WHY LEARN ABOUT EMAIL?

> *The first reaction to suggesting email is a form worth studying and teaching is, "Oh, e-mail is simple, nothing there to teach or examine." Until you look under the hood, that is.*[1]
>
> *— Trent Batson, former English professor, 2008*

Around 32,000 BC, early humans painted pictures of the now-extinct aurochs on the walls of a cave near Lascaux, France. This ancient artwork may mark the first time we used any type of symbolic representation. According to Darwin's theory of evolution and the work of subsequent scientists, humans and their predecessors had already been evolving for millions of years when they created these paintings. So, what were we doing before Lascaux? It is likely we used only primitive sounds, facial expressions, body language, touch, and smell to convey or decode meaning. Rudimentary speech may have appeared around 300,000 years ago, with more complex speech evolving as recently as 100,000 years ago. Written language arrived on the scene about 5,000 years ago in Sumeria (now Iraq), which led to scrolls, books, and eventually all varieties of computer-mediated communication.[2]

What does this have to do with email? Well, frankly, we're not yet very good at using it. We haven't had time to adequately study it. We haven't evolved for it. We've had millions of years to practice reading faces, detecting emotion in voices, and interpreting body language. We've had less than 50 years to learn how to read emotional cues in online text, interpret ambiguous electronic messages, and identify scam emails. In 1910, one in ten American's didn't know how to sign his own name.[3] Less than 100 years later, we expect those same people to know how to sign an email, compose effective messages, and sort out the intricacies of the TO, CC, and BCC fields. Email is so new, we can't even agree how to spell it (e-mail or email).

The evidence of our incompetence has been there all along. Years before LOL became popular, a 1981 message from a computer scientist complained about email jargon like foo, hack, frob, moby, and mung.[32] A 1985 study found email overflow caused users to answer only parts of messages, answer less correctly, and ignore certain characteristics of incoming information.[4] A 1993 manual warned "the extraordinary growth of email…demands that we give the writing of e-text the attention it deserves."[5] Research done in 1995 showed "managers focusing only on the productivity benefits of email may fail to anticipate the larger social consequences."[6] In 1996, a study of Fortune 500 companies in the U.S. discovered "more than 65% of all e-mail messages failed to leave receivers enough information to enable them to act on the message."[7] The next year, in his book *Information Ecology,* Thomas Davenport said "my suspicion is that email is becoming a great time sink for managers and workers."[8] In 1998, the *USA Today* asserted email was often "abused, misused, or misunderstood."[9] A 1999 story in *US News and World Report* contained the frightening statement "email can be a disembodied horror, threatening not just privacy and intellectual community but literacy itself."[10] In 2000, a book identified email as one of the largest sources of stress in the workplace.[11] A 2001 paper funded by the Pew Charitable Trusts concluded in America "email has heightened tensions and public disgruntlement with Congress."[12] A 2002 paper written by professors at Stanford and Northwestern universities asserted "the pros and cons of e-mail negotiation are not yet well understood."[13] The same year, an IBM position paper said "the problems with electronic mail are well documented. In fact, it is impossible for us to demonstrate one of our prototypes without people relaying their personal email horror stories."[14] A 2003 *Business Communication Quarterly* article recognized email had become an essential medium but warned "many businesspeople and business students take it casually and fail to realize its full potential."[15] A 2005 U.S. military paper found

email was the most prevalent method of communication, but it was also the most misused and least effective.[16] In 2006, researchers warned "email is usable and useful, but there are considerable doubts as to its efficiency and efficacy and potential side effects."[17] That same year, psychologists linked high email usage to procrastination.[18] In 2007, an Australian conference paper cited concerns about email's interruption effect, information deficiency, task/message mismatch, processing, filing, and addictive nature.[19] In 2008, *Psychology Today* said people are more likely to lie in an email than in any other medium,[20] and *O, The Oprah Magazine* said email "interrupts and overwhelms…causes stress…distracts the brain and encourages the fracturing of attention…leads to miscommunication, confusion, and hurt feelings.[21] In a 2009 NPR radio interview, author Ben Greenman called email "the scourge of our age."[22]

We have all heard stories of misunderstandings and hurt feelings caused by the use and misuse of this medium. Most of us have sent or received messages we wish we hadn't. Many of us have seen news stories of people losing their jobs, their loved ones, and their happiness over an email message. Yet despite our own bad experiences and overwhelming evidence from a chorus of experts, most individuals continue to believe they are effective emailers who do not need training.

If we recognized our inexperience and worked to overcome it, we might be more successful using electronic messaging. But we're not very good at recognizing our own communication weaknesses, and we're not very good at using email. A study conducted at 3M in the UK found about 89% of senders felt they wrote good messages, but receivers rated only 45% of messages as good.[35] It's hard to convince people to learn more when they think they know twice as much as they do.

