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COMPUTER TOMORROW, THE UNKNOWN Theodor Holm Nelson

People have been trying to predict the future since the Dawn of Person, with highly variable success. What will tomorrow bring? (Or vice versa, what will bring tomorrow?) It is the best of times, it is the worst of times, or perhaps in between or more so.

The center of everything is now the computer world, wild and ever-changing and increasingly unknowable.

More and more people are looking to computers to save the world, but the people who run them certainly don't know how. Nobody's in charge, not even Google, though everyone in the dot-com world pretends. But they're all too busy with IPOs and market share, trying to start fads or come up with idiotic names.

Nobody imagined the vastness of the Internet, not even the kids who built it, or we wouldn't be running out of addresses. We are in a world nobody designed or expected, driving full tilt toward-- a wall? a cliff? a new dawn? We must choose wisely, as if we could.

On the one hand, we are getting bread and circuses, vast freebies unimaginable scant years ago-- free email and phone calls and maps, acres of picture space. On the other hand, somebody or something is reading your mail, and that same somebody or something is looking for new ways to control your future.

Some things are more and more fabulous, some things are more threatening and oppressive, except we don't all agree on which is which. Are Facebook and Google marvelous ways of communicating, and/or a threat to our privacy? Yes!

In the face of this it is absolutely impossible to say what will happen, so let me try.

DECONSTRUCTING THE PUI

The customary computer interface will go away. That is, The standard face of computers-- the PARC User Interface, or PUI-- will fall apart. First created at Xerox for easy use by secretaries, the PUI became the Macintosh, Windows and then the face of the World Wide Web. Actually it is a figleaf hiding the structures beneath, in their hierarchical complexity.

In the old days-- through the seventies-- all computer users had to deal directly with internal hierarchy, typing notes to mechanisms that actually ran the computer. This all changed in the nineteen-eighties. The first PUI to reach the public was the Macintosh, built by Steve Jobs to look easy-- but taking away the right to program, and creating instead cattle-pens called "applications."

The last two decades have been largely an arms race between Apple's PUI (the Macintosh) and Microsoft's PUI (called Windows).

The PUI also gave shape to the World Wide Web. The World Wide Web was really defined when two university students, Eric Bina and Marc Andreessen, put a PARC User Interface around Tim Berners-Lee's page format (HTML). This frame, now called "the browser", made the web take off, giving a puppet-theater to programmers with many different obsessions.

Now major players are deconstructing the PUI. For instance, Facebook gives you something like a website with no need to build one. Instead of the Web's interface frame, Facebook pours out rivers of user-supplied content.

Just as significantly, Steve Jobs-- who originally brought the PUI to the public-- has thrown it away on the iPhone and iPad. There's no more visible hierarchy, and the right to program has come back. Now everyone can create their own cattle-pens!

MORE OF THE SAME

The safest prediction anywhere is usually "more of the same". For tomorrow's computer world, I safely predict more of the same, but much more so-- louder and more intrusive, with more interruptions, more security threats, more monopolies with more cattle-pens for users, and of course lousier interfaces.

The World Wide Web will get even more chaotic, with new forms of annoyance, temptation and danger. Meanwhile, as the HTML internals worsen, each of the competing browsers will continue to be wrong in its own way.

Google will make bigger and bigger mistakes, since each of its hundreds of projects is run by some callow young programmer. (Except that engulfing all the world's books, an agenda too important for Google to delegate to programmers, they have delegated to lawyers instead.)

There will be more and more software settings nobody can get right, and the phone support people in Hyderabad who talk you through the menus will be taught new slang to make your hours with them seem more comfortable.

WILDER SPECULATIONS

There will be a secret porn channel of Homeland Security body scans.

Facebook will tie up with the Library of Congress to bring real-time history streams to the user. Be a friend of Benjamin Franklin! But it will somehow lack suspense.

A new copyright law will forbid the typing of any sentence that is not in the public domain. The National Security Agency will be told to enforce this, but without additional funding.

Other new laws will forbid posting anything on the net that is of possible use to terrorists, including music, history and recipes. Some will think the paper publishing industry is behind this.

UNIFIED DOCUMENTS, VISIBLE CONNECTIONS

But seriously, the one bright hope I see is the generalization of documents. Since 1974, computer documents have imitated paper, with no inkling of the powers interactive documents might provide-- in particular, allowing documents to be connected side by side.

So far there's been no way to connect documents in detail. We may expect this at last to be fixed, allowing different document formats to be visibly linked, with visible connections among side-by-side documents. Stripes and arrows across the screen-- among words, sentences and paragraphs-- will at last help us clarify the structure

of thought.

That's my glass darkly. Is the glass half empty, half full, or perhaps even BOTH? Only time will tell.

=== === Ted Nelson is a well-known dissenter in the computer field. He discovered hypertext and invented the Back Button.

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