

Talk it up! Integrating traditional telephone research methodologies with e-Social Science tools, methods and practices.

Collette Snowden

School of Communication, Information and New Media

University of South Australia

collette.snowden@unisa.edu.au:

Abstract: Opportunities for expanding the use of the telephone in social science research are now available through the integration of telephone research methods with new and emerging digital technology. This paper discusses some aspects of the use of the telephone in social science research and reports on the use of the telephone in research on the use of mobile communications technology by media professionals to illustrate issues relevant to the development of telephone research methodology. It proposes further hybridisation of traditional telephone based research with new e-social science techniques as a means to gather reliable and useful data, especially for the recording and analysis of conversation and social interaction by telephone and oral communication more generally.

Despite a long history of use in human communication the telephone is surprisingly absent from studies of communication and sociology. The relative absence of the telephone from social science research, in relation to its rate of use and diffusion in society, is a curious omission given the powerful impact that the communication affordances it provides have on many aspects of human interaction. Perhaps however, this is also related to the lesser value placed on all forms of oral communication as a subject for study in the social sciences.

The few scholars with an interest in the social aspects of the telephone frequently assert that it has been comprehensively neglected as a subject of analysis, often along with conversational practices and orality. Contemporary research on mobile communications technology is now, somewhat belatedly, rapidly redressing this oversight, although much work remains to be done. In the seminal text *The Social Impact of the Telephone* Pool notes that “social scientists have neglected the telephone not only along with, but also relative to, other technologies” (1977, p. 2), and as late as 1991 Martin observed, “no serious sociological study has yet been done of the impact of the telephone on society and social life” (Martin 1991, p. 3). More recently, Katz and Aakhus continue to argue that “the miracle of telephone conversation is too readily forgotten by laypeople and scholars alike” (2002, p. 1), while Hutchby asserts that the telephone is “so established as to be all

but invisible to sociologists” (2001, p.1). Critical aspects of telephone use that further inquiry and integration into social science research could usefully elaborate upon are the nature of telephone communication and the oral communication it contains, and the use of telephone based communication technology for the collection of data, or to support the collection of data for social science research

Given the extent of the use and diffusion of telephony into all aspects of human activity it is also apparent that as a tool in social science research the telephone has also been limited, or at least its role in social science research has not been adequately accounted for. Exploration of contemporary and historic texts reveals that despite its social and economic importance telephony has long been a marginal subject of research within the social sciences (Snowden 2006) relative to its usage and importance. While the limited attention to studies of social aspects of telephony may account to some extent for its limited use as a research tool, the technical limitations of recording and documenting telephone conversations were also critical in limiting the use of telephone interaction in social science research for many decades. Additionally, the use of the telephone as a supporting or enabling tool for research, for example in contacting participants in research projects, in providing information for participants and in managing research teams is rarely accounted for in methodological accounts of the research in which it is actually a central technological component.

As a tool for social science research the telephone was adopted relatively recently in its development and use, largely through the study of recorded telephone conversations and the use of telephone surveys and interviews. While the field of Conversational Analysis, as developed from the work of Sacks and others, and the extensive use of telephone interview techniques in social science research must be acknowledged so too must the limited amount of studies of its use and incorporation into research methodologies, and into research analysis, especially in comparison to the extent of telephone usage in society. Indeed it is worth noting that the field of conversational analysis developed nearly a century after the first commercial telephone call was made, and in the intervening time the telephone became normalised into much human communication and interaction with little study or recording of the conversations it enabled, the consequences of telephone communication or its transformative effect on social relationships and networks. Even a pioneer of Conversational Analysis, Schegloff, confesses that he “wandered by accident” into incorporating the telephone as a research tool and that “it had never entered my mind to study the telephone as an object of inquiry” (2002, p.287). Schegloff explains that it was only *after* he had begun to analyse recorded telephone conversations that he realised they possessed unique properties which made them especially useful for research, noting that the telephone conversations in his initial study were “free of the sorts of scholarly and scientific intervention that involve memory and recollection to create field notes, paraphrase, description, analysis, coding, reporting by lay observers in what we call “interviews” and the like” (2002, p. 288). It is not only by intellectual inquiry or methodological design that so much of the field of conversational analysis stems from research and analysis of opening sequences in conversations, rather it is this emphasis emerged when Schegloff was lead to it by the nature of telephone conversation, or what Hutchby calls “the affordances of the telephone as a technology for communication” (2001, p.31). Schegloff himself acknowledges that “the telephone affected talk through it and gave me a special kind of access to the organisation of talk thereby” (2002, p.290).

