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sorts among policymakers, educators, authors and printers.

If steam engines plus printing presses ignited a literacy revolution in the 19th century, what might be the combined effect of computers and telecommunications today? When the

teach foreign languages and fewer students study them. Shockingly large numbers of U.S. elected officials have never traveled out of the country. The erosion of foreign-language study is a melancholy sight: there is nothing like learning another language to help you

Literacy grew out of the collision of the steam engine and the printing press. What will the Net's linguistic impact be? We may be in for some real surprises.



Web first self-assembled like the world's biggest set of tinker toys, the eyeopener was that the words and images on your screen were coming not just from your own local disk, but from disks on computers sprinkled all over the planet. As more and more bits piled up, the personal computer became like a soup strainer to filter chunks of useful information from the great wash of bits. Search engines like Yahoo! and AltaVista were followed closely by pidgin translation systems, which are interesting even in their fledgling state—and which will need to improve dramatically after two billion people in China and India come roaring online.

know your own more deeply. Whether it is calculus or Cantonese, you think differently in other languages, and those differences matter.

This linguistic ignorance dismays me because I love words. In fact, I'm a word nerd. I get a kick out of tossing a few odd ones into my column, just to see if the pervicacious editors will weed them out. Back in the late 1980s, I created one of the first computer dictionaries (with entries from Merriam-Webster's Collegiate Dictionary) on a NeXT computer. At the time, it was exciting to have hot-and-cold running definitions at your fingertips. You could click on any word that aroused your curiosity and my "Digital Webster" program popped up the definition. Isn't that the essence of the educational itch? First, having the appetite to know more; and second, actually satisfying that appetite.

What nobody can predict, of course, is what new intelligences will spin out of this computer-driven, massively global engine of cause and effect. Or how these developments will influence the language we speak.

One engineer used the dictionary to build an unbeatable Scrabble-playing program. Someone else tried to automatically translate the news-wires into rap. I never got around to throwing Digital Webster at the *New York Times* crossword puzzle, but that kind of word play was what we hoped computer dictionaries would unleash. Sadly, it wasn't.

We may be in for some real surprises. Will this process cause sophisticated artificial intelligence to finally burst onto the scene? Will the lingua franca dumb down from English into a sort of Internet Esperanto? Will cultures colliding online spur interest in other languages?

Recently, it seems as if information technology has become a sleeping pill for this sort of creative and constructive language hacking. Today's computers no longer come with a first-class, built-in dictionary; that feels like a step back. There are, of course, dictionaries online. But although you

On the face of it, the prospects for another technology-induced upgrade in the popular use of language are not good. For one thing, computers have evolved into visual media. They are more deaf than they are blind: aural and linguistic interfaces lag far behind visual ones. What's worse, computers are coming out of an increasingly Anglocentric culture. Even at universities, fewer and fewer departments

can graze these canned Web dictionaries, you can't write programs to chew through them and do interesting things. The programmatic interfaces are closed. The pattern formed by networked PCs—the glut of Windows software, the lowest common denominator of Web servers—has become too much like the one-way information delivery of dumb cable television, and not as inviting even to word hackers like me. And writing teachers always bellyache about the insidious ways that word processors engender choppy, sloppy writing.

Maybe this is a lull. Maybe the current landscape of ugly displays, poor typography and flaky networks is too primitive compared to a beautifully printed magazine. But when the displays get really good, and when network connections are always available, like the air that we breathe—will we then see the emergence of a Napster of books to really shake things up? Can you imagine some hacker selling shoebox-sized pirate copies of the Library of Congress?

Perhaps we will wake up in a decade or two and the prevailing online language will be Cantonese. Perhaps it won't matter because computer and telephonic translation will have become so fantastically frictionless that worrying about Chinese copyright ripoffs will be superfluous. Ask to watch a spaghetti Western in Italian, and the system will not only translate the language on the fly, it will add the extra hand gestures, too. And maybe, if the biotech wizards get their way, we won't need all those clunky computers. I'm waiting for a linguistic Viagra pill that instantly makes you fluent in Italian, at least for an hour or two.

It's important to communicate. It's important to have a lingua franca. But it's also important to think differently. The most fertile, thriving cultures have a balance of order and chaos, with constant ferment. But today's computer media are flat and Anglocentric. Things are a bit too stuck, a bit too ordered. Both within the machines and across the network, we could enjoy a little more linguistic turmoil. ■