

# **The Myth of Impoverished Signal:**

## ***Dispelling the Spoken-Language Fallacy for Emoticons in Online Communication***

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### ***Introduction***

Human communication consists of more than sounds, graphemes, words, and sentences.<sup>1</sup> It also expresses emotions. Sometimes such emotions are conveyed through lexical or syntactic choices. For example, the word *slovenly* has stronger emotional overtones than *messy*, and the agent-less sentence “Mistakes were made” is more neutral than “The government made mistakes”.

Besides these direct linguistic expressions of emotion, both speech and writing offer additional opportunities for conveying emotion. In face-to-face communication,<sup>2</sup> emotion is commonly transmitted through such paralinguistic tools as facial expression, body posture, or physical proximity to our interlocutor, not to mention the volume and timbre of our voice. When we write, none of these means of expression is available. To compensate, we sometimes rely upon punctuation marks for emphasis (e.g., !!! or ???), use capital letters, underline words, put passages into bold or italic fonts, employ out-sized point type, or repeat words that, in speech, would have carried distinctive articulation (e.g., spoken: “I’m REALLY sorry to inconvenience you” versus written: “I’m really, really, really sorry to inconvenience you”). Historically, additional contrivances included opting for a certain type of stationery, sprinkling perfume or enclosing dried flowers, or choosing a particular stamp for the envelope.

Use of devices such as repeated punctuation or forty-point type when we write suggests that our writing is attempting to mirror the emotions we might express paralinguistically in face-to-face conversation. Such devices are familiar in handwritten letters and in word-processed documents, especially in casual compositions exchanged between friends. As computer-based communication went online (initially through email, and then through listservs, newsgroups, and chat),<sup>3</sup> these same devices have appeared – especially in informal communication. While they are technically forms of writing, most varieties of online communication have often been thought of as forms of speech, with creative punctuation and typography substituting for paralinguistic cues (such as volume, proxemics, and facial expression) for expressing emotion.

But playing with punctuation and typography are not the only tools available for expressing emotion when writing online. Beginning in 1982, a new form of expression markers, known as

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<sup>1</sup> I am grateful to Leopoldina Fortunati and Jane Vincent for their insightful comments on earlier drafts of this chapter.

<sup>2</sup> Following convention, I use the term “face-to-face” in this chapter. However, Fortunati (2005) argues that a more accurate term is “body-to-body”.

<sup>3</sup> While users face similar challenges in expressing emotions with mobile devices, this chapter focuses on computer-based communication, for which emoticons were originally invented.

emoticons, began to emerge. These markers were explicitly created with the goal of clarifying the emotion that an online writer was intending to convey in his or her message.

Implicit in the creation of the early emoticons was the assumption that online communication was essentially a written version of casual speech, rather than more traditional written language (akin to a brief essay or a letter). However, since the language was physically written, the paralinguistic cues of face-to-face speech were missing, and it was presumed that the risk of misinterpretation was therefore high. (Note that in the early days of computing, users could not easily manipulate the appearance of type to add emotional nuance to their messages. Tools for doing underlining, bold and italics, or for manipulating font style or size only appeared with the development of word processing programmes, and are even more recent in online communication programmes such as email and instant messaging.)

This chapter explores the history of early attempts to create written expressions of emotion in computer-mediated communication. While the original goal of such innovation centred on clarifying linguistic intent (that is, devising substitutes for traditional paralinguistic markers of emotion), we will see that the story of emoticons is also the story of assumptions people have made about whether online communication is a form of speech or a form of writing.

### ***Enter the Smiley***

On September 19, 1982, Scott E. Fahlman sent the following message to an online bulletin board at Carnegie Mellon University:<sup>4</sup>

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19-Sep-82 11:44      Scott E Fahlman           :-)
From: Scott E Fahlman <Fahlman at Cmu-20c>
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I propose that the following character sequence for joke markers:
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:-)
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Read it sideways.  Actually, it is probably more economical to mark
things that are NOT jokes, given current trends.  For this, use
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:-(
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To understand why Fahlman made these suggestions, some context is useful. Networked computing got its start at the end of the 1960s, when the US Department of Defense launched its Advanced Research Projects Agency Network, known as ARPANET. During the 1970s and into the early 1980s, ARPANET grew, but so did so-called bulletin board systems (BBSs), which enabled individual users to communicate with groups of people at a time – sometimes through ARPANET connections but also by telephone dial-up at home. In 1982, the Internet (which evolved from ARPANET) did not yet exist; that would happen in 1983. Email had been invented

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<sup>4</sup> <http://www.cs.cmu.edu/~sef/Orig-Smiley.htm>. Accessed May 24, 2008.

in 1971 (as was early computer conferencing), but the World Wide Web would not appear until the early 1990s.<sup>5</sup>