Recent research by Connell et al. (2001) supports the use of telephone interviews as a reliable source of data, arguing that they may even possess positive features that other interview situations do not

provide. This research used two different studies “to determine how communication media influence interpersonal interactions” (2001, p. 1) and built on prior comparative research examining social interaction and communication across different media platforms. Connell et al. report that in comparison with email, online chat and face-to-face interaction the “surprising result is that the telephone came out on top in both studies, suggesting the telephone may provide the optimum blend of richness and presence for natural and satisfying interactions” (2001, p. 1). Therefore, one area that e-social science could beneficially explore is the further study of this finding and the identification of the precise nature of the data gathered by the use of the telephone, and related technologies, especially in mobile platforms. However, Hutchby argues that understanding the specific materiality of the technologies for communication must be accounted for to fully comprehend the communication affordances that they enable (2001, pp.13-34). Such an approach revives arguments about technological determinism which much contemporary research that relies upon technology for the accumulation of data does not address.

The integration of telephone survey techniques with computers which produced the field of research of computer-assisted telephone interviewing (CATI), has provided researchers with flexibility and greater efficiency through improved sample management, scheduling, quota control, and management of telephone calls (Ketola & Klockars 1999; Dillman 2000; Farrell 2000; Dipnall & Jeavons 2000). There are now additional opportunities for social science research to expand the capacity of the telephone as a research tool through further hybridisation with new information technology hardware and software, the adoption of new voice based technologies and other new applications. The data collection methods they create and the opportunities for more sophisticated analysis they provide offer new means for social science research, but also raise methodological challenges, especially in relation to the role of participants in research, the increased possibilities of surveillance of research subjects and the exposition of the role of the technology in the research process. It is such issues that researchers who adopt and use new technologies for research must address, and account for in their analysis of data obtained.

Social science researchers working specifically in the field of communication are now able to use technology to discover more about the many aspects of human communication and transactions by telephone that were inaccessible due to the difficulty of measuring and recording telephone communication in the past. Despite the volume of communication interaction by telephone and its subsequent importance as a ‘shaping’ tool for social interaction there were a number of problems in the use of the telephone that made it difficult for researchers to use. Amongst these were quality issues in recording, but also regulatory and legal conditions in relation to telecommunications – some of which still apply. However, digital technology now makes enhanced recording of conversations possible and problems such as limited recording duration are able to be better managed, while large scale data collection projects have been possible for some time through the use of automatic speech recognition and conversation recording (Fielding 2003).

The potential to incorporate the telephone more centrally into research is possible partly due to its commonplace use and acceptance, but also because its technological affordances are able to harmonise with new forms of technological research. For example, research undertaken on the use media professionals’ use of mobile communication technology (Snowden 2006) used a mixed mode of research, comprising workplace observation, an online survey and telephone interviews, to gather data for analysis, while the organisation of this research was only possible with the use of telephone communication. A mixed-mode approach was considered especially relevant because of its current

use in the mobile communications sector, where it is employed “to understand better how people actually use the technologies ... and to grasp how in the future technologies might be adopted” (Crabtree, Nathan & Roberts 2003, p. 22). This research approach contributes to the sub-field of anthropology, “technological ethnography” (Crabtree, Nathan & Roberts 2003, p. 22; Brown & Perry 2002, p. 7) where “ethnography is both a way of doing research and a way of writing it up. Rather than take mobile users out of their natural habitat, the researchers attempt to get under the skin of mobile use by seeing it within the ebb and flow of daily life” (Crabtree, Nathan & Roberts 2003, p. 22).

