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From the Desk of

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Are Gadgets Already Too Small?

In general, few people are less interested in predicting the future of technology than I am. The high-tech business is inherently unpredictable — almost random. Just as nobody in 1980 could have seen Microsoft or the Internet coming, so nobody can imagine whatever huge development is being hatched in a garage somewhere at this very moment. Whatever any pundit tells you about technology even five years from now should be taken with a grain of salt the size of Canada. In fact, the whole exercise should be considered slightly less scientific than the horoscope column at the back of a teen fashion magazine.

So when I was recently asked to deliver a talk on this very topic, I made it clear that my talk would have to be stamped, "For entertainment purposes only."

I figured that maybe I could at least make the talk entertaining — by extrapolating current tech trends 10 or 20 years into the future. You know: In 1985, the standard allotment of RAM in a computer was 128 kilobytes; by 2000, it was 128 megabytes; at that rate, by 2015, it ought to be 128 gigabytes.

But a funny thing happened when I tried to apply the same logic to hardware: I realized that in several respects, no further extrapolation is possible. Because of the limitations of the human body, designers are already up against the wall.

Palmtops, for example, can't get much smaller without having smaller screens. These screens have been getting smaller with each generation (remember the Newton?), but further extrapolation is just silly. How big would screens be by 2010 — one inch diagonal? Forget it. If you can't actually read anything, the whole device is worthless.

I think we've reached a similar limit in keyboard shrinkage. Those minuscule thumb-operated keyboards on Blackberry pagers, Handspring Treos and similar gadgets are already too slow to tap out more than a few words in the back of a cab. If they got any smaller, you wouldn't be able to type an S without also typing an A and a D.

So you see, we've already reached the lower limit of screen and keyboard sizes. If you want to fantasize about organizers we wear on our wrists or implant into our elbows, you'd better first fantasize about new ways of getting information into and out of them.

Laptops are another example. In the coming years, they'll certainly get thinner — about an inch thick is the current limit for laptops that include a CD/DVD drive. But will they actually get narrower and shallower? At this point, the limiting factor is once again the screen. Already you can buy little half-screen jobbers from Toshiba or Sony, micro-laptops the size of a romance novel. But most people opt instead for bigger machines with decent-sized screens. Portability is one thing, but if you feel like you're peeking at your documents through a keyhole, you'll have a hard time getting any work done.

When it comes to desktop computers, there's no particular urgency to making them small: after all, they already fit on a desk. Indeed, the PC industry currently seems to feel no urgency whatsoever to making changes of any kind, or maybe it simply doesn't know what to work on. All right, Apple thinks it knows what aspects of computers could stand improvement (eliminate fan noise, eliminate cord clutter, eliminate ugliness). Otherwise, though, it's impossible to extrapolate current PC design trends because there are none.

Clearly, the design breakthroughs of the future will rely on technologies still in their infancy — or still in utero. Maybe we'll get around the keyboard problem by perfecting speech recognition. Maybe we'll solve the screen limitation by perfecting virtual-reality glasses.

Who knows? Does it matter? Predicting the evolution of high technology can't hold a candle to the fun of actually experiencing it.

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