When Fahlman invented the smiley, the cadre of people using networked computing for interpersonal communication was comparatively small, probably numbering in the thousands. One history of the Internet indicates that in 1981, there were 213 host computer servers connecting to ARPANET. A decade later, that figure had grown to a million.<sup>6</sup> By 2007, over 50 million active server sites existed worldwide.<sup>7</sup> The International Telecommunications Union reports that as of 2006, there were 1.13 billion users of the Internet.<sup>8</sup> Early users communicating via networked computers had their share of challenges when it came to inputting text. The sophisticated word processing programs that today we take for granted were still in their infancy. The earliest modern program, WordStar, which was released in the late 1970s, lacked such niceties as spell-check and even the ability to type bold or italics directly onto the screen. (These were represented with embedded codes, and only appeared when a document was printed out.) WordPerfect made its debut on mini-computers in 1982, with a version for personal computers appearing a year later. Microsoft Word was also released in 1983.<sup>9</sup> In the meantime, text for online communication was commonly inputted using generic text editors designed for doing programming in such computer languages as FORTRAN and BASIC. These editors were cumbersome and non-intuitive. Moreover, computer terminals of the time that were connected to mini-computers or mainframes were often difficult to read and permitted only a relatively small number of characters on a screen. For example, the ADM3A terminal (common in the early 1980s) could display 80 characters per line, but only 12 lines per screen.<sup>10</sup> When personal computers entered the commercial market, the number of characters that fit onto a screen was also initially rather small. Radio Shack's TRS 80-Model I, which appeared in 1977, could hold 16 lines of 64 characters each. The Apple II (available in the same year) permitted 24 lines, though each line held a maximum of 40 characters.<sup>11</sup>

We should also remember that back in the early 1980s, the United States had not yet become a nation of typists.<sup>12</sup> Outside of secretaries, journalists, and some authors, most people either did not know how to type or typed only with difficulty. Autodidacts in the academic community (professors and students alike) often relied on the hunt-and-peck method, using whatever fingers worked for them. This was the computing milieu in universities when the smiley (and frowny) made their debut.

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<sup>5</sup> For a review of historical developments in networked computing and in online communication systems, see Abbate 1999 and Baron 2003.

<sup>6</sup> <http://www.originami.com/sp/milestones.htm>. Accessed May 24, 2008.

<sup>7</sup> [http://news.netcraft.com/archives/web\\_server\\_survey.html](http://news.netcraft.com/archives/web_server_survey.html). Accessed May 24, 2008.

<sup>8</sup> [http://www.itu.int/ITU-D/ict/statistics/at\\_glance/KeyTelecom99.html](http://www.itu.int/ITU-D/ict/statistics/at_glance/KeyTelecom99.html). Accessed May 24, 2008.

<sup>9</sup> See Bergin 2006 for a history of early word processing.

<sup>10</sup> <http://www.tentacle.franken.de/adm3a/>. Accessed May 24, 2008.

<sup>11</sup> By 1982, The IBM PC, which was now designed to handle serious word processing, offered 25 lines of 80 characters each. Information regarding textual input on mainframe, mini and personal computers of the time was graciously provided by Tim Bergin, personal communication, November 21 and 26, 2007.

<sup>12</sup> In a more extensive discussion of how emotion is expressed through writing, it would be interesting to compare differences between handwritten documents (especially personal letters) and their typewritten or word-processed counterparts.

Like most inventions, Fahlman's original emoticons were created to solve a concrete problem, in this case, at Carnegie Mellon.<sup>13</sup> A number of colleagues had been engaging, over a period of days, in casual banter on an online bulletin board, posing hypothetical questions about what the physical consequences might be if someone cut a building's elevator cable: What would happen if there were a helium balloon in the elevator? A pigeon? A lit candle? A drop of mercury? Continuing in this vein, the following message was posted, with the subject line "WARNING!" : 'Because of a recent physics experiment, the leftmost elevator has been contaminated with mercury. There is also some slight fire damage. Decontamination should be complete by 08:00 Friday.' Of course, there was no mercury spill, and no fire damage. But apparently someone reading the notice had taken the posting seriously. The next day, discussion on the bulletin board turned to the fact that in reading an online discussion, it was easy to mistake humour for reality. Fahlman explains that: 'Given the nature of the [computing] community [at Carnegie Mellon], a good many of the posts were humorous (or attempted humour). The problem was that if someone made a sarcastic remark, a few readers would fail to get the joke, and each of them would post a lengthy diatribe in response. That would stir up more people with more responses, and soon the original thread of the discussion was buried'<sup>14</sup>. Contributors to the Carnegie Mellon bulletin board tried more humour ("Just when you thought it was safe to go back into the elevator...") but also proposed adding symbols for indicating when a posting was to be taken as a joke. Ideas included an asterisk (\*), a percent sign (%), an ampersand (&), or a pound sign (#). Fahlman suggested using what we now know as the smiley, i.e. :-) "for joke markers" and what we know now as the frowny, i.e. :-( "to mark things that are NOT jokes".

## ***Evolution of Emoticons in Computer-Mediated Communication***

Within short order, the idea of inserting concatenations of punctuation marks as non-verbal comments spread across the United States: first through Carnegie Mellon, then to other universities and research sites, and eventually to the general computer-using public. In the process, new symbols were added, and the meanings of the original smiley and frowny evolved as well.

