

HEARING AIDS WITH NO BATTERIES

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ABSTRACT

This short paper offers an account of ongoing research into hearing. I offer a characterization of 'skilled practitioners' from an Ethnomethodological perspective. The skilled practitioner in question is a generic 'hard of hearing' person. The ambition is that such a characterization, both in its making and its final state, may be an intrinsic part of design practices concerning the development of hearing aids.

INTRODUCTION

Within design studies, the idea of a skilled practitioner has a host of brothers and sisters all prefaced with the family name 'skilled'- skilled users, skilled workers, skilled employees - but the basic idea is the same for all. Those for whom a design process may ultimately bene-fit in the form of a product, taken broadly, are or have been skilled, a priori, in a set of practices for which the product is intended. The idea of a skilled practitioner is also prevalent on other areas of study, for example in Activity Theory (Engström 2005), the notion of communities of practice (Lave & Wenger 1998), and most importantly for our concerns here, Ethnomethodology (Garfinkel 2002).

LITERATURE AND THEORY

Currently, one recommendation is that Ethnomethodology, with its focus on the 'practical activities through which actors produce and recognize the circumstances in which they are embedded' (Maynard & Clayman 1991: 387), and design, at least those varieties

which prioritize ethnographically derived design materials and user involvement, be coupled into a 'hybrid' program (Button & Dourish 1996; Crabtree 2004). Such a hybrid program implies

'the constructive involvement of ethnomethodology in processes of innovation in design, the results of which may subsequently be subject to the rationalities and constraints of product development.' (Crabtree 2002:1)

Or as Button & Dourish (1996) note *'design adopts the analytic mentality of ethnomethodology, and ethnomethodology dons the practical mantle of design'* (ibid:22).

The recommendation then is to supply EM-derived concepts to the design process, which should be seen in contrast to the idea that ethnomethodology should inform or critique design, for example by offering accounts of the 'real' world of users or consumers. Dourish & Button (1998) for example, demonstrate how the EM understanding of accountability - briefly the no-

tion that social action reflexively establishes the conditions of its relevance - might be used in designing how a computer's actions are represented to a user.

Crabtree advocates observing the introduction of novel technologies as breaching experiments, an ethnomethodological technique to make visible the ordinary through its disruption, so as to make it available for ethnomethodological inquiry (Crabtree 2002). Through this, insight is offered into how objects of design are made sense of in courses of practical action which are then rendered into topics of further design relevant inquiry.

My humble attempt below to follow this line of work does not use breaching experiments, rather it attempts merely to illustrate skilled practice and practitioners as ordinary. Rather than thinking of the skilled practitioner as exceptional, in the sense of 'key users', it attempts to illustrate how a problem with a possible solution in a particular designed product, i.e. a hearing aid, is practically solved without it. These solutions, I maintain, are examples of 'making' activities from ordinary life, akin to our everyday understanding of expressions such as 'making do', 'making adjustments', 'making out'. I am thus proposing that skilled practitioners can be seen not only as proficient in making their world accountably and recognizably ordered, but also as practical designers of solutions to

overcome disorder, in this case hearing impairment. In this way, then, I wish to expand the idea of a skilled user even further to include the skilled designer.

DATA AND METHODS

The data for this study consists of mainly of self-reflective observations of, mostly, my own practices as a mundane hard of hearing person. By self-reflective, I mean the observations were retrospective noticings, accounts for, and even analytic wonderings over my own daily life. It might be nice to say that I observed myself dispassionately, neutrally, and without analytic influence and that these observations were then sub-jected to rigorous analysis. This was not the case here, if it is ever the case anywhere. To some extent my practices were ordinary in the sense that they were part of my ordinary routine, eg. being at home with my wife, but on occasion they were analytically motivated practices, eg. brainstorming the things I think I do, or could do, to improve my hearing. Finally, being more acutely aware of my own self due to the project made me all the more aware of others who I either knew or I suspected were hard of hearing, my father-in-law for example. Thus, the data is not only of me, but of others in my everyday life.