The ethnographic/multi-method approach used in the research acknowledged the invisibility of the telephone (Hutchby 2001), its integration into everyday life in both public and private spheres, and convergence of mobile ‘phones’ with other forms of communication technology. The history of the socialisation of the telephone and its apparently seamless incorporation into human society indicated much could be missed in research about telephone use, especially as research subjects were subject to the rapid naturalisation of new mobile technologies. Hutchby observes that “the telephone is an artefact which has certain kinds of affordances, and those affordances both enable what can be done with it and constrain what cannot” (2001, p. 81). Therefore a methodological approach that enabled a broad assessment of the subject in a changing social context was necessary, and required included use of the telephone within the research methodology in addition to a focus on it as a subject of the research.

On a practical level the formal incorporation of the telephone into the research allowed respondents to be invited to participate in the survey via telephone contact and ensured that a current email address was available to direct them to the online survey. This method of participant recruitment proved to be critical in obtaining a reliable number of valid responses from a population acknowledged as highly resistant to participation in either paper or web-based surveys (Snowden 2006). Web-based or online surveys alone are often regarded as a substitute for traditional survey methods, including telephone and personal interviews, and print questionnaires (Couper 2001) and while using a web-based survey in combination with preliminary recruitment via telephone contact, was not recommended or suggested in the current academic literature, Dillman et al. (2001) suggested that “switching to a second mode [of communication with respondents] is an effective means of improving response” rates (Dillman et al. 2001, p. 1). The use of telephone contact proved to be an effective means of obtaining survey participants, but it had the unintended consequence of reducing error responses to an online survey arising from the use of inactive email addresses. While this use of the telephone is not claimed to be radical, or even unusual, its use in the research process and the formalisation of the role of telephone contact in this manner is not commonly recommended or acknowledged.

The research on the use of mobile communications technology by media professionals also used a combination of workplace observation, an online survey and telephone interviews to gather data because it was clear that the precise purpose of individual use of the telephone was difficult to assess through observation or survey methods alone. In part this was a result of the nature of standard voice based telephone communication, where in the usual dyadic conversation mode, 50% of the conversation is inaccessible unless recordings are made. The problem of third party observation and recording of telephone conversations has been a significant methodological problem in conducting research on telephone usage, or in using the telephone for research, because while a co-present observer may be able to discern the general nature of one side of a conversation and some of its

tone, much of the detail of the interaction is inaccessible. Recording and transcribing telephone conversations does not overcome this problem entirely as both sides of the communication cannot be recorded in their entirety, and many environmental and non-audible aspects of the interaction are missed if audio recording alone is relied upon. Using several researchers offers a solution to this problem, but the time required and cost incurred in using researchers to undertake telephone research has limited its use as a reliable and efficient research method. In addition, the level of intrusiveness of this approach has also been likely to lead to any data gathered via this method being unreliable in many respects.

In his early work in Conversation Analysis Schegloff argued that telephone conversation

... shows few systematic differences from conversation in other settings and media. The gross similarity of telephone and other talk has contributed to our confidence that much can be learned from it about the organisation of conversational interaction (Schegloff 1977, p. 415),

However, this view has not been adequately tested by examination of the specific nature of telephone conversation against other forms of conversational communication. This is partly due to the problem of conversational interaction being complicated by the conditions in which telephone conversation occurs. For example, in research on the use of mobile communication technology (Snowden 2006) it was clear that there were many factors which influenced the affordances of telephone conversation, including the physical environment in which the conversation was occurring, the co-presence of other parties, the cost of the call and the technical quality of the connection. Telephone conversation is analysed as though these factors were inconsequential and the content of telephone conversation is frequently analysed in isolation, as though recorded in a neutral environment. As yet, there is no systematic method for noting these factors when recording or analysing telephone conversation. This is one clear opportunity for the use of new digital technologies to provide improved research tools, and thus new research possibilities. In the past even simultaneous audio recording of telephone conversations had a limited capacity to record all of the audible communication taking place, especially when both participants are engaged in other communication activities at the same time, where there were background conversations or where other physical conditions impinged on the conversation. Monk et al.'s (2004) research, for example, in examining why mobile phone calls in public can be experienced as annoying by others has shed some light on how sensitive people are to such conditions, but there remains much work to be done in analysing the effect of environmental conditions on oral communication.

