

Beiträge zur
Dialogforschung

Band 20

Herausgegeben von Franz Hundsnurscher und Edda Weigand

Dialogue Analysis and the Mass Media

Proceedings of the International Conference
Erlangen, April 2–3, 1998

Edited by
Bernd Naumann

Max Niemeyer Verlag
Tübingen 1999



Die Deutsche Bibliothek – CIP-Einheitsaufnahme

Dialogue analysis and the mass media : proceedings of the international conference,
Erlangen, April 2–3, 1998 / ed. by Bernd Naumann. – Tübingen : Niemeyer, 1999
(Beiträge zur Dialogforschung ; Bd. 20)

ISBN 3-484-75020-0 ISSN 0940-5992

© Max Niemeyer Verlag GmbH, Tübingen 1999

Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt. Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne Zustimmung des Verlages unzulässig und strafbar. Das gilt insbesondere für Vervielfältigungen, Übersetzungen, Mikroverfilmungen und die Einspeicherung und Verarbeitung in elektronischen Systemen.
Printed in Germany.

Gedruckt auf alterungsbeständigem Papier.

Druck: Gulde-Druck GmbH, Tübingen

Buchbinder: Nädele Verlags- und Industriebuchbinderei, Nehren

Table of Contents

Preface	VII
<i>Naomi S. Baron</i>	
History Lessons: Telegraph, Telephone, and Email as Social Discourse	1
<i>Edda Weigand</i>	
Dialogue in the Grip of the Media	35
<i>Jana Hoffmannová/Olga Müllerová</i>	
Ein Privatbrief auf E-mail: immer noch ein Brief oder eher eine Plauderei?	55
<i>Markus Schulze</i>	
Substitution of Paraverbal and Nonverbal Cues in the Written Medium of IRC	65
<i>Rainer Geers</i>	
Der Faktor Sprache im unendlichen Daten(t)raum Eine linguistische Betrachtung von Dialogen im Internet Relay Chat	83
<i>Yvonne Grosch</i>	
Turn-Verteilung in synchroner computervermittelter Kommunikation: eine Frage der medialen Rahmenbedingungen oder der sozialen Regulierung?	101
<i>Světlá Čmejrková</i>	
Czech on the Network: Written or Spoken Interaction?	113
<i>Annely Rothkegel</i>	
Interaktion und Interaktivität in Hypermedia	127

VI

Henning Westheide

Interactivity in Language Learning: The Multimedia Classroom 137

Maria Freddi

Dialogue Analysis and Multimedia Translation..... 149

Carla Bazzanella

“Address Inversion” and “Teknonymy”
as Involvement Markers in an Italian Talk Show..... 159

Willibrord de Graaf/Geeske Hoogenboezem

Dialogues and Drama. The Dutch Homeless Theatre Project as a Case..... 171

František Daneš

Intonation and Related Vocal Phenomena in Mass-Media Debates 179

Gabriele Diewald

Die dialogische Bedeutungskomponente von Modalpartikeln 187

Robert Maier

Dialogic Characteristics of Political and Public Debates 201

Ileana Vântu

The Head-Line and its Function in Press Interviews 213

Magareta Manu-Magda

Der Dialog zwischen den nationalen Minderheiten und der
Bevölkerungsmehrheit in den Medien (Das Beispiel Rumäniens) 221

Dieter D. Genske/Ernest W.B. Hess-Lüttich

Conflict, Crisis, and Catastrophe.
Cultural Codes and Media Management in Environmental Conflicts:
the Case of Water 231

Preface

CMC – Computer Mediated Communication – is one of the catchwords of modern society. The concept of what is now called “Internet” arose in America in the 60ies as part of military research in the times of the Cold War. Soon the enormous advantages for general communication via electronic networks became evident and the scope of the Internet grew rapidly. In the meantime CMC has, indeed, become an electronic highway where millions of participants exchange messages day after day. Because new means of communication never replace older ones, CMC has not replaced traditional exchanges, face to face, by letter, by telephone, or by fax, but it has complemented them. CMC has added a new dimension, it has been incorporated by the existing modalities and thus changed and re-structured the whole system of traditional communication.

On the occasion of many conferences and meetings, the members and guests of the International Association of Dialogue Analysis (IADA) have been analysing the ways of oral and written communication, for about fifteen years by now and seen from many perspectives. The 1998 conference of the Association, which was held in Erlangen, dealt with aspects of dialogic communication in the Mass Media in general, and with aspects of CMC in particular. The conference was – as usual – highly international in character: Participants came from (according to numbers) Germany, Czechia, the Netherlands, Romania, Italy, the United States, and from Switzerland. Conference languages were English, French, German, and Italian – but there were no contributions offered in French and Italian. Most participants preferred to read their papers in English (12 papers), some used German (6 contributions). There were two sections at the conference, one dealt with the new means of electronic communication, mainly with E-mail communication and with Internet Relay Chat (IRC), the other with dialogues on television and the radio, or with specific aspects of Mass Media communication.

