observations on ostensibly important social issues for technologically mediated communication tools.

2. DISCUSSION

"It is remarkable that human communication works at all, for so much seems to be against it; yet it does. The fact that it does depends principally upon the vast store of habits which we each one of us possess, the imprints of all our past experiences" (Cherry, 1957, pg:12)

Communications research has been undertaken for centuries. It was a primary subject studied by both the Greeks and Romans in their historical debates on the art of rhetoric, which centred around the communication of meaning, appropriate media/mediums and conceptual understanding. Subsequently, a working definition of 'medium' is not all that hard to pin down. Essentially it can be described as including "...some material artefact that is experientially used in a particular way and [that it] conveys what may be called broadly an expressive activity" (Ihde, 1982, pg:60). A medium then is something that facilitates the conveyance of an expressive activity by the expressor to the recipient. This could be graphically shown as:

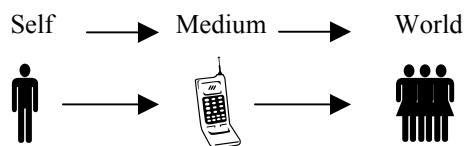


Figure 1: An example of a mediated environment

Ihde (1982) identifies that mediated communications presents two opposing dimensions within their exhibition; Amplificatory and Reductive. The *Amplificatory* dimension is primarily the capacity of a medium to manifest us to each other in spite of vast geographical distances, whereas the *Reductive* dimension can be described as the perception of the sender to the receiver through the medium is – compared to a global perception – a reduced presence and lacking in the perceptual richness of the face-to-face situation.

In a non-mediated environment, deliberate interaction with the world is direct. A perceptual situation is totally available – I see your gestures, hear your intonation, feel your expressive presence. This also can be graphically represented as:

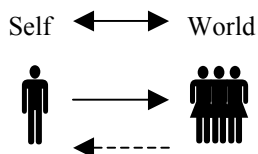


Figure 2: Non-mediated Environment

Some of the most influential technologies, such as radio and television, were developed to provide knowledge at or over a distance. However, it certainly appears that current technological innovation is directly centred around the use, and to some extent abuse, of the telephone. It might be prudent here to identify that SMS is not technically a telephonic communication in the true sense of the words; it is more a textual interaction similar in nature to an electronic version of the Post-it® note. Certainly this is a semantic issue; one in which the item's related identity has not caught up with the item's function, much the same as we say computer to mean all the components associated with a personal computing device (i.e. screen, keyboard, etc). However "...the telephone is not new technology, yet its diverse role in society, its evolution as both a business and household instrument since its inception in 1876, and the vital part it continues to play in our changing society and in the rapid expansion of the Information Age, focus it as a technology of central relevance to studies of gender, interactive media and information technologies."(Moyal, 1992, pg:51)

Several questions arose when researching the development of the telephone as a mediated communication tool. One of which is: why are all new communication technologies geared towards the telephone network? And in an attempt to answer this question, a proposition was proposed that it may be simply due to a telephone network already being in existence. This is quite within keeping with recent technological developmental trends - which have little to offer in the way of creativity, choosing to innovate on existing development rather than launching out in search of better ways of performing what have become communication norms – in that it cannot be superseded only improved upon.

Certainly, starting from the question: what is so good about the telephone that has made it the 'tool-of-choice' for most people to communicate over distance, may lead to exhaustive dissertations on the value and function of the telephone phenomenon in our society, and the subsequent reproduction of several studies already well established, (Moyal (1992), Caals (2003), LaRose (1998)) for example. However, for the sake of brevity and a clear research directive, this paper will not partake in this research direction.

However, questions, such as: "Have the recent developments of email, chat and SMS overtaken the need for voice communication technology?", may lead to the proposition that speech, although now accepted as a primary medium in human-to-human communication over distance, may ultimately be superseded by immediate, short text messages such as SMS and chat, which offer a certain 'distance' to the sender and at times, a safe anonymity.

Much of what we send through mediated communications is essentially content. The term "just give me the facts..." springs to mind here. Subsequently, there is a large amount of communication 'redundancy' accounted for in SMS, email and chat and, to some extent, even telephony – both fixed line and mobile. In this instance, the term redundancy implies some kind of repetition, or additional signs used to establish interactive success.