In a 1995 business journal, two college professors lamented the lack of appropriate email training in light of email's growing importance.[23] Their message went unheeded; a 2008 survey found less than 25% of companies offered education on email.[24] As of April 2009, online bookseller Amazon.com carried 680,680 books on meetings, 370,354 about the telephone, 115,180 about writing letters, and a paltry 2,378 titles related to email. Even if 10,000 people have read each of those email books (and few books sell that many copies), then only 24 million people, about 5% of the world's native English speakers, have read a book about email. Five percent. By reading the book in your hands, you join an elite group of individuals interested in learning about this powerful and risky medium.

Will the time you spend reading this book or attending email training pay off? Research suggests it will. A study conducted at Loughborough University examined the effectiveness of email training at a large company in the United Kingdom. They found employees who had participated in training sent messages that were easier to read. They also found training led to better subject lines that signaled the importance of the message and accurately portrayed its contents.[25] Another study done by the drug company Novartis in 2006 showed the benefits gained by 5,300 employees who attended email training: a 26% reduction in time needed for email, a 35% increase in email quality and clarity, and a 17% reduction in time wasted on email.[26] At Capital One bank, 2,000 employees attended a 90-minute email training session. Measurements before and after the session revealed a 23% reduction in time needed for email and a 52% increase in email quality as a result of training. Capital One calculated their associates would free up 14 days per year by emailing better. That's two full weeks of time that could be spent on other business activities.[27]

HOW DID WE GET HERE?

In 1965, computer scientists at the Massachusetts Institute of Technology (MIT) used a room-filling IBM 7094 computer that cost about $3.5 million, the equivalent of about $25 million in today's dollars. As was the case at most organizations fortunate enough to have such a device, the computer was shared by a large number of users. That summer, Noel Morris and Tom Van Vleck from MIT's programming staff wrote a program that allowed users sharing the 7094 to leave messages for each other. Similar programs were developed at about the same time at other organizations for similar computers. These first email programs were not able to exchange messages between computers or organizations, only between users on a single, shared computer within an organization.[28]

In 1958, the U.S. Defense Department formed the Advanced Research Project Agency (ARPA) as part of the effort to keep pace with Russian technology. In 1969, ARPA created the world's first computer network when it connected the Stanford Research Institute, the University of California at Santa Barbara, the University of California at Los Angeles, and the University of Utah. The new network, called ARPANET, bore little resemblance to today's computer networks. It allowed scientists to share computer programs between sites but it did not support web browsing, music downloading, or email.[32] That would start to change a few years later. In late 1971, Ray Tomlinson was working as a computer programmer at Bolt Beranek and Newman (now BBN Technologies),

one of the vendors who supported the ARPANET. He created the first program capable of passing messages between computers when he combined two programs he had previously written, SNDMSG and CPYNET. This allowed him to use ARPANET to send the world's first network email.

> The first message was sent between two machines that were literally side by side...I sent a number of test messages to myself from one machine to the other. The test messages were entirely forgettable and I have, therefore, forgotten them. Most likely the first message was QWERTYUIOP or something similar.[29]
>
> — Ray Tomlinson describing how he sent the first email between computers in 1971

While he may not remember the content of the first message, Tomlinson clearly remembers the second email ever sent. It was a message to other users announcing the availability of network email and instructing users how to send messages to people outside their own organization. Up to that point, coworkers at BBN sharing the computer called TenexA could email Mr. Tomlinson by addressing their message simply to "Tomlinson." Now that ARPANET connected computers at multiple sites, there could be multiple Tomlinsons on the network, so it was necessary to lengthen the address to specify who you were trying to reach. Tomlinson's solution? After the user's name, add the @ symbol followed by the name of the organization and computer. His email address, therefore, became Tomlinson@BBN-TenexA.[30,31]

Although we still use the @ sign in email addresses, modern users would recognize little else of the early email environment. There were only 15 sites on ARPANET when users began emailing, and all those sites were listed in a paper directory. It was unlikely you would need the directory, because most of those early users knew each other, being from the computer science community.[32] The SNDMSG/CYPNET program could send but not receive messages; a separate program, READMAIL, was necessary for that. There were no reply, forward, or

reply-all functions, so all messages had to be typed from scratch. Eventually, in early 1973, Marty Yonke, a graduate student at the University of Southern California's Information Sciences Institute, combined SNDMSG/CYPNET and the successor to READMAIL into a program called WRD, which could both send and receive messages. This was the first complete email program, the forerunner Microsoft Outlook, IBM Lotus Notes, AOL Mail, Google Gmail and all the others.[28]

> *Although today's email clients are more graphical with onscreen buttons, pull-down menus and rich-text display, they are essentially souped-up cousins of the email clients from thirty years ago.*[14]
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> — Steven Rohall in an IBM position paper, 2002

For the first few years, email was used almost exclusively by computer scientists conducting or discussing computer science research. Some early users recognized that email use could be used for more general communication tasks, such as coordinating the activities of managers and employees. Stephen Lukasik, Director of ARPA, was one such user. He used email extensively, and encouraged others at ARPA to do the same.