There were two opening papers at the conference. The first one, by Naomi Baron from Washington (pp. 1-34), outlines the history and the dimensions of multimedial communication with regard to dialogue analysis in general, one of her overall results: “Teletechnologies can redefine relationships between participants in social discourse, particularly with regard to social distance and control” (p. 31). The second paper (pp. 35-54) deals

with the media as “part of complex dialogic processes”; it expands on what Edda Weigand (Münster) has been calling “dialogic action games” in her recent publications with regard to the Mass Media. She ends with a vision of a fully electronic society: “For television, reality has become a matter of opinion and presentation, for IRC reality might become a matter of virtuality. We hope that language and human dialogic action will not be lost in the dreams that might arise from these huge amounts of data of virtual worlds” (p. 52).

The papers on aspects of CMC show, that there are still many problems unsettled, that still much work needs to be done. It is an exciting subject, because it is relatively new, and you do not permanently walk in beaten tracks. The paper by Hoffmannová and Müllerová (pp. 55-64) on E-mail communication opens the “electronic section”. It deals with the question whether an E-mail can be called a private letter or not. It can, the authors claim, and what is more, it combines the advantages of a face-to-face dialogue, a telephone conversation, and of a traditional letter: “Trotz Aufrechterhaltung einiger Textstützen, die das Genre Brief auszeichnen, haben wir aus diesen Briefen eher den Eindruck einer unmittelbaren, natürlichen Unterhaltung, der Realisierung des Bedürfnisses, mit jemandem zu plaudern, gewonnen” (p. 63). The papers by Schulze (pp. 65-82), by Geers (pp. 83-100), and by Grosch (pp. 101-112) deal all with IRC texts. Schulze: “The paper will discuss how the total absence of paraverbal and nonverbal relational (and social) cues is fostering the evolution of a repertoire of text-based surrogates for these” (p. 65). Geers analyses chatlogs of no less than 7654 utterances in many interesting details. His general idea: “IRC stellt eben nicht einen einzigen, medial bestimmten Gesprächstypen dar, sondern bezeichnet ein Kommunikationsmedium, das Kommunikation auf bisher unbekannte Weise ermöglicht und beeinflusst” (p. 98). Grosch deals with the modalities of turn-taking in IRC texts: “Die in der Artikelüberschrift aufgeworfene Frage, ob Turn-Verteilung in IRC-Kommunikation letztlich eher eine Frage der medialen Rahmenbedingungen oder aber der sozialen Regulierung sei, läßt sich nach den vorherigen Ausführungen nur mit einem ‘Sowohl-als-auch’ beantworten” (p. 109). Čmejrková’s contribution (pp. 113-126) looks at oral and written elements in CMC in the context of the Prague School of linguistics. “In contrast to face-to-face oral exchange in which the speakers find themselves in social contact, in ‘face-to-face scriptuality’ the participants of CMC feel they are very close to each other on the computer network, however, they are in social isolation” (p. 125). With the more general orientated contribution by Rothkegel (pp. 127-136) ends the section on CMC. She pleads for a closer integration of the electronic media in the humanities: “Insofern als ein Hypertext ein Text ist, können linguistische Text- und Dialogmodelle genutzt werden, nach denen Informationsauswahl und Informationsfluß in Abhängigkeit der anvisierten Interaktionsziele analysiert bzw. gestaltet werden können.... In einem weiteren Horizont ergibt sich mit den neuen Medien – vor allem mit Hyper- und Multimedia – eine neue Perspektive für die Integration von Geisteswissenschaften und Informationstechnologie” (p. 134).

The other papers are on more dispersed subjects. It is not possible to sum them up in a few words, because there is no common denominator. Westheide (pp. 137-148) deals with interactive language learning by means of multimedia, Freddi (pp. 149-158) with dialogic aspects of multimedia translation. Bazzanella (pp. 159-170) writes on linguistic aspects of an Italian Talk Show, on "Address Inversion" (she defines it as "a special pattern of nominal address, where the message corresponds to the sender" p. 161) and on "Teknonymy" ("the use of a kin term appropriate to a different kin relationship", p. 162). De Graaf and Hoogenboezem (pp. 171-178) write about the dialogues used in the play 'Homeless' produced in the context of a theatre project in the Netherlands. They are mainly interested in the asymmetries of the exchanges: "Sometimes, asymmetric relationships can give rise to very interesting dialogues and may develop into more equal relations" (p. 178). Daneš (pp. 179-186) deals with vocal phenomena in round table political debates in Czech television and on how to transcribe them. Diwald (pp. 187-200) looks into the rôle of modal particles in spoken exchanges; one of her general results: "Die Modalpartikeln bringen zum Ausdruck, daß die Äußerung, in der sie stehen, nicht initial ist, sondern an ein in der kommunikativen Situation vorgegebenes Element, den pragmatischen Prätext, anknüpfen" (p. 197). Maier's paper (pp. 201-212) pursues the idea, that the individuals who take part in public debates represent general social groups or institutions, which results in specific characteristics of fragmental dialogues. Vântu (pp. 213-220) analyses the functions of headlines in print media, and Manu-Magda (pp. 221-230) deals with linguistic exchanges between social groups in Romania.

The contribution by Dieter Genske and Ernest Hess-Lüttich (pp. 231-248) is not the one Hess-Lüttich had read at the conference. He decided to hand in another one (together with Dieter Genske), which opens a new approach and a new kind of text, he claims: It brings together "media studies, intercultural communication, conversation analysis, environmental studies, sanitary engineering, public relations analysis" (p. 231), a hitherto unread mixture, indeed. Since this lies somewhat outside the scope of our conference and of the contributions collected in this volume, their paper is placed at the end of the volume.