A statistical theory of communication put forward by Fano (1961) has, as part of its aim, the setting up of a measure of redundancy in human interactions, such as Morse code, and this redundancy may be identified at two levels: Syntactic and Semantic. Cherry (1957) cites that *syntactic* redundancy "... implies [there are] additions to a text: something more is said or written than is strictly necessary to convey the message"(pg:116). Whereas *semantic* redundancy "...uses knowledge about semantic relations among the attributes to find pairs of semantically similar rules, then removes the rule with the lower confidence or support"(Ganchev & Livingston, 2000). Both these rules are currently not applied to our existing mediated

communications devices. So much so, that SMS and chat have developed their own language – chatese, which, for all intents and purposes, is quite successful.

The further question of: “Why do we need redundancy in our interactions at all – whether syntactic or semantic?” could now be asked. Cherry (1978) cites that “...because of the various disturbances from the external environment, the uncertainties of accent or handwriting, and the inadequacies of language itself... [the] latter requiring the we expand our phrases and sentences until we are content that we have “conveyed our meaning”; we may need to express a thought in several different ways... to confirm its successful reception”(pg:117).

It is quite possible then., that there is a quantity of interactive knowledge that cannot be conveyed in a content-style format, thereby proposing that these perceived ‘redundant’ addendums within our interactions may be in fact the communication’s context – that information which is conveyed without cognisant permission, and that we use to identify the legitimacy, timeliness, location and social appropriateness of the communication’s content.

Sylvie Mozziconacci’s recent experiments into the classification of emotion and/or attitude in vocal interactions identifies just that. Dr. Mozziconacci’s investigation produced a series of systematic perception experiments which managed to classify the optimal values for the acoustic parameters needed to generate synthetic diphone-speech which can express a very limited but effective range of emotion or attitude. She cites that the “...interpretation of the whole spoken message by the listener involves much more than prosody alone. The inference of meaning occurs in a specific situational context, in a given language, between people of specific personalities, gender, cultural and educational backgrounds. It involves a particular semantic content, prosodic variations, as well as correspondence or mismatch between the previous elements of the communication”(Mozziconacci, 2001, pg:323). The content of the interaction will subsequently be changed in meaning or perhaps even misunderstood, should the context of the interaction be missing or ill-conceived.

2.1 Face-to-Face Communication

Spoken communication involves more than just conveying the literal sense of words and sentences. “In fact...”, Dr. Mozziconacci adds, “...it contains within its content, some form of contextual information...”(pg: 324). This context not only carries information on word stress, phrasing and emphasis, but it is additionally thought to be strongly related to speaker specific characteristics, and factors such as expression of the speaker’s emotions and attitudes(Mozziconacci, 2001).

So, what makes face-to-face interaction different from mediated interaction? It would appear that face-to-face interaction has several interesting features that set it apart from other interactive methods; an important one being the number of modes that a person can employ to convey a single thought: facial expressions, various types of gestures, intonation and words, body language, etc. Face-to-face human communication is also a dynamic and rich interaction, that exhibits the greatest range of possibilities for linguistic and non-linguistic information to be transferred. These include sensory information, facial and body language, intonation, words, etc. Certainly it can be argued from a technologically focused view that this richness adds more noise and complexity to the interaction, which may ultimately interrupt the communication. However, this in turn can open up an even broader discussion on technologically mediated communications (Cox, Turner *et al.*, 2003).

Questions such as: “In this technological age, is it possible that technologically-mediated communication tools have superseded face-to-face communication in value and convenience?”, may stem from the commonness of the technology and the amplificatory /reductive aspect enabled by mediated communications. Certainly there would be times that any of us have used a mediated communications technology such as email or the telephone to effectively hide behind. Creating a distance between yourself and the receiver of some critical comment can be useful at times; as the initiator of the interaction has no need to be in the physical presence of the interaction’s receiver – distancing ones self from the physical, intellectual and emotional reaction - together with a sense of being in control of when to terminate the discourse.