> *I would be at a meeting, and every hour I would dial up my mail. I encouraged everybody in sight to use it. I really used it to manage...*[33]
>
> *— Stephen Lukasik describing how he encouraged general email use in the early 1970s when it was used almost exclusively for computer science research*

Soon after people began using email for business activities, they discovered it could also be used for personal purposes. In 1973, Len Kleinrock, a computer scientist and one of the people credited with the birth of Internet, was at a conference in Sussex, England. He returned home to the United States a day early and forgot his razor. It wasn't really worth sending a letter or placing a call to England for a razor, but having this new technology where computers were linked, he was able to send a free message through ARPANET to Sussex asking a colleague to bring his razor back. It is believed this was the first documented use of what would become the Internet for personal purposes.**Error! Bookmark not defined.**

I had the good fortune of being in college when email started becoming available to the general population. In the late 1980s, I was emailing very frequently long before most people had the opportunity to do so. I would come home on breaks and tell people I sent an electronic message to my friend Steve at Lehigh University. They would say "what the hell are you talking about? Is that even possible?" At that time, there were several major computer networks in the United States and abroad including ARPANET and BITNET (which I used). It was not yet possible to get online at home, only at institutions connected to one of the networks. Soon, however, email would emerge from the shadows to become an expected form of communications in nearly every type of organization.

> *1989 was the year you stopped asking people, "Do you have a fax machine?" and started asking, "What is your fax number?" 1996 is the year you stopped asking people, "Do you have email?" and started asking, "What is your email address?"*[34]
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> — Michael Kinsley (former co-host of CNN's Crossfire) in *Forbes ASAP,* 1996

WHERE ARE WE NOW?

A study conducted at 3M found their U.K. employees were receiving about 23 messages per day in 2002.[35] A 2005 doctoral thesis in New Zealand found emailers at one company were receiving about 34 messages per day.**Error! Bookmark not defined.** That same year, 29% of employees at Microsoft were receiving fewer than 50 messages per day, 36% were receiving between 50-100, and 34% were getting more than 100 new messages per day.[36] A study conducted in the U.S. Army found about 40% of emailers were in the 26-50 per day range, with about 21% receiving less than 26 and another 21% getting 51-75 per day. More than half the participants in that study reported occasionally feeling overwhelmed by email[16] The same study looked at how many hours per day were devoted to sending and receiving messages. About 48% of people were spending 1-3 hours and 30% were spending 3-5 hours per day. In the 3M study, employees deemed 13% of the messages they received to be irrelevant. A 2001 international study found 30% of emails received were not relevant to employees' jobs.[37] If you're getting 100 messages per day and 30% are unnecessary, you're wasting time reading 30 useless messages when you could be doing other things.

Once the domain of computer scientists, email has found its way into nearly every field, and every position within every field. I oversaw the implementation of the first and second email systems at a bank where I worked. Initially, we provided email to only 5% of the employees. We never envisioned the facilities department needing email, but they found it useful, especially via wireless, to track service requests. We did not think couriers would need email, but they wanted it to stay current on company announcements. Within a few years, the percentage of

employees with email steadily grew from 5% to 70%. When I left the bank, the last 30%, mostly tellers, were pushing to receive email accounts.

Some reports suggest over 95% of all workers now have email. That group is made up of executives, entry level employees, people with a lot of email training, people with little email training, people with much experience, people with no experience, and others. During email's first few decades, much of the growth was from young users. Today, it seems much of the growth is from older users. In a study of web-based email usage in Japan, comScore, Inc. found usage among older users increased significantly from 2007-2008 while usage by users under the age of 34 increased only slightly or even decreased.[38] Many of those older workers never expected to have to write frequently on the job. If someone graduated from college before email was available, which was not too long ago, and they were going into a career in business, they may not have expected to do any writing at all. They would use meetings and phone calls to communicate. Now, those people have moved up through the ranks to become company vice-presidents, chief financial officers, and other leaders. Thanks to email, today they are communicating via writing all day, every day, despite having little or no formal writing training and little or no experience using email. They may not know exactly how to punctuate, and their spelling may not be up to par. It is likely a large percentage of email messages don't represent the sender as well as the sender thinks, and often they don't realize this problem exists.

Each day, billions of messages are sent and received, causing misunderstandings and stress. Students and seminar participants talk about "challenges," "frustrations," and, as the IBM report said "horror stories." We typically don't have these issues with face-to-face encounters or phone calls. Email seems to be something we haven't quite figured out yet. With face-to-face spoken communication and phone calls, we know what is considered rude. We know what is considered courteous. We know how to call. We have done it thousands of times in our lives. With email, we have only a brief history of use, and for most of that history, few people had access. Fortunately, some of our experience with face-to-face and verbal communications can be brought to bear on the problem of making email an effective tool. One of the most important things we can do to make our email powerful is to apply the concept of a communication process to our messages.

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