The conference was sponsored by the IADA, by the University of Erlangen-Nuremberg, and by the Siemens Company. To all of them I say thank you for having made the realization of this conference possible. I have to expand my thanks also to all who have helped to organize the meeting, most of all to Ute Szczepaniak, who arranged the manuscripts for printing.

Naomi S. Baron

History Lessons: Telegraph, Telephone, and Email as Social Discourse

1. Technology and Social Discourse
 2. Evolution of the Telegraph, the Telephone, and Email
 3. Linguistic Analysis
 4. History Lessons: *Ceci tuera cela?*
- References

Imagine yourself at a dinner party. The meal is finished and preparations are underway for the evening's entertainment. The program will be a concert, sung by a leading diva of the day before an admiring crowd. The guests settle into their seats, and each one is given a device through which to enjoy the music.

The audience is not at the concert hall. Nor does it hear the performance carried by television or radio, or even played on a phonograph. Instead, each guest is handed a telephone. For when the telephone was first invented, long before it emerged as a medium for general social discourse, it was seriously marketed as a device for broadcasting public lectures and performances.

Unlike Athena springing well-formed from the head of Zeus, new technologies may take decades to reach maturity, both in technical sophistication and in functional range. Steam engines were developed for pumping water out of mines, transistors were seen as a panacea for improving hearing aides, and television was initially heralded as an educational device.

This essay explores the evolution and inter-relationship between three teletechnologies: the telegraph, the telephone, and email. The ultimate goal of such a comparison is to better understand the nature of contemporary social discourse – and its future developments – by retrospective comparison with earlier non-face-to-face teletechnologies.

Our approach will be both historical and linguistic. We will argue

- First, that the forms and functions of new communicative technologies are typically conceived of in terms of older technologies.
- Second, that the “mature” linguistic identity of a communication modality may take years to develop.

- Third, that economic issues (rather than just technological development or perceived social need) may play a central role in determining functional shifts in a communicative medium.
- Fourth, that many of the same linguistic variables regarding social dynamics and format are relevant in understanding telegraphy, telephony, and email as forms of social discourse.

We begin (Part 1: Technology and Social Discourse) by looking broadly at how technology has historically been used to facilitate social discourse (and, in the process, has influenced what we say and write). Part 2 (Evolution of the Telegraph, the Telephone, and Email) outlines the historical emergence of each of the three modalities, looking both at the original functions and intended usership of each teletechnology and how the medium subsequently evolved. In Part 3 (Linguistic Analysis), we compare the telegraph, the telephone, and email as means of linguistic communication. Drawing upon what we have learned, Part 4 (History Lessons: *Ceci tuera cela?*) ponders the future of particular teletechnologies as media for social discourse.

1. Technology and Social Discourse

Language as Social Discourse

Human language is, at base, a form of social exchange. Linguistic signs, grammatical constructions, and rules of communicative competence all emerge as socially acquired conventions. Whether writing or speaking (even ostensibly to ourselves, in monologue or diary entry), our linguistic formulations assume an interlocutor.

Speech has historically been the medium *par excellence* of social discourse. With the development of writing (at different times in the histories of many societies), a new medium of discourse became available. Admittedly, writing constrains the interlocutor's opportunity for response – especially if the sender is distanced in space or time. Yet in fairness, even speech does not always guarantee right of response, as in the case of royal edicts or other hierarchical circumstances.

Technologies of Language

One-on-one face-to-face spoken communication does not rely on technological assistance to convey messages from one party to another. However, all other forms of communication potentially do. The means of conveyance may be simple – a megaphone, pen-and-ink, a carrier pigeon – or complex – a printing press, a typewriter, a computer.

All writing entails technology, in that writing necessarily implies the use of tools for its creation (Haas 1996, xi). However, technology can also be used to extend speech through time or space, as with telephones or phonographs.

Language technologies are divisible into two basic categories. The first, **tangible/tactile**, are those whose output products are physically manifest to the producer. They include:

- (a) handwriting
- (b) printing
- (c) the typewriter
- (d) the phonograph
- (e) tape recorders
- (f) computers as stand-alone machines (for word processing)

The second, **teletechnologies**, are those whose output is transmitted through space (either with or without the benefit of wires or cables) for reception by a distant interlocutor. These include:

- (a) the telegraph
- (b) the telephone
- (c) radio
- (d) television
- (e) the fax machine
- (f) computers as networked machines (for computer mediated communication, especially email)

Some of these technologies obviously relate to written language: handwriting, printing, the telegraph, the typewriter, the fax, computers as word-processors. Other technologies are universally associated with speech or other auditory signals (such as music): the phonograph, tape recorders, the telephone, radio, and television. However, as we shall see throughout this essay, language technologies don't necessarily serve the functions for which they were structurally designed (Nye 1997).

Is Technology Neutral?