### **From 'The Elevator Has Been Contaminated' to 'Have a Nice Day'**

The most obvious of the early changes was a redefinition of Fahlman's proposed use of the frowny. Instead of indicating "take this [previous comment] seriously", the mark soon came to denote "displeasure, frustration, or anger"<sup>15</sup>. Shift in meaning is, of course, common in everyday language. Sometimes words change their senses entirely, as when *silly* went from signifying 'blessed' to its current meaning of 'foolish'. In other instances, language users have lost track of the meanings earlier associated with words or phrases. A *pen knife* was, originally, a pocket knife used for sharpening quills for writing. The phrase "How do you do?" is still common when being formally introduced to someone we don't know, but in using these words, we are hardly inquiring how that person is actually doing. In fact, when we say "How are you doing?" to an acquaintance we pass on the street (as we each hurry along in opposite directions), we frequently hope for a

<sup>13</sup> Fahlman has discussed the incident in a section of his home page at Carnegie Mellon (<http://www.cs.cmu.edu/~sef/>) as well as on an interview on September 26, 2007, with the Canadian Broadcasting Corporation ("The Current" -- <http://www.cbc.ca/thecurrent/2007/200709/20070926.html>. Accessed May 24, 2008).

<sup>14</sup> <http://www.cs.cmu.edu/~sef/sefSmiley.htm>. Accessed May 24, 2008.

<sup>15</sup> <http://www.cs.cmu.edu/~sef/sefSmiley.htm>. Accessed May 24, 2008.

quick reply of “Fine” rather than an honest answer to the question, which might slow us both down.

Meaning change also is evidenced in terminology commonly seen as typical of computer-mediated communication. The acronym *LOL* (originally standing for ‘laughing out loud’) is fairly common in the instant messaging conversations of American undergraduate students. However, its use often has nothing to do with humour. Instead, it functions as a phatic marker, meaning the equivalent of *OK*, *Cool*, or *Yeah*, as seen in the following example (Baron 2004):

Mark: i've got this thing that logs all convos [=conversations] now  
 Jim: really?  
 Jim: why's that  
 Mark: i have ever [=every] conversation i've had with anybody since  
       the 16<sup>th</sup>  
 Mark: i got a mod [=module] for aim [=America Online Instant  
       Messenger], and it just does it  
 Mark: i'm not sure why  
 Jim: lol  
 Jim: cool

Over the years, the smiley has likewise undergone considerable evolution. In fact, the story predates Fahlman's 1982 proposal (Crampton 2006; Nordin 2006). In 1963, a graphic artist named Harvey R. Ball created a yellow button, bearing a now-familiar smiling face, for the State Mutual Life Assurance Company of America. The organization was looking to relieve tension among its employees in the midst of a merger with another company. The design (which Ball never trademarked) soon gained popularity through the efforts of Philadelphia card-shop owners Murray and Bernard Spain. The Spain brothers marketed a range of products such as coffee mugs, buttons, and bumper stickers bearing Ball's yellow smiley face, coupled with the words “Have a happy day”. Over time, the phrase was commonly edited to “Have a nice day”. Ball and the Spain brothers intended the smiley to denote happiness and well-being; Fahlman's online smiley face was designed to mark a preceding textual comment as being meant in jest. But soon the offline and online worlds merged. Software programs such as Microsoft Word and America Online's Instant Messenger began to automatically convert smileys (and frownys) that were created with individual keystrokes into graphic icons, i.e., ☺ and ☹. In the case of the smiley, it is hardly surprising that the general public began associating Fahlman's original symbol not just with humour but also with pleasant thoughts, e.g.

Vacation starts tomorrow ☺ [= I am happy about having a vacation]

or

Hope you feel better ☺ [= I hope you become happier / feel better]

In the process, the smiley (to take just one example) came to have multiple possible meanings. One of the main arguments for using emoticons in computer-mediated communication is that they ostensibly clarify meaning, given the absence of facial and gestural cues. However, whenever a word (or symbol) has multiple meanings, the possibility for misinterpretation arises. Consequently, it is hardly a foregone conclusion that emoticons promote – rather than hinder – unambiguous communication.

One of the particular challenges of online communication is that there is no generally-accepted rule book containing linguistic conventions that everyday users should follow (Baron 2002). Instead, as people have gone online, they have tended to imbibe popular lore about how the medium works: Be carefree about spelling, punctuation, and grammar; use numerous abbreviations and acronyms; expect flaming (that is, rude language); and add emoticons to clarify meaning. Empirically, this characterization may have suited online communication of the 1980s and perhaps the early 1990s. However, as the number of online users exploded over the past decade, many of these practices are no longer followed, at least not by a substantial number of people. Yet myths die hard, and even those not using these early features of online communication “know” that they characterize the medium.

As the meanings (and uses) of emoticons have evolved, so have the online platforms in which people communicate with one another. In the early 1980s the most common form of online communication was one-to-many. That is, individual users would post comments to an online bulletin board, an online computer conference, or later a newsgroup, listserv, or chat room. These comments could be read by a broad audience, many of whom the individual who was doing the posting might not know. Although one-to-one communication between two specific people was possible through email and instant messaging, availability of these tools was largely restricted to research institutions (or to businesses) until the 1990s. Not until the prices of computers (and computer networking) fell in the second half of the 1990s did one-to-one communication between people who knew each other become a dominant form of online exchange.<sup>16</sup> When communicating with acquaintances (whether face-to-face, on the telephone, through letters, or online), the chances of our interlocutor misunderstanding us are smaller than when exchanging information with strangers.