As such, the data are to be seen as deriving from the method of Systematic Self Observation (SSO) as put forward by Rodriguez and Ryave (2002). SSO attempts to confront an empirical problematic, forwarded by Polyani (1967), emanating from the practice of everyday life, namely 'a numbness to the details [...] required for the competent achievement of socially skillful behavior' (Rodriguez & Ryave (2002: 4). SSO is characterized as an 'event-contingent method' where informants are required to take note of the natural emergence of the topic in question and, immediately thereafter, write up a report of the event. This is, to a large extent, what I have done. As noted above however, my being in the project pushed me into analytically motivated activities of relevance to the project, and thus their natural emergence in a sense were pre-mediated by me, and I also became more acutely aware of others for whom I believed the study's topic was of some relevance.

I view these departures from SSO as the necessary embracing of the Hawthorne effect. Surely, one can not expect informants to be oblivious to their participation except when a topic relevant event occurs. Nor should we believe that their self-observations are not, on at least some occasions, analytically motivated, given they are to account for them to a researcher at some later date. My claim here is simply that the observations are from my 'ordinary' life, but that 'being in the project' is unavoidably part and parcel of that life.

RESULTS

The results thus far of this study are as varied as the observations I have made, and the analytic renditions I have made of them. They include two unmotivated observations, entitled below as 'I hear fine when I'm alone' and 'The Space Negotiation Principle', and a more motivated observation of my own brainstorming, 'Methods to improve your hearing', where I both noted my own practices as well as imagined possible practices.

I HEAR FINE WHEN I'M ALONE

I am at home, alone, on a weekday, alternating between sitting in our study and popping up every now and then just to move around and away from the text on the screen in front of me. I hear the fridge and freezer humming, the dish washer sloshing and come to the realization that I hear perfectly well when I'm alone.

A great deal is made of the interpersonal social handicap which hearing impairment may cause. I'm sure that's true, but the hearing impaired person is also a singular individual in a physical world, and being so, one would think, must deal with all sorts of possible physical threats by occasionally 'tuning in', just as with a radio, to the soundscape of that world. It's nice to be able to hear the traffic when crossing the street, or the alarm when the freezer is on the blink.

But I seem oblivious to all this. Of course, we are endowed with, at least, 4 other senses with which we may compensate a dysfunction in hearing. We look before we cross the street and the freezer alarm is also a blink-ing light. This may be why I haven't been hit by a car or suffered food poisoning from eating previously frozen food that's

gone off. But think there's more to it.

Another reason why I believe I hear perfectly well when I'm alone could be because I've forgotten how well I'm supposed to hear, and there's no one around to remind me. I thus have no benchmark of how loud cars on the street or freezer alarms are supposed to be. When I hear them nowadays, they are JUST that loud. If they're not loud ENOUGH, then either they are exceptionally quiet or not working properly. Hearing loss of the sort I suffer from, i.e. age related, develops slowly, so slowly, I suspect, that we forget how we are supposed to hear, or rather how loudly things around us are supposed to sound. And there is perhaps an analogy of this in reports from disenchanted hearing aid owners who note that they've grown quite accustomed to a quieter world, and that the hearing aid forces them to learn how to hear anew. Old dogs, new tricks?

METHODS TO IMPROVE YOUR HEARING?

What follows below is a categorized list of methods I either myself practice or could envisage myself practicing in order to hear better.

A first, very broad, category for a host of methods are those which enable the person to come closer to a sound source which he or she wants or needs to monitor.

Method 1 - get closer to the source

Examples:

Move closer to the television

Stand under the speakers at the train station

Stand in the doorway between the kitchen and the living room while your watching TV and your wife is talking to you from the kitchen

Turn your head so that your ear is closer to the person who's speaking to you

Move closer to the person you're speaking with, ie. closer than 'normal'

Make sure you always sit beside your boss at meetings

Method 2 - get the source closer to you

Examples:

Hold the telephone headset tightly against your ear

Tell your kids to come into the room you're in if they want to talk to you

A second very broad category is

to amplify the sound source or increase one's own capacity to receive sound

Method 3 - amplify the source

Examples:

Turn the TV/radio/telephone etc. volume up

Tell your wife to stop mumbling

Method 4 - increase your receptive capacity

Examples:

Cup your hand behind your ear

Make sure clothing doesn't cover your ears (like a stocking cap)

A third, not so broad category, is to change modality, to change the medium to something else.