If, as Nietzsche said, “Our writing materials contribute their part to our thinking”, how might technology, more generally, affect spoken and written messages? There is a growing literature (see, e.g., Baron 1989, 1998b; Eisenstein 1979; Haas 1996; McLuhan 1964/1994) on the ways in which communicative media shape linguistic messages. Most of the interest to date has focused on how a particular technology (e.g., stylus on clay, the printing press, the telegraph) influences the linguistic structure of the message itself (e.g., iconic vs. arbitrary symbolic representations, relevance of consistency in orthography, stylistic conventions). Other discussions have considered possible effects of writing and literacy upon cognition (see e.g., Olson 1995 and Baron 1997 for a review of the issues). This essay extends the discussion to the influence of language technologies on social discourse relationships. In particular, it explores how the relationship between interlocutors is affected by the conveyance technology and how that relationship alters with maturation of the technology itself.

2. Evolution of the Telegraph, the Telephone, and Email

The evolution of a technology is the product not only of scientific or engineering feats but of personal biography, social conditions, and often sheer serendipity. As we look at the emergence of the telegraph, the telephone, and email as communication technologies, our goal is to highlight developments relevant to the theses we hope to establish. To this end, we will lay out our discussion of each technology in terms of

- the basic *chronology of events* in the invention of the communicative medium
- the *original functions and intended users*
- subsequent *evolution of the medium* with respect to technology, cost issues, functions and usership

The Telegraph

Chronology of Events

The idea of sending messages at distances without physically transporting them is as old as smoke signals and drum beats. However, the modern separation of communication from transportation (to use James Carey’s phrase – Carey 1983, 313) began in late eighteenth-

century France, with the Chappe visual telegraph. As schoolboys, the three Chappe brothers had devised a semaphore to exchange messages with each other because they were at different schools and not allowed to visit in person (Coe 1993, 6). The Chappe telegraph was adopted in 1793 by the revolutionary government to maintain centralized authority across France. In fact, in 1837, a law was passed imposing

jail sentences of from one month to one year, and fines of from 1,000 to 10,000 Francs on anyone transmitting unauthorized signals from one place to another by means of the telegraph machine or any other means (Attali & Stourdze 1977, 99).

Such concerns later dissuaded Czar Nicholas of Russia, who was very interested in Morse's electric telegraph, from building a system that potentially could be used subversively against his government (Coe 1993, 31). Similar worries about controlling the flow of information were to arise in the twentieth century in the case of the telephone. Adolph Hitler retarded telephone development in pre-war Germany by imposing large taxes (Pool 1983, 86, citing Dilts 1941, 47), and Joseph Stalin vetoed Trotsky's plan for establishing a telephone system in the new Soviet state. Stalin argued that a phone system would "unmake our work. No greater instrument for counter-revolution and conspiracy can be imagined" (from Trotsky's *Life of Stalin*, cited in Boettinger 1977a, 203).

Credit for inventing the electric telegraph goes to Samuel F.B. Morse, a respected nineteenth century-portrait artist. Morse had gone to Europe in late 1829 to enhance his skills. Like many educated men of his era, he was fascinated by emerging ideas about electricity. While in France, he visited the Chappe semaphoric telegraph and soon became obsessed with developing an electric telegraph. On his voyage back to America in fall, 1832, he sketched out a design for such a telegraph. Over the next five years, Morse improved upon his model, liberally incorporating as his own the ideas of friends and acquaintances (including Alfred Vail's telegraph key and Vail's transmission system, which came to be known as Morse Code).

In 1837, Morse initiated the process for patenting the telegraph, and the first successful telegraphic transmission was made in early 1838. However, it was not until 1844 that Morse tapped out the famous message "What hath God wrought!" (selected by Annie Ellsworth, daughter of the US Commissioner of Patents, from the Book of Numbers – 23:23) on the first long-distance telegraph line, built between Washington and Baltimore, and paid for by the US Congress.

Original Functions and Intended Users

Morse had originally designed the telegraph for synchronous two-way communication between individual interlocutors (see Blondheim 1994, 208-209 note 13). In fact, as a form

of publicity, Morse's assistants arranged chess tournaments between clubs in Washington and Baltimore to demonstrate the communicative potential of the new technology (Blondheim 1994, 209). However, these real-time exchanges did not prove practical.

Evolution of the Medium

Over the next century, the telegraph evolved from a curiosity to a vital communication medium. Its new functions included serving as a conduit for news and commerce, providing railroad communication, and facilitating targeted interpersonal exchanges between individuals.

One of the earliest widespread uses of the telegraph was to revolutionize the writing and distribution of news in America. Before the telegraph, newspapers spent vast sums dispatching reporters to ports in the northeastern US and Canada to be the first to learn the news carried by ships coming from Europe. The news was then relayed by horse, pigeon, or even chartered boat to Boston or New York, so that editors could scoop the competition.

Initial technological limitations of the telegraph were responsible for profound reorganization in the way news was gathered and disseminated. Because the original telegraph lines between cities could only carry one message at a time, there was fierce competition between reporters as to who would get to the telegraph office first to file a story. This competition led to the establishment of a fifteen-minute time limit being imposed on any individual users of the telegraph (Blondheim 1994, 62-63). In fact, the first collective news-gathering consortium – what was to become the Associated Press – was formed to break the logjam and enable hundreds of newspapers to receive the same stories at the same time (Blondheim 1994; Schwarzlose 1989, 1990; Thompson 1947). The impact of the Associated Press on American newspapers cannot be underestimated. By the early 1850s, at least two columns of AP news appeared in nearly every major American newspaper (Blondheim 1994, 6). By the 1880s, more than 80% of the copy in newspapers published in the Western territories of the US consisted of AP dispatches (Blondheim 1994, viii).