### ***Research on Emoticons***

Sustained research on language used in online communication dates back to the early 1990s, (for example, Lea and Spears 1992; Markus 1994; Herring 1996). A number of studies have explored the assumption that emoticons are either necessary – or at least valuable – tools that “compensate” for the lack of social and affective cues online that characterize face-to-face communication.

Historically, it was argued that ‘When there is no visual image of participants, it is often necessary to include verbal cues (e.g., emoticons) and verbal clarifications (e.g., IMHO [‘In My Humble Opinion’]) to convey to readers a sender’s intended tone and meaning’ (Kavanaugh *et al.* 2005. Also see Reid 1995; Thompson and Foulger 1996). This assumption received initial support from research published in 1992 by Martin Lea and Russell Spears, who reported that such paralanguage ‘is one means by which social information is communicated in [computer-mediated communication]’. They noted, however, that ‘the meaning of paralinguistic marks is dependent on the group or individual context that is pre-established for the communication’. (p. 321)

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<sup>16</sup> More recently, blogs and social networking sites have once again popularized one-to-many online communication.

Andrea Kavanaugh and her colleagues further emphasize the importance of context in assessing the role of emoticons or acronyms (such as *IMHO* or *LOL*) in online communication. Kavanaugh studied the Blacksburg Electronic Village, a project in the 1990s that “wired” the town of Blacksburg, Virginia, and then encouraged citizens to make use of online resources. Analyses of how residents interacted online suggest that paralinguistic cues did not seem to be as necessary for clarifying meaning when communicating with friends as when messaging strangers:

‘While there is still a need for such verbal cues online in networked geographic communities, the fact that most people already know each other at least as acquaintances, provides a lot of background information about personality and manner from prior face-to-face interactions...The fact that members of groups interacting online typically already know each other in networked communities mitigates against some of the problems of social presence online’ (Kavanaugh *et al.* 2005).

Perhaps equally importantly, the users being studied were mature adults, who were presumably already practiced at composing clear communication, e.g. through experience with writing letters or memoranda. If, under some circumstances, emoticons and acronyms contribute to clarifying meaning online, it is important to acknowledge that there may be additional, though often subtle, paralinguistic cues as well. These may include choosing to delay one’s response to a message (thereby sending a negative linguistic cue) (Walther and Tidwell 1995), or letting message length and content signal the degree of intimacy (Soukup 2000).

Work by Joe Walther and Kyle D’Addario in 2001 began calling into question the extent to which users of online communication rely upon emoticons to interpret messages they receive. The authors report that in one-to-one communication, users depend more heavily upon the verbal content than upon emoticons to interpret the meaning of messages. Other studies of online behaviour have noted that both use of emoticons – and reliance upon them to interpret textual meaning – are subject to the same kinds of parameters as we see in face-to-face communication. Tom Postmes and his colleagues conclude that use of paralanguage varies from one online group to another, and that the same individuals will vary their behaviour, depending upon the group in which they are participating at the time (Postmes *et al.* 2000). Kristin Byron and David Baldrige (2007) have found that personality is another relevant factor determining the extent to which nonverbal cues are incorporated into online messaging.

Finally, a growing number of studies are exploring online communication in cross-cultural context (Danet and Herring 2007). Some of the most interesting work with emoticons has compared American symbols with the use of *kaomoji* in Japan. While American emoticons are read sideways and emphasize the mouth, Japanese *kaomoji* are read horizontally and focus on the eyes. For example, the closest equivalent to the American smiley, that is :-), is the *kaomoji* ^--^. Studies comparing emoticons and *kaomoji* indicate that cultural differences between Japan and the US are reflected in the ways Japanese interpret these two forms of nonverbal online expression (Pollack 1996; Yuki *et al.* 2007).

### ***Are Emoticons Necessary? Contemporary Claims***

Despite growing research to the contrary, public perception that online language is especially prone to ambiguity (and that emoticons help clarify meaning) remains strong. Two

assumptions seem to underlie this stance: one involving message length and the second, the status of online communication as a substitute for speech rather than writing.

### **The “Length” Argument**

The first rationale is that because messages are short, it is difficult to convey meaning clearly. In an interview marking the twenty-fifth anniversary of the smiley, Fahlman articulated this position:

Using emoticons is kind of a quick and lazy thing. Certainly it’s better if you want to sit down and write a long essay about what you think. [But] there’s a time and place in the world for quick [messages]...There are alternative ways [than emoticons] that are probably better ways if you want to put the work in, if you’ve got time to write a longer message.<sup>17</sup>

In the early 1980s, online messages were commonly quite brief, driven in part by challenges in screen-size, online editing capabilities, and typing skills of the time. But is the “length” argument valid today?

