

# buzz

## Prime Movers

### LEADING LIGHTS OF TECHNOLOGY

## Ray Tomlinson

### Inventor of e-mail

Certain pivotal moments have been immortalized in communications history, such as Alexander Graham Bell's rather perfunctory first telephone call to his assistant ("Mr. Watson, come here. I want you.") and Samuel Morse's dramatic exclamation in his first telegraph message ("What hath God wrought!"). Given the revolutionary effect that e-mail has had on the way people communicate the world over, one might expect the first e-mail message to have been similarly memorable. But Ray Tomlinson, the computer engineer who first discovered the means to send a message from one computer to another across a network, clearly had other things on his mind.



"I think I may have just dragged my fingers across the keyboard," muses Tomlinson, recalling the first message that

he sent back in late 1971. At the time, he was working for Cambridge, Mass.-based BBN Technologies, the company that developed ARPANET, the forerunner of the Internet.

### A symbol plan

Tomlinson came up with the @ symbol after 30 to 40 seconds of thought.

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Tomlinson was working on a program called SNDMSG (send message) that allowed users of the same computer to leave messages for one another—sort of a single-computer version of an e-mail system. At the same time he was testing a file transfer program (CYPNET) that would allow users to send files to remote computers linked to ARPANET. It occurred to Tomlinson that if he melded SNDMSG and CYPNET together it would be possible to send messages to other mailboxes on the network as easily as sending files. "It was straightforward," he recalls, "just a matter of two ideas that came close enough together."

One of the decisions that Tomlinson had to make as he experimented with e-mail was how to distinguish between messages that were headed out onto the network and those that were addressed to users in the same office. He studied the keyboard for a symbol that didn't occur naturally in people's names and that wasn't a digit. The designation for mailboxes on remote computers that he came up with was the now ubiquitous @ symbol. "It designates a place, and it's the only preposition on the keyboard," he points out. Though it turned out to be a decision with far-

reaching impact, at the time Tomlinson gave it only "30 to 40 seconds of thought."

These days Tomlinson is still working at BBN (which has since been acquired by GTE and then Verizon) on a software application that can perform logistics planning. Though he has had very little to do with e-mail (other than being a user) since the mid-1970s, Tomlinson remains proud of his creation. "The cases where it has opened up new avenues of communication between people has been gratifying," he acknowledges. "I have received a number of e-mails from individuals who have found it to be a godsend in getting in touch with people and building a sense of community."

—Daintry Duffy

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