If information was time-critical to newspaper editors, it was equally time-sensitive to titans of commerce. American fortunes could be made or lost, depending upon who first learned the news of political or economic developments in Europe. Nationally and regionally, agricultural business decisions could now be based on rapid access to crop information from around the country. Carey (1983, 316) speculates that

[i]t was not ... mere historic accident that the Chicago Commodity Exchange, to this day the principal American futures market, opened in 1848, the same year the telegraph reached that city.

While the telegraph clearly facilitated commerce, it also altered previous social conventions about relationships between potential interlocutors. As Carey observes,

Before the telegraph, business relations were personal; that is, they were mediated through face to face relations, by personal correspondence, by contacts among people who, by and large, knew one another as actual persons Through the telegraph ... social relations among large numbers of anonymous buyers and sellers were coordinated (Carey 1983, 306).

The railroad was somewhat slower in adopting the telegraph. Before the appearance of teletechnologies, railroads had no regular way of notifying a train running on a single-track line that another train was headed on a collision course. As the railroad grew, such accidents became a serious problem. A typical make-shift solution was that adopted by the Boston and Worcester Railroad, which

kept horses every five miles along the line ... [that] raced up and down the track so that their riders could warn engineers of impending collisions (Carey 1983, 314).

Finally, what about the use of the telegraph for interpersonal exchange between individuals? For most of its history, this function has largely been limited to emergencies, congratulations, and bad news, reflecting the high cost of sending telegrams.

Among the well-to-do, the telegraph afforded the potential for casual social exchange. As early as 1858, the British humor magazine *Punch* (1858, vol. 35, p. 254) mused over what might happen if the telegraph were available in private homes:

With a house telegraph it would be a perpetual tête-à-tête. We should all be always in company The bliss of ignorance would be at an end (reprinted in Briggs & Briggs 1972, 203).

A similar vision did, in fact, materialize two decades later. In 1877, the Social Telegraph Association was created in Bridgeport, Connecticut. The Association

installed instruments in subscribers' homes that could be connected, through a central switch-board, to one another so that subscribers could "speak" to one another through the Morse Code once they had been taught how (Aronson 1977, 18; from Rhodes 1929, 149).

(Looking ahead, we might dub the Social Telegraph Association the indirect ancestor of computer listservs, which connect up social affinity groups for the exchange of written messages.)

Novelty notwithstanding, the telegraph never caught on as a common vehicle of social exchange. Besides the expense and the need to learn Morse Code, the telegraph was inconvenient to use (telegraphic equipment was not commonly installed in private homes) and there was no simultaneity of transmission and reception. All of these problems would be solved by the telephone.

The Telephone

Chronology of Events

Much as Morse's electric telegraph was indebted to the Chappe brothers' earlier semaphore system, Alexander Graham Bell's telephone was originally envisioned as a harmonic version of the telegraph. His initial goal had been to send multiple signals – at different frequencies – along the same telegraphic line.

While Bell is credited with inventing the telephone, he had keen competition for the title from Elisha Gray, who filed his own patent but a few hours after Bell's had arrived on February 14, 1876. In fact, Gray – who later did create a harmonic telegraph – might have completed his invention before Bell, were it not for two critical factors.

First, Gray (unlike Bell) did not appreciate the commercial potential of the telephone. As Gray wrote to his patent lawyer in 1875,

Bell seems to be spending all his energies on [the] talking telephone. While this is very interesting scientifically, it has no commercial value at present, for they can do more business over a line by methods already in use [i.e., the telegraph] than by that system (Hounshell 1975, 152, cited in Pool *et al.* 1977, 145).

Second, Bell's personal background afforded him a radically different perspective on telecommunications than Gray's. While Gray had extensive experience in telegraphy, Bell was known as a speech expert – a teacher of elocution, a propagandist for his father's notation for "visible speech", an advocate of teaching the deaf to speak, and a student of human physiology, who was to incorporate the bones of an actual human ear into one of his early experimental telephones. What's more, Bell was a musician with an exceptionally keen ear. For Bell, the telephone was less a tool for conveying messages than a device for transmitting voices:

The telephone may be briefly described as an electrical contrivance for reproducing, in distant places, the tones and articulations of a speaker's voice, so that conversation can be carried on by word of mouth between persons in different rooms, in different streets, or in different towns (Alexander Graham Bell, address to "The Capitalists of the Electric Telephone Company", Kensington, March 25, 1878; printed in Pool *et al.* 1977, 156).

The actual invention of the telephone was the result of an intensive collaboration between Bell and Thomas A. Watson, a machinist who worked at Charles Williams' electrical supply shop on Court Street in Boston, implementing the designs of inventors such as Bell. During a final flurry of activity, Bell and Watson were working at a fever's pitch in rented rooms on Exeter Place in Boston. On the fateful night of March 10, 1876, Watson was positioned in one room and Bell in another when the famous message

"Mr. Watson, come here. I want you!"

could be heard across the line. Note that Bell did not utter these words to signal a scientific accomplishment but rather because he had spilled sulfuric acid on himself and needed Watson's assistance in handling the mess (Boettinger 1977b, 66).