### **The “Speech” Argument**

Since the inception of platforms such as email, bulletin boards, computer conferencing, and instant messaging, researchers and users alike have debated the linguistic nature of online messaging: Is it a form of written or of spoken language?<sup>18</sup> Whether online communication is perceived as writing or speech has important ramifications for the way users formulate their messages, along with how people view the medium’s shortcomings. If we think of online postings as written language, then the older traditions of letter-writing, essay-writing, and such shape our expectations of how to formulate electronic messages. However, if the mental paradigm is that of speech, users understandably notice the lack of visual and auditory cues that are available in face-to-face encounters, and may feel the need to compensate. The popular press (along with many researchers and end-users) has generally assumed that online communication is a substitute for spoken language, and that emoticons are an important tool for filling in the paralinguistic gaps. Is this assumption justified?

### **Responding to the “Length” Argument**

Is there a relationship between length of a written message and clarity? Writing, by its very nature, affords people the opportunity to reflect upon their texts before “publishing” them – in the literal sense of ‘making public’. Such reflection contrasts (at least paradigmatically) with informal spoken discourse, in which words are often uttered without much forethought, but semantic repairs can be made as the conversation proceeds.<sup>19</sup> As with speech, written discourse may be concise or verbose. In the case of (written) online messages, the amount of text that writers produce has historically been comparatively brief. Our question is whether such messages are inherently ambiguous (given their brevity) and whether emoticons help disambiguate meaning. From the inception of emoticons in the early 1980s, the typical answer has been “yes” on both counts.

People who have spent appreciable time working with high school or university students on their writing will likely find the length argument puzzling. Many of us devote considerable energies

<sup>17</sup> <http://www.cbc.ca/thecurrent/2007/200709/20070926.html>. Accessed May 24, 2008.

<sup>18</sup> See Baron 1998 for a summary of the discussion as of the late 1990s.

<sup>19</sup> See Baron 1981 for an extended comparison of speech and writing.



attempting to explain that lucid writing is the result of thought – and often, revision – not of piling on more words. In fact, concision has often been seen as a hallmark of good writing. We think of memorable lines from Shakespeare but also of haiku poetry, which has been the province not just of literary masters but of the larger populace. In the United States, a growing emphasis was put on simple, unadorned writing, following the American Civil War (Wilson 1966). The apotheosis of this movement is often taken to be the writing of Ernest Hemingway, which was partially shaped by limitations on the length of telegraph messages. Hemingway spent many years as a journalist, sending newspaper dispatches over the wire, and it has been argued that telegraphic constraints on word-count influenced his later fiction (Blondheim 1994). However, concision has been the watchword in American prose ever since.

Clear writing takes time – and, more often than not, effort. For many users of online communication, the most important characteristic of the medium is that it is quick. Rapidly-composed missives often end up being short with respect to number of characters, but they also tend not to be thought through and, in many instances, are not read through before being sent. In this sense, they bear one of the fundamental traits distinguishing between our paradigmatic notions of spoken and written language: While speech is generally extemporaneous, writing typically demands more reflection before we release it for others to read. That is, the “length” argument for using emoticons in computer-mediated communication may actually be reducible to the argument that online writing, like extemporaneous speech, often lacks deliberative forethought or post-editing.

Before leaving the “length” argument, it is important to keep in mind that the nature of online communication has undergone radical transformation since the appearance of the smiley a quarter-century ago. The number of people who regularly use computers for online communication has grown exponentially, from a couple of thousand to hundreds of millions. (Recall that over a billion people use the Internet.)

The medium’s functions have also expanded vastly, now including formal memoranda, contract negotiations, and job applications – many of which demand a careful eye. The writing skills (and standards) of this expanded usership run the gamut from very basic to highly articulate. But education level or literary abilities are not the only determinants of online style. There is considerable variation among individuals as to the amount of care they invest in composing email. Some accomplished writers view online exchange with friends as something casual, dashed off quickly, not to be proofread – unlike their elegant prose that appears in traditional print. Other people (even those without literary accomplishments or even professional aspirations) are noted for composing well-crafted emails. In short, online communication is not inherently sloppy or edited, ambiguous or clear, benefiting from use of emotions or not. Rather, individual users chose the amount of effort they wish to invest in the messages they send. Length and clarity are the result of writers’ skills and choices, not of the medium itself. Some very short messages are extremely clear. Some meandering messages remain hopelessly muddled and ambiguous.

### **Responding to the “Speech” Argument**

If message length by itself is not a necessary factor driving use of emoticons in online communication, what about linguistic modality? We have just noted that speech is often more hurriedly composed than traditional writing. Accordingly, we might assume that speech is more

open to misinterpretation than traditional writing.<sup>20</sup> To complete the argument: If online language is like speech, then emoticons might be needed to rescue us from our lack of verbal clarity, due to being in a rush (at least in comparison with writing).

A problem with this explanation is that semantic confusion in human communication is hardly restricted to language constructed on the fly. Miscommunications – in either writing or speech – often result not from linguistic sloppiness but from the fact that interlocutors come to a “conversation” (as readers or as listeners) with different levels of expressive mastery, along with different personal histories, judgments, and presuppositions.