If Schegloff (2002) and Connel et al. (2001) are correct about the efficacy of telephone conversation and interviews as a reliable substitute for face to face methods, it is in fact an argument for conducting more research by telephone. Yet, researchers appear to be resistant to using this method – a research problem in itself. Rather than simply embracing new technologies for research some of the older forms of research may not have been adequately ‘mined’ as sources of data. New e-Social Science methods also offer as yet unexplored opportunities for combining with existing telephone based research methods to gather, record and analyse data. For example, the capacity to use digital media to record both sides of a telephone conversation and to augment audio-recording with a visual record of the environment, using digital video recording technology, perhaps in conjunction with video annotation tools and speech analysis software, to record details of the conversational

environment opens new avenues for recording social interaction. This combination of video and audio recording would also allow the social researcher to be less obtrusive in the research process. Digital recording, editing and encoding, and voice recognition technology all provide new and as yet largely untried means of expanding our capacity to research social interaction by telephone. Other developments such as VoIP (Voice Over Internet Protocol), click to talk technologies, text to speech software and automatic translation software also offer opportunities for new research methods to be adopted and employed alongside traditional telephone research methodologies in social science research. Additionally, the linking of improved audio recording methods for telephone conversations with database management software, and the development of enhanced coding tools offer more precise means for researchers to assess, analyse and record data.

To fully understand human conversation practices and discourse, and what they tell us about social relationships and interaction, new technology offers creative possibilities which are likely to produce new and unexpected findings about human communication practices and the impact of communication technology. For example, contemporary research examining how children acquire and develop language and learn to use communication technology is being informed by the use of the telephone by young children (Hall, Gillen & Greenall 1996; Gillen 2004) while studies of the social values and practices of young people have increasingly focused on their communication by and with mobile 'phones' (Ling 2001; Taylor & Harper 2003; Wilska 2003). Other means of incorporating the telephone and voice based communication into social science research now become possible because of the greater capacity to record communication and to trace the paths of communication connectivity that telecommunications networks enable through applications such as Caller ID, and more detailed logging of calls both made and received.

The global diffusion of mobile communications technology, largely through the use of mobile 'phones' and the potential for these devices to be integrated with other means of distributed media and communication technologies, especially using the capabilities of 3G technology including internet access, email, digital imaging capabilities (both still and moving images) and even location based applications. These developments indicate that there are more possibilities for the use of the existing technology of the telephone and the newer mobile communications technologies in the emerging field of e-Social Science. Assessing how the new technologies might counter shortcomings in existing research methodologies, or how they might be creatively employed with new applications offer potential new methodological uses, but also challenges. The incorporation of the telephone in its traditional form should not be overlooked in this process, especially where it provides sources of rich oral communication and social interaction. It is incumbent on contemporary researchers to do this, rather than waiting for someone to "wander by accident", as Schegloff did, into a rich and rewarding field of methodological inquiry.

References

- Connell, J. B., Mendelsohn, G. A., Robins, R. W., Canny, J. (2001): 'Effects of communication medium on interpersonal perceptions: Don't hang up on the telephone yet!' paper presented to ACM Group Conference, Boulder CO, September.