Original Functions and Intended Users

Bell the inventor was also Bell the entrepreneur. His imagination in crafting the device itself was well matched by his creative thinking about the uses to which the telephone might be put. His major stumbling block during the telephone's infancy was inadequate capital, a problem later solved by Gardiner Hubbard (his future father-in-law) and Thomas Sanders (whose deaf son Bell had tutored).

Bell originally conceived of the telephone as a "hard-wired" device for connecting two specific locations. Early users included business owners who could communicate between their homes and places of manufacture (or sales). Other early users were physicians who, in addition to having the money necessary to pay for the service, could use the telephone to transmit prescriptions to pharmacists (the third major group of early subscribers).

Initial difficulties in developing the technology to allow clear two-way conversation (necessitating simultaneous transmission and reception) led Bell to improvise a novel function for the telephone as a one-way device for broadcasting lectures and musical performances. In fact, as a means of supporting himself in the early days of his invention, Bell took to the lecture circuit with his trusted assistant Watson. In demonstrations of "Professor Bell's Speaking and Singing Telephone" (Fischer 1992, 36), Bell might offer up a soliloquy from Shakespeare, while Watson performed a vocal medley, including religious favorites and patriotic tunes (Aronson 1977, 19-21; Watson 1913, 31-32). This "radio" concept of the telephone was actually used fairly widely at the end of the nineteenth century in both the United States and Europe for transmitting music, speeches, sermons, and lectures (see Marvin 1988, 209-216).

Evolution of the Medium

By the end of 1876, Bell and his backers were hard pressed to raise ample moneys to further Bell's invention. Gardiner Hubbard took the extraordinary step of offering the patent on the telephone to the Western Union Telegraph Corporation for the modest sum of \$100,000. William Orton, president of Western Union, turned Hubbard down, purportedly with the rhetorical query, "What use could this company make of an electrical toy?" (Aronson 1977, 15-16)

Over the next century, Bell's "electrical toy" revolutionized human communication, thanks to technological and organizational innovations, and to highly creative packaging. In addition to continual improvements in the transmission and reception capacities of the device itself, major landmarks in telephone history included the telephone exchange (making it possible to connect any caller with any other subscriber on the network), laying of the transatlantic cable, and later, introduction of automatic dialing

But the ideas of Bell and his associates for building a market were equally vital to the success of the telephone (Fischer 1992, 62-65). In the early days, they included the introduction of pay telephones, message units (as opposed to unlimited service), and party lines, all of which lowered the cost of telephone use, thereby affording access to a far wider circle of users. Marketing schemes in later years – from telephone extensions to caller ID to call-waiting – are simply continuations of the century-old marketing face of Bell Telephone.

The idea of creating public need for a technology is hardly new. In the case of the telephone, an early advertising circular was issued on October 27, 1877 by Ponton's Telephone Central Service of Titusville, Pennsylvania, a Bell licensee. Ponton listed some of the many applications for a telephone, including putting the user in instant communication with the grocer, butcher, and baker, "along with 176 other occupations" (Kingsbury 1972, 74). More generally, Bell's publicists sought to suggest to the new subscriber "what to do with his telephone ... and to make him ashamed to consider such a thing as ever again doing without it" (cited in Fischer 1992, 63, 332 note 5, from Alfred Vail's testimony, December 9, 1909, in New York State, *Report of the Committee*, p. 398). Such efforts curiously foreshadowed advertisements for another new technology: the computer. In its early days, Apple Computer ran a series of ads entitled, "What Can You Do with a Computer?" that laid out an array of possible uses for the machine to potential buyers.

Growth in the uses of telephony have always been a curious mix of need (real or manufactured), economics, and social control. In England, for example, government support for the post office undercut demand for the telephone. The penny post assured the citizenry an inexpensive way of communicating with one another. Who, therefore, needed the telephone? In 1895, the British Postmaster General proclaimed, "Gas and water were necessities for every inhabitant of the country. Telephones were not and never would be" (Perry 1977, 75). In 1902, the *Times* of London concluded that the telephone

is not an affair of the million. It is a convenience for the well-to-do and a trade appliance for persons who can very well afford to pay for it An overwhelming majority of the population do not use it and are not likely to use it at all, except to the extent of an occasional message from a public station (Perry 1977, 75).

A year earlier, the Chancellor of the Exchequer, Michael Hicks Beach, had declared, "telephone communication is not desired by the rural mind" (Perry 1977, 76).

But when it came to the rural *American* mind, Beach was flat-out wrong. One of the most important functional expansions of the telephone, i.e., from business to social interaction, was initiated not by Bell himself but by the multiplicity of exchanges that sprouted up, particularly in the rural mid-west and western United States, after Bell's first patent expired in 1893. Local communities, often pooling their meagre finances and stringing up connections along barbed wire fences, created local telephone exchanges to link isolated farm houses.

The telephone afforded "a sense of community life" (Fischer 1992, 99) to farm families, especially wives, during the early decades of the twentieth century. In some far-flung communities, residents would pick up party lines at pre-arranged times to engage in the kind of socializing that was not regularly possible face-to-face. Switchboard operators (typically operating out of their own homes) were vital for sharing news, getting help in times of emergency, and basic human contact. With the spread of long-distance service across the country, the telephone became an instrument for maintaining social ties with distant friends and relatives.