Method 5 - make sound light

Example:

Attach a light to you alarm clock, doorbell, fire alarm

Method 6 - make sound tactile

Example:

Always have the vibrator on your mobile phone on

And a final category concerns the various ways one can use another person as a hearing aid – an ear proxy of sorts.

Method 7 – Have your wife repeat what someone has said

Method 8 – Check your wife's reaction to what someone says to you

These are then 7 methods which I employ, and have witnessed others employing, to improve hearing, with method number 5 being the 8th method I personally haven't yet tried. At first glance, one readily recognizes that, in distinction to the first observation, the social side of hearing has more readily come into play. To the extent this is the case for a particular method, there is a significant number of interesting questions not answered by this rather simple list. To take what is perhaps the most extreme example, consider using my wife as a 'proxy ear'. We know at present very little about simple one on one interactions between people where one of them is hearing impaired. The scenario where there are at least 3 interlocutors and one is using one other as a 'hearing aid' would add exponentially to the complexity an analysis must deal with.

Nevertheless, such a list does bring to the fore some useful insights. Most interesting in my opinion is that not only does it portray our skilled practitioner

managing his way through a heard world, but also as an actively engaged designer of that world. It is not just a hearing impaired person adapting to a ready made world, but also actively retro-fitting the world to his own ends. I, for one, have a hard time seeing a hearing aid doing this, so perhaps this is a challenge for hearing aid design?

PRINCIPLES FOR SPACE NEGOTIATION (PSN)

This final observation relates, to an even greater extent, hearing within a social context. And because of this, its analysis gets rather complex, requiring the working out of a host of a priori assumptions, but first the observation. I'm sitting in one room, say the living room, while my wife is in another room, say the bedroom. My wife says something to me. She gets no response from me, so she then must either speak more loudly and/or move closer so that on a second attempt, I do respond. This creates friction between us. My wife gets angry, which I either feel guilty about being responsible for, and/or I get angry with my wife for not being sensitive to my needs.

I propose that the situation of living and communicating in a household, or more generally sharing a space with someone, is easily recognizable as a mundane bit of everyday life. Further, sharing a space with someone implies some degree of mutual accessibility to each other. Thus we can say that my wife assumes the accessibility of me as a potential interactive partner, and makes an attempt to engage me in some joint endeavor. The recognizability of this, I submit, is very much a part of our sociality and common culture if we can agree with the following ethnomethodological assumption: A fundamental part of being together with others involves the the collective sensemaking of our world as a recognizable and ordered world.

Returning to the observation, my silence indicates our failure at this. What my wife does next is quite simply repair. She 'hears' my silence as a hearing problem - giving me the benefit of a doubt concerning my accessibility and willingness to enter into the joint endeavor- as indicated by how she formulates her next move. She increases the amplitude of her locution and/or reformulates her first attempt and/or

moves closer to where she believes me to be. And of course this may recur until either I respond or my wife gives up. One part of ordering collective life in a household means recognizing

- 1) the relationships between one's position in space and the other's position in space,
- 2) the value of distance between them in relation to
- 3) the activities either may be undertaking, and
- 4) the responsibilities concerning those activities in relation to changing one's position and/or ones actions.

A mundane example: The phone rings,. Who is most responsible for changing their position such that they answer it? What sorts of things can they be engaged in which might override the simple rule of 'closest to the phone answers'? Let us shorthand this part of the collective ordering of life, Principles for Space Negotiation, PSN. Keeping this very rough take on this slice of life as an example of how my wife and I 'collectively make our world a recognizable and ordered world', let's look again at the action described and see what we can make of it: My wife's anger can be seen as involving her having to move/disrupt her activity to engage with me as I don't respond to her initial locution. For her, I have succeeded in 'passing' as 'normal', as someone, for all practical purposes, without a hearing impairment. Thus, I am allowed no exception from the PSN, which renders me in violation of it in this instance. Now I get angry with my wife because she's angry with me. What's my take? Either my wife has got the PSN wrong in this instance, or she should know that my 'passing' is not in play at this time.