- Couper, M. P. (2001): 'Web Surveys: A Review of Issues and Approaches', *Public Opinion Quarterly*, vol. 64, no. 4 pp.464-494
- Dillman, D. A. (2000): *Mail and Internet Surveys: the Tailored Design Method*, 2nd edn, trans. J. Wiley, New York.
- Dillman, D. A., Phelps, G., Tortora, R., Swift, K., Kohrell, J., Berck, J., (2001): *Response Rate and Measurement Differences in Mixed Mode Surveys Using Mail, Telephone, Interactive Voice Response and the Internet*, Unpublished paper presented at the Annual Meeting of the American Association for Public Opinion Research, Montreal Canada, Viewed August 28 2002, <http://survey.sesrc.wsu.edu/dillman/papers.htm>
- Dipnall, J., Jeavons, A., (2000): *Opinions in Web Surveys: Promoting Extremism?*, Jeavons and Associates, Viewed April 24 2002, <http://www.cognetive.com.au/PDFs/Opinions.pdf>
- Farrell, E. (2000): *Review of Computer Assisted Telephone Interviewing (CATI) Procedures in Overseas Statistical Agencies*, Forms Consultancy Group, Statistical Services Branch, Methodology Division of Australian Bureau of Statistics, Viewed September 14 2003, <http://www.sch.abs.gov.au/SCH5CA1610103.NSF/0/6992A6BFCC6314DACA2569A5007D153D?OpenDocument>
- Fielding, N. G. (2003): *Qualitative research and E-Social Science: appraising the potential*, Viewed arch 15 2006. http://www.ncess.ac.uk/docs/qualitative_research_and_e_soc_sci.pdf.
- Gillen, J. (2004): *The emergence of a telephone discourse through play with personal identity*, Centre for Research in Education and Educational Technology, Open University, Viewed November 24 2004, <http://childphone.open.ac.uk/J%20Gillen%20ChildPhone%20paper%20070404.pdf>
- Hall, N., Gillen, J., Greenall, R., (1996): "'Don't cry, I ring the cop shop": young children's pretend telephone behaviours', in Hall, N, Martello J, (ed.), *Listening to children think: exploring talk in the early years*, Hodder and Stoughton, London, pp. 34-53.
- Hutchby, I. (2001): *Conversation and Technology: from the telephone to the internet*, trans. Polity Press, Cambridge, UK and Malden, MA.
- Katz, J. E., Aakhus, M. (ed.) (2002): *Perpetual Contact*, Cambridge University Press, Cambridge.
- Ketola, E. and Klockars, M. (1999): 'Computer-assisted telephone interview (CATI) in primary care', *Family Practice*, vol. 16, no. 2 pp.179 -183. <http://ejournals.ebsco.com/direct.asp?ArticleID=2VF116E1C6EBA4M657DV>
- Ling, R. (2001): *Adolescent girls and young adult men: Two sub-cultures of the mobile telephone*, Viewed February 18 2002 [http://www.telenor.no/fou/program/nomadiske/articles/rich/\(2001\)Adolescent.pdf](http://www.telenor.no/fou/program/nomadiske/articles/rich/(2001)Adolescent.pdf)

Monk, A., Carroll, J., Parker, S., Blythe, M. (2004): 'Why are mobile phones annoying?' *Behaviour & Information Technology*, vol. 23, no. 1 pp.33 – 41.

Pool, Ithiel de Sola (ed.) (1977): *The Social Impact of the Telephone*, MIT Press, Cambridge MA.

Schegloff, E. A. (1977): 'Identification and Recognition in Interactional Openings', in Pool, I d S (ed.), *The Social Impact of the Telephone*, MIT Press, Cambridge MA, pp. 415-450.

_____ (2002): 'Beginnings in the telephone', in Katz, J E, Aakhus, M. (ed.), *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*, Cambridge University Press, Cambridge.

Snowden, C. (2006): 'News and Information to Go: Mobile Communications, Media Processes and Media Professionals', PhD thesis, University of South Australia

Taylor, A. S. and Harper, R. (2003): 'The gift of the gab: a design oriented sociology of young people's use of mobiles', *Journal of Computer Supported Cooperative Work (JCSCW)*, vol. 12, no. 3 pp.267-296

Wilska, T. (2003): 'Mobile phone use as part of young people's consumption styles.' *Journal of Consumer Policy*, vol. 26, pp.441-463.