It was not until after World War I that the general urban population began using the telephone as a social instrument rather than strictly as a device for conducting practical business or handling emergencies (see Fischer 1992, 225-226; Singer 1981). While this shift was initiated by grass roots users, the successors of Ma Bell capitalized upon it, with mottos such as "Reach out and touch someone" or "The next best thing to being there."

This shift in telephone usage, from an emphasis on the practical to at least an equal emphasis on the social, was to be replicated more than half a century later, when universal dependence on the telephone began giving way to the growing appeal of electronic mail.

Email

Chronology of Events

The history of electronic mail (email) demonstrates the effects of linking a powerful technology (the computer) with a telecommunications system (the telephone), but relying on written language (as with the telegraph) to exchange messages. Email grew out of research projects during the height of the Cold War aimed at developing a decentralized network of computers that could be used to transmit information across the US in case of nuclear attack. The idea was to ensure that a strike on one target would not cripple the nation's ability to distribute defense data elsewhere in the country. By the late 1960s, initial research by the RAND Corporation and MIT had evolved into ARPANET (the Advanced

Research Projects Agency Network), run by the US Department of Defense, which eventually became the backbone for the Internet of the early 1990s.

ARPANET had been designed to facilitate the transfer of data files between computers and to enable remote log-in to other machines, not for individuals to exchange personal electronic messages. However, some casual experiments in the early 1970s by ARPANET researchers revealed that the same technology that worked for data transfer and remote log-in could also be used for personal messaging. This realization, along with Murray Turoff's development of computer-based group decision-making and the independent emergence of computer bulletin-board systems in the late 1970s, provided both the technology and the initial impetus for email (see Rheingold 1993 and Baron 1998a for a fuller discussion).

In talking about electronic messaging, it is important to distinguish between messages shared with a number of individuals simultaneously (as in computer-based conferencing) and those sent to a specific individual (generally called email). Collectively, exchange of information via computer (either broadcast or point-to-point) has come to be known as computer mediated communication (or CMC) (see, for example, Herring 1996). The distinction between broadcast and point-to-point communication will become important in Part 3, when we compare the linguistic characteristics of the telegraph, the telephone, and email.

Original Functions and Intended Users

Like the telephone and telegraph before it, email's functional origins were more pragmatic than social. In the academic world of the 1970s and 1980s, access to email was largely in the hands of faculty and researchers connected with the scientific community, many of whose professional activities were funded by the US Department of Defense. While it was possible, in those early days, to send individual messages to colleagues on personal issues, usage was limited to those with ready access to the technology, along with the patience necessary to formulate and send messages on computer systems that were hardly user-friendly.

In the business world, email was introduced on local area networks in the 1980s to enable employees to communicate about business matters within the organization. Although some employees used the email system to send personal messages, social functions were generally subordinated (see Sherblom 1988).

Email also appeared in the private sector as an outgrowth of public service community bulletin boards (perhaps the most famous being the WELL, based in California – see Rheingold 1993) and subsequent commercial services such as CompuServe and Prodigy, through which computer-afficionados could do public postings or establish private mail-

boxes. However, it was not until the explosion of networked computing in the 1990s that the range of functions and number of users of email underwent radical transformation.

Evolution of the Medium

As with the telephone, expansion in the use of the computer as a communication device was driven by improvements in the technology, falling costs, and clever marketing. Falling prices of hardware (at least relative to computing power) made computers more attractive to a larger usership, aided by the development of more user-friendly software. As the prices of modems fell in proportion to their speed of transmission, the possibility for individuals to connect up with other machines (and users) became increasingly attractive.

Two critical developments in the 1980s laid the groundwork for exponential expansion of email in the 1990s. The first was the decision by a growing number of universities to wire their campuses, enabling students, faculty, and staff to communicate by computer directly with one another as well as with the outside world. Student users, in turn, became advocates of the technology to their larger circle of family and friends off-campus. The second development, the emergence of the Internet, along with the creation of user-friendly search engines, provided ready access to a seemingly limitless font of information and potential social connections. Now you could easily reach anyone with an email address, regardless of his or her network provider.

America Online (AOL) is only the best known of the commercial providers that have capitalized upon the new infrastructure and public awareness of the possibilities of networked computing. In the late 1990s, email (and computer mediated communication more generally) have revolutionized the presuppositions and expectations of a growing proportion of ordinary citizens about appropriate technologies for communication.

Computer-based communication appears to be filling many functions served by the telephone over at least the past 75 years. First, as a source of information and instrument of commerce, many people turn to the computer to learn airline schedules or a museum's opening hours, place an order for a book, flowers, or even an automobile. Second, the computer has proved to be a conduit for community discourse. Like the rural telephone exchanges of the early twentieth century, computer listservs and Inter-Relay Chat Groups (IRCs) make it possible for clusters of people with related interests to come together virtually, sometimes even in real time. (Note: In the US, it has been interesting to watch the initial commercial success of telephone chat lines in the early 1990s be undermined by the growth of computer chat groups in the mid 1990s. Computer chat groups not only are less expensive but also provide greater anonymity by camouflaging one's voice and even one's sexual identity.)

Third, email is increasingly replacing the telephone (not to mention the traditional letter) for one-to-one social discourse. Given pricing and ease of access, even people with no

computer experience are finding that email is often both less expensive and more convenient than traditional phone calls. There are no long-distance charges, you can send however lengthy a message you wish at any time of day or night, and “telephone tag” is eliminated. Some even argue that “universal access” to email is as much a necessity – and right – as universal access to telephone service (Anderson *et al.* 1995).