Consider this example from my own experience. I was sitting with a colleague at the conclusion of a conference we had both helped organize. As we reviewed what had gone well and what we might like to change for next year’s event, my colleague declared, ‘That was a terrible business luncheon’. I whole-heartedly agreed. However, it was only months later that we discovered he had been complaining about the food served, while I had found the meeting’s agenda to be extremely boring. Our problem was not being sloppy in our language. Rather, the phrase “terrible luncheon” bore multiple meanings. Had our discussion taken place online, had my colleague even added a smiley or frowny to the end of his message, the ambiguity would have persisted.

A more notorious example of misunderstood intent is Orson Welles’ pre-Halloween radio broadcast of “War of the Worlds” in 1938. The production, based on H.G. Wells’ 1898 story of a Martian invasion, was scripted as a series of news bulletins. At the beginning of the program, listeners were informed that what they were about to hear was fiction, with reminders inserted both during and at the end of the show. Yet like Fahlman’s tale of the elevator at Carnegie Mellon, the story was taken by some at face value, especially by listeners who missed the opening disclaimer – and by all the friends, neighbours, and family they phoned who had not been listening in. The general public panicked. The Federal Communications Commission even launched an investigation of CBS radio, which had broadcast the program.<sup>21</sup> The moral of the story would seem to be that even three disclaimers during an hour’s broadcast were of little consequence in the face of a convincing dramatization. Just so, would a single smiley face at the end of the Carnegie Mellon elevator message necessarily have been heeded by readers who had not been following the prior discussion thread?

Most discussion involving the spoken versus written nature of online language revolves not around haste or even around linguistic ambiguity, but around the paralinguistic cues (including facial expression, bodily stance, tone of voice) that accompany face-to-face speech. The argument generally goes like this: Online language is a representation of speech. Because some of the elements that bear meaning in face-to-face communication are missing online, such media as email, instant messaging, and chat are prone to being misunderstood. Emoticons are an attempt to fill in some of the paralinguistic gaps.

The argument hinges on the assumption that users of online communication are attempting to represent speech. True, we refer to instant messaging “conversations,” and students tell friends

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<sup>20</sup> Admittedly, speech (at least face-to-face) carries additional paralinguistic information. Furthermore, dialogue affords the opportunity for semantic clarification. However, if we simply compare words produced in spoken versus written expression, the latter affords more opportunity for editing before being rendered public.

<sup>21</sup> See Koch 1970 and <http://www.war-of-the-worlds.co.uk/>. Accessed June 1, 2008.

they will “see them online”.<sup>22</sup> However, a more accurate way of assessing the veracity of the online-language-as-speech claim is to analyze the linguistic character of online language itself.

Linguistic studies have compared the prototypical features of spoken and written language.<sup>23</sup> Figure 1 summarizes a number of the main distinctions:

INSERT FIGURE 1

Our question now is whether online communication more closely resembles speech or writing, as defined by the kinds of parameters noted in Figure 1.

In the late 1990s, I surveyed the relevant literature on email, bulletin boards, and computer conferencing, concluding that computer-mediated language was essentially a mixed modality.<sup>24</sup> It resembled speech in that it was largely unedited, it contained many first- and second-person pronouns, it commonly used present tense and contractions, it was generally informal, and online language could be rude or even obscene. At the same time, messages composed and transmitted online looked like writing in that the medium was durable, and participants commonly used a wide range of vocabulary choices and complex syntax (Baron 1998). A few years later, in his book *Language and the Internet*, David Crystal investigated a variety of types of computer-mediated language, including the web, email, chat, and virtual worlds such as MUDs and MOOs. He compared these platforms against his own analysis of spoken versus written language. Coining the term “Netspeak” to refer to the whole of language used online, Crystal concluded that ‘Netspeak has far more properties linking it to writing than to speech...Netspeak is better seen as written language which has been pulled some way in the direction of speech than as spoken language which has been written down’ (Crystal 2001:47).

In 2003, I undertook a study of instant messaging (IM) conversations constructed by American college students. My goals were to gather empirical data on the spoken versus written nature of the medium, as well as to see whether gender was a relevant variable. Here are some highlights of my findings:<sup>25</sup>

- spelling was remarkably good
- punctuation (including capitalization, question marks, and periods) was generally consistent enough to make meaning clear
- considering how frequently contractions (e.g., *can't* instead of *cannot*) appear in informal speech, there were fewer contractions in the IM conversations than anticipated
- some of the vocabulary and syntax used was quite sophisticated

All of these features are more suggestive of a written rather than a spoken model for the discourse. When it came to emoticons, they turned out to be rather scarce. Out of 11,718 words in the corpus, only 49 emoticons appeared. Of these, 31 were smileys and 4 were frownys. Apparently, students

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<sup>22</sup> Baron 2004.

<sup>23</sup> For example, Tannen 1982a, 1982b; Biber 1988; Chafe and Danielewicz 1987; Chafe and Tannen 1987; Crystal 1995; Baron 2000.

<sup>24</sup> My own study benefited greatly from work by Milena Collot and Nancy Belmore (1996), and by Simeon Yates (1996), whose detailed comparisons of computer-mediated conversations with large-scale corpora of spoken and written language (including those collected by Douglas Biber, the London-Lund speech corpus, and the Lancaster-Oslo/Bergen written corpus) helped shape my thinking.