So, why are there times that I feel fulfilled/understood/accepted in a face-to-face conversation more than I do in a mediated interaction? and ‘what is it that makes us need face-to-face interaction?’. Perhaps it is all of the above; the facial expressions, the various types of gestures, the intonation, the body language – the perceived richness of the interaction. If this be the case, then our mediated interactions need to incorporate this

important contextual information as well, thereby enabling us to interact in a rich environment across distance. However, it must also be recognized that there will be times when communicators will wish to be distanced from the interactions object – to effectively hide their context for the sake of personal sanctuary and even communicative effect – and the technology must enable such occurrences.

2.2 Social Issues

“Language performs an essentially social function; it helps us to get along together, to communicate and achieve a great measure of concerted action. Words are signs which have significance by convention and those people who do not adopt the convention simply fail to communicate”(Cherry, 1957, pg:67).

It may be that a vivid point of convergence between language and social organisation arises at the level of ‘speech acts’ (Drew & Heritage, 1992). In *How To Do Things With Words*, Austin (1962) developed the view that in the production of an ‘utterance’ a speaker performs an action, and aspects of his analysis were developed in a more systematic and technical way by Searle (1969). And because activities or speech events are built out of particular component actions (i.e. grammar, volume, gender, socialisation), speech acts can be argued as being central to the analysis of all types of interactions, and are hence important to consider in the subsequent development of TMC’s.

Certainly, when we think about the development of mediated communication devices we might well think about the ‘norms’ that we bring to bear in terms of communication and what we want mediated communication tools to do. A particularly useful perspective is to be found when we explore these issues with particular regard to those communities we deem as having ‘dis-ability’. There is a long standing critique of the way in which technology can be designed, from the R&D stage onwards, to the way in which people are actually disabled (see especially Goggin & Newell, 2003).

It would also appear to have been the creation of a new social order or class system where there are ‘haves’ and ‘have nots’ within the technologically mediated communications world. It is now possible to be described as being ‘technologically disabled’ – a class of people who do not have a mobile phone or access to other technologically mediated communication tools (i.e. email, chat).

In looking at the world through different perspectives, we are particularly mindful of what would happen if the whole world was deaf or blind? In the case of Deaf users (that is predominantly those who are pre-lingually deafened and use sign language as their first language) then much of their desire with regard to electronic communication is via the use of video telephony. Indeed, because much of the communication is via visual cues, it could be argued that this particular community could be particularly well served by specific forms of mediated communication because amongst other things, emotion can be and is conveyed by signs. In terms of blind people, it is possible to imagine the use of tactile information in far more sophisticated ways than has ever been conveyed before. Of course, there is also the increasing use in forward-thinking movie cinemas to move to personal vocal descriptions of what is being shown for blind people and this could certainly be utilised in non-tactile ways as well.

So often we think of such creation of communication tools in terms of non-disabled communication norms. We bring norms to bear on the whole populace and yet it is quite clear that mediated communications can be enormously enabling. Especially if we are routinely to ‘build in’ such abilities, as opposed to creating disability, via the norms that we either consciously or unconsciously bring to bear.

3. CONCLUSION

Although new technologies oft take different or novel substantive forms and do provide functionalities that did not previously exist, how and what they do are choices employed, consciously or not, by their creators. “Mediated communication tools are ontologically complicated in that they are responsible for shaping human behaviour, for enabling and constraining action, but they are also shaped by their human creators, which suggests that the relationship between technology design and social action is recursive” (Harrison & Zappen, 2003, pg: 14).

It would also appear that human-to-human interaction is not a perfect process and that our communicative actions, mediated or not, involve risk: a risk of miscommunication. Indeed, some have argued that it is the desire not to be misunderstood that provides much of the energy for communication *per se* (Wallace (1962)). What maybe needed to develop human-to-human interactions over distance that contain all the richness and context of the non-mediated environment (see figure 2) is the disregarding of existing models of mediated communications and re-developing the problem of contextually rich interactions over distance from a different standpoint - that of the user of the mediated communications tool rather than the technological ability of the tool itself.

When the process of design of technologically mediated communication tools includes the user for whom the technological artefacts are created, it becomes possible to create technology systems that serve a different set of social needs and interests; in this case, those related to the enhancement of democracy, community and the disempowerment of otherness.

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