3. Linguistic Analysis

The individual – and intertwined – histories of the telegraph, the telephone, and email provide a foundation for exploring the essential question of this essay: how do these three teletechnologies compare as forms of communication?

Our analysis is laid out in two main sections. The first, **social dynamics**, looks at each technology with regard to the *social nature of the transmission*, the issue of *privacy*, and *social etiquette* regarding content. The second section, on **format**, considers *durability* and *composition issues*.

Social Dynamics

Social Nature of the Transmission

How do the social dynamics of the relationship between interlocutors shape the actual message being transmitted and the attitudinal response of its receiver? A first consideration is the nature of the transmission:

- Is it intended as a *monologue* (one-way transmission of information from the sender to the recipient) or as a *dialogue*?
- Is it information exchanged between two individuals (*point-to-point*) or shared with a wider audience (*broadcast*)?

The dichotomies *monologue vs. dialogue* and *point-to-point vs. broadcast* intersect with one another to form a four-way grid. Each of the three teletechnologies can be (or at least has been) used within each sector of the matrix, i.e.,

- i. Point-to-Point Monologue
- ii. Point-to-Point Dialogue
- iii. Broadcast Monologue
- iv. Broadcast Dialogue

i. Point-to-Point Monologue

The telegraph evolved as a medium for point-to-point monologue *par excellence*, whereby a single individual sends a message to another individual without anticipating a response. From the time the French revolutionary government adopted the Chappe visual telegraph, telegraphy has largely been a system for informing rather than conversing. The telephone did not become a medium for dialogue until a critical mass of people had private telephones, the quality of transmission and service improved (see Pierce 1977, 173), and, in cases such as France, government control was loosened (see Attali & Stourdze 1977). As for email, the nature of transmission is usually dialogic, although point-to-point monologue is common when a message is sent down the organizational chain, e.g., from a manager giving directives to an employee.

ii. Point-to-Point Dialogue

Perhaps not surprisingly, the telegraph, the telephone, and email were initially conceived of as media for point-to-point dialogic communication between individuals. In the case of the telegraph, much as the Chappe brothers had originally designed their semaphores to converse with each other across distances, Samuel Morse is said to have envisioned the telegraph as a form of conversation,

linking wives with their distant husbands, allowing children to communicate with their parents, and encouraging lovers to exchange sentiments over the wires (Blondheim 1994, 34, 221 note 18).

This vision (though never practically realized) is strikingly similar to current email systems, especially those offering synchronous communication.

The telephone was designed as – and has remained – primarily a medium for point-to-point dialogue. In fact, in 1877, Bell wrote to his wife Mabel that “When people can ... chat comfortably with each other by telephone over some bit of gossip, every person will desire to put money in our pockets by having telephones” (Bruce 1973, 210).

Email also emerged as a point-to-point dialogic device, though only as an afterthought from several early designers of ARPANET. Although other (broadcast) forms of transmission dominated for nearly two decades, point-to-point dialogue has become the modern function of email *par excellence*.

Finally, it is curious to note that even the radio was initially designed not as a broadcast device but for replacing the telegraph as a medium for point-to-point communication (Czitrom 1982, 67). This early notion of the radio as a “wireless telegraph” is reminiscent of Bell’s original goal of creating a new form of telegraphy (the harmonic telegraph) and

Thomas Edison's original conception of the phonograph as a medium for point-to-point communication, whereby an individual could

record spoken messages that would be transmitted by phone [at an originating telegraph office] to a recorder at another office where the addressee would come to hear it (Boorstin 1973, 379, cited by Pool 1983, 31).

iii. Broadcast Monologue

Additional functions appeared very early in the evolution of both the telegraph and the telephone, rendering them (at least for a time) also broadcast monologic devices. As we saw in Part 2, the telegraph became a broadcast monologic device when newspapers confronted the logjam of only one reporter at a time being able to file a story on the local telegraph wire.

The early broadcast functions of the telephone reflect the ingenuity of Bell and his backers to generate much-needed revenues. As we noted earlier, the telephone was used at the end of the nineteenth century for broadcasting both speech and music. In France, for example, the president of the Republic "inaugurated a series of telephonic soirées" by establishing telephonic connections between the Elysee Palace and the Opera, the Theatre Francais, and the Odeon Theatre (Marvin 1988, 209). However, the most enduring experiment with the broadcast telephone was the Hungarian service known as *Telephon Hirmondo*, which served all the functions of a daily newspaper (news stories, stock exchange reports, advertising) along with musical programming. For over 25 years, *Telephon Hirmondo* offered its Budapest subscribers full-service programming of the sort we have come to associate with radio and later television (see Marvin 1988, 223-228).

Other, more specific broadcast functions of the telephone were also introduced in the US. Where switchboard operators had earlier provided such information as the time or the weather (along with local gossip), recorded time and weather information was later made available to callers, both as a public service and as a way of increasing revenues. More recently, AT&T began offering its individual subscribers (for a fee, of course) the option of sending voice mail to a telephone distribution list, a service also available in many organizations.

Analogously, contemporary email can also be used as a broadcast monologic device. The email distribution list enables users to send identical messages simultaneously to a specific number of individuals from whom one does not anticipate a response.