<sup>25</sup> Details of the study appear in Baron 2008, Chapter 4.

engaged in these IM conversations did not feel the need for frequent emoticons to clarify their meaning.

My study included a number of other linguistic components, including frequency of abbreviations and acronyms. Both abbreviations (e.g., *k* for *OK*) and acronyms (e.g., *LOL* for ‘laughing out loud’) are generally assumed to be common features of online communication. In fact, though, they were about as sparse as emoticons. Out of 11,718 words, only 31 were abbreviations, of which 16 were *k* for *OK*. There were 90 cases of acronyms, which included 76 instances of *LOL* – many of which served as phatic fillers (substitutes for *Yeah* or *Cool*) rather than actual indicators of humour.<sup>26</sup>

I also investigated how the students “chunked” their messages into multiple, seriatim transmission, such as

transmission 1: that must feel nice  
 transmission 2: to be in love  
 transmission 3: in the spring  
 transmission 4: with birds chirping  
 transmission 5: and frogs leaping

The analysis of how IM conversations are typically “chunked” is rather complex, and I will only note the essential findings.<sup>27</sup> When I examined the grammatical point in a sentence at which IM messages were broken into multiple transmissions, males were more likely to put breaks at the same places typical of pauses in spoken language, while female breaks more closely resembled the places in which punctuation is used in written language. Interestingly, when I re-examined the contraction data by gender, I found that male students used contractions 77% of the time the language allowed (e.g., using *can’t*), while females only used contractions 57% of the time (e.g., *cannot*). On the whole, then, male instant messaging conversations tended to have more in common with face-to-face speech, while female IM discourse had more in common with conventional writing. That said, neither group made much use of emoticons.

What can be concluded about the status of online communication more closely resembling spoken or written language? The question does not have a simple answer. Gender seems to play a role, as does age. Older users (including young adults) generally use fewer of the features we associate with electronic communication – such as emoticons – than do younger people (especially middle-school aged children).

But there is another important factor as well: maturation of users within the medium. During conversations I had with college students regarding instant messaging practices, I repeatedly heard how their online habits had evolved since they initially began using IM as teenagers. Earlier they might have intentionally included emoticons, abbreviations, and acronyms, in part because it felt socially appropriate to adopt a special lingo online. However, as they increasingly found themselves using computers to write papers for school, for doing online searches – in short, for getting real work done – their IM style evolved. It was now simply easier and more natural to write reasonably coherent, reasonably spelled, reasonably punctuated, largely acronym-free prose,

<sup>26</sup> Tagliamonte and Denis (2008) report similar meaning variations with *LOL*.

<sup>27</sup> Again, see Baron 2008, Chapter 4 for the fuller analysis.

which (particularly for the females) started to resemble the writing they might hand in for a school assignment.

### ***Domestication of Online Communication***

When new technologies are introduced, there is typically a transitional period until the general populace figures out how the technology works and comes to feel comfortable with it. Consider the case of landline telephones, which appeared in 1876. As late as 1894, a newspaper editor in Philadelphia was warning his readers not to speak on the telephone with people who had communicable diseases, for the illness might be conveyed across the telephone wires.<sup>28</sup> Today we find such concern laughable.

Roger Silverstone and Leslie Haddon (1996) have used the term “domestication” to describe the process whereby a new device (such as an automobile, a vacuum cleaner, or a computer) becomes a normal part of daily living. Today, for instance, we are witnessing domestication of mobile phones. When mobiles are initially introduced into a community, users often speak loudly, unsure that their voices will carry on such a small, portable device. (A century ago, George Bernard Shaw commented on how people shouted unnecessarily into landline phones.) In Sweden, some contemporary mobile phone users comment that they speak more softly on mobile phones than when conversing face-to-face. And even Americans, who are noted for their loud voices in public, seem to be lowering their volume somewhat when talking on mobile phones, now that the technology is becoming increasingly familiar.

Online communication has been evolving as well. When email got its serious start in universities and research institutions in the 1980s, people commented on how informal and unedited email messages tended to be. Today, a lot of casual electronic communication has moved to instant messaging (on computers) or text messaging on mobile phones. University students in both the United States and Sweden have reported to me that they view email as a formal medium, which commonly merits both pre-planning and proof reading.

The value of emoticons in computer-mediated communication has also shifted over time. When the medium was new, the community of users tended to be male university researchers whose forte was computer-related issues, not literary composition or typing skills. ARPANET was renowned both for its casual humour and for flaming, some of which likely resulted from initially innocent misunderstandings. At least in the early days, the bulk of communication was done in one-to-many forums (such as bulletin boards), where a given user might not know all the people reading the posts. Moreover, it was common for threads of conversation to spread over hours or even days. Unless you had read the entire thread, you might understandably not follow the meaning of a particular post. The world of online communication has changed unrecognizably since 1982. Email, instant messaging, listservs, blogs, social networking sites, and text messaging on mobile phones all attract a plethora of users of both genders and spanning the range of age, education, typing skills, personality, and attitudes towards electronic communication. There is still

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<sup>28</sup> “Diseased Germs Transmitted through Telegraph Circuits,” *Electrical World*, June 22, 1894, p. 833; cited in Marvin 1988, p. 81.