There are lots of alternatives to the sense-making here and I'm sure a lot more 'sense' can be made of this here, but it's a start. To carry on I think very mundane questions concerning the PSN are in order. I would not be interested in finding out the 'real' reasons for our actions, probing into our subconscious, hearing our life stories (in 1 hour or less), connecting our propositions to relevant hegemonic discourses of late modern capitalism or similar sorts of things. I would just want to know who answers the phone, and

what sorts of punishment one should get if one doesn't when one should., or more academically, the sorts of things which are part and parcel of the social contract, with its moral bindings, my wife and I sign, metaphorically, when we enter the so-cial life of this household.

I noted that my wife could raise her voice and/or refor-mulate and/or move closer to me when she gets no re-sponse. I contend that raising one's voice and/or refor-mulating are the same, in their effect, as moving closer. If the TV is too loud, we either turn it down, or move further away, or both. If it's too low, we either turn it up, or get closer, or both. We can also fiddle with the bass and treble of the TV's sound, thus 'reformulating' the sound, making it clearer given our desired distance from the TV set.

The PSN concern the negotiation of space between sound source and designated hearer, a negotiation that, when successful, supplies sound loud and clear enough to make sense of. And maybe, this negotiation of space is a fundamental kind of thing for people who don't hear well? Hearing impairment is, after all, very much a physical problem – the world isn't loud or clear enough. An idea like the PSN, with its point of departure in the physical world and our positions and movement within it but nonetheless very relevant for social life in the world, may be useful.

DISCUSSION

The three observations above make three points worth moving forward with in the design of hearing aids.

- 1) People not only lose their hearing, they may al-so lose their memory of how to hear.
- 2) Hearing impaired people may not only be skilled at adjusting to a heard world, but also active designers of that world to serve their own ends.
- 3) Social contexts of hearing are complex, but in may be worthwhile to remember that social contexts are also physical contexts.

The next question is how such insights might be made to stand for something other than 'accounts of the 'real' world of users or consumers', for it is clear they can certainly be understood that

way. Recall from above Crabtree's call for "the constructive involvement of eth-nomethodology in processes of innovation in design' (Crabtree 2002:1) as an important element in technoeth-nomethodology.

One remedy would be to take them into a design process not as resources for, but as topics of further design-relevant investigation. 'Turning resources into topics is but a more colloquial expression for the Ethnomethodological technique of 'respecification'. The basic idea is to take findings of common sensical inquiry (resources) and explore the methodical practices which give rise to them. In an earlier pilot project on hearing aid design, stories of 'significant moments' were collected from folks with hearing impairment. The stories related, for example such things as when someone informed their workplace colleagues of their impairment. In a respecification, the stories can be heard as explorable topics. What circumstances motivate the telling of such stories? What sorts of social order are story-tellings being used to manage? Given that such stories were collected as part of a design project, they will most directly inform our understanding of that project. A tact more in line with exploring the ordinary world of the hearing impaired could be, for example to look at support groups for the hearing impaired and explore how 'significant moment' stories might be used in the 'socialization' of new members. What does this socialization have to say about topics put forward in in this study?

I also believe the ethnomethodological method of 'breaching experiments' might be usefully employed. For example, we could explore how various hearing aid stakeholders deal with space and people in intentionally 'disrupted' spaces designed to foreground the interface between the physical world of things, the social inhabitation of that world and hearing. Even better perhaps, we might allow them to make their own 'disrupted' spaces, and inhabit them as they like. In this way, we might bring to bear more perspicuously the idea that the hearing impaired are not only 'skilled practitioner ex-emplars', but also skilled designers, whose sensibilities towards design, and not to just their handicap, are worth

exploring.

Finally, I wish to make a methodological point. My study has been conducted by me, someone with some training in ethnography and ethnomethodology, yet also a bona-fide candidate, eventually, for a hearing aid. Could the study have been carried out by someone without the training ethnography and ethnomethodology? With some training, I believe so. SSO, in fact, is designed for 'normal' folks. The observations I make above are mundane to the point of banality, an appreciated quality in EM for the ordinary, in all its general-ty, is actually quite mysterious and worthy of explora-tion. And we can all do it.

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