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Who Made That Autocorrect?

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Innovation

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“How fast will new Word 6.0 fix typos? How fast can you make them?” asked an advertisement in a computer magazine from October 1993. The newest version of Microsoft’s word processor came with a brand-new feature called AutoCorrect. Type in “SHip teh cartons friday,” and the program would correct your text to “Ship the cartons Friday.”

The original AutoCorrect didn’t use a dictionary. Instead, it checked each typed-out word against a preprogrammed table of everyday mistakes and their proper substitutions: “teh” for “the,” “friday” for “Friday,” and so on. The makers of WordPerfect, Microsoft’s major rival at the time, soon introduced its own version, called QuickCorrect.

In the years that followed, real-time spell-checkers grew more sophisticated. By the late 1990s, Microsoft’s AutoCorrect could also scan a user’s text against a dictionary, then try to find the closest matches for any unknown strings of characters. If it found significant ambiguity — “bowle” could be a typo for “bowel” or maybe “bowl” or “bowler” — the program left the text alone. Otherwise, it went ahead and made a change. It still works that way today.

The idea of fixing text as it’s typed dates back to the 1960s, says Brad Myers, a professor of interface design at Carnegie Mellon University.

That's when a computer scientist named Warren Teitelman — who invented the “undo” command — came up with a philosophy of computing called D.W.I.M., or “Do What I Mean.” Rather than programming computers to accept only perfectly formatted instructions, Teitelman said we should program them to recognize obvious mistakes.

The advent of touch-tone telephones led to some related innovation. In the 1970s, engineers began to work out ways to enter text using standard keypads, or other “reduced keyboards.” These functioned a bit like spell-checkers: the program had to guess intended words from ambiguous input. By 1995, a group of researchers had adapted one such system for use on mobile phones. Their T9 software analyzed a user's input and offered up a list of suggested words, ordered by frequency of use. More recently, the same idea has been applied to virtual keyboards on touch-screen smartphones.

Auto-correct does create some problems of its own. It's not so bad if a standard spell-checker makes a poor suggestion, says Thierry Fontenelle, a linguist who managed Microsoft's natural-language processing team from 2001 until 2009. He recalls that when Barack Obama was first coming to national attention, Word proposed replacing his name with “Osama.” But a feature like AutoCorrect can raise the stakes: “Now I'm not even going to bother suggesting something, I'm going to replace it automatically. That's when things start becoming dangerous.”

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