a lot of humour online, but as often as not, it is directed to specific interlocutors who are likely to share the context necessary to understand the sender's intent. What is more, for over a decade, word processing has been a "killer application" for those using personal computers. The United States has indeed become a nation of typists. Cranking out long email messages is painlessly simple, given improvements in both computer screens and word-processing programs, not to mention our person-years of experience at the keyboard. As my college students can testify, it often is easier to eschew lexical shortenings (such as *U* or *can't*) in favour of *you* and *cannot*, rather than making the effort to shift back and forth between a casual online messaging style and the more standard writing typically done in Microsoft Word. With the possible exception of a whimsical smiley or frowny face, most of my students do not insert emoticons into their formal writing. Why, then, should emoticons be needed – at least for the purpose of clarifying meaning – in an email or instant message?

### **Closing Remarks**

Technologies evolve, and so do their users. In 1982, Scott Fahlman's proposal to use a smiley face to flag jokes on an early bulletin board system populated by a cluster of ARPANET users made sense. A large proportion of the casual postings were essentially backchannel conversation, not intended to be particularly long, carefully constructed, or serious. As the online community grew, so too did their reasons for going online and the platforms enabling them to do so. Yet as novices, people often heard via the personal grapevine – or through the press – that online missives were essentially versions of speech, that misunderstanding was common due to lack of paralinguistic cues, and that by using emoticons one could help compensate for the medium's shortcomings.

Those issuing the advice generally neglected to reflect upon the fact that ambiguity or misunderstanding can occur in any form of communication, written or spoken, and no matter how carefully crafted. What is more, few of the early, experienced users seem to have considered that the lack of paralinguistic cues in traditional written language such as letters has not caused many authors to feel the need to insert substitutes for facial expressions or bodily stances. Rather, part of the responsibility of a writer (of a novel or essay, but also of a letter to a friend) has been to find ways of encoding all of one's relevant meaning through prose.

Along with the evolution of electronic media and the people using them, the language we employ online has changed as well. Smileys now have a range of meanings (as do frownys and other emoticons). Much as the word *bad* means 'cool' in the African-American community and the word *wicked* in the phrase "wicked good" means 'very' (not 'evil') in New England, the meanings of emoticons need to be constructed from the particular context in which they appear.<sup>29</sup> That is, emoticons are no more univocal than are words in ordinary language, and therefore cannot be assumed to unambiguously clarify user intention or emotion.

Now that a host of online messaging systems (such as Skype or MNS Live Messenger) offer text, voice, and video options, users can choose how much information they wish to transmit and

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<sup>29</sup>On the importance of situational context in interpreting lexical meaning, see Malinowski 1923.

receive. Typically, decisions are based on convenience (e.g. selecting voice rather than video because I don't want you to see I am doing other things on the computer while we are conversing) or degree of closeness to the interlocutor (e.g. students being willing to exchange textual messages with faculty members, but not talk with them, much less use video). Fear of missing out on paralinguistic cues does not seem to figure into the choice of modality.

Linguistic communication has always proved something of a paradox: Users speak (or write) to one another with the expectation of being understood, though we know that miscommunication is common. Depending upon our circumstances, we may attempt to clarify our meaning through paralanguage, rephrasing, re-editing, or insertion of graphic symbols. Scott Fahlman's introduction of smiley and frowny faces into early online communication was one such attempt, based upon assumptions about the linguistic nature of online language (i.e. as a representation of informal speech).

We have seen in this chapter that as computer-mediated communication (CMC) has evolved, the status of emoticons in clarifying meaning has become increasingly questionable. This is not to say that online communication has become increasingly unambiguous. Rather, as a form of linguistic expression, CMC is subject to most of the same challenges that spoken and written language has encountered for millennia: conveying to another person precisely what is on our mind, in all its conceptual and emotional nuance.

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	<b>Speech</b>	<b>Writing</b>
<b>Structural Properties</b>		
• Number of participants	Dialogue	Monologue
• Durability	Ephemera (real time)	Durable (time independent)
• Level of specificity	More vague	More precise
• Structural accoutrements	Prosodic and kinesic cues	Document formatting
<b>Sentence Characteristics</b>		
• Sentence length	Shorter units of expression	Longer units of expression
• One word sentences	Very common	Very few
• Sentence-initial coordinate conjunctions	Frequent	Generally avoided
• Structural complexity	Simpler	More complex
• Verb Tense	Present tense	Varied (especially past and future)
<b>Vocabulary Characteristics</b>		
• Use of contractions	Common	Less common
• Abbreviations, acronyms	Infrequent	Common
• Scope of Vocabulary	More concrete More colloquial Narrower lexical choices More slang and obscenity	More abstract More literary Wider lexical choices Less slang and obscenity
• Pronouns	Many 1 <sup>st</sup> and 2 <sup>nd</sup> Person	Fewer 1 <sup>st</sup> or 2 <sup>nd</sup> Person (except in letters)
• Deictics (e.g. here, now)	Use (since have situational context)	Avoid (since have no situational context)

**Figure 1. Major Distinctions between Spoken and Written Language**