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Introduction

The scientist Norbert Wiener used to say that “a society is defined by its technique.”

It’s a weird aphorism, at first blush. But when Wiener said “technique,” he was riffing off the Greek root *tekhnē*—which means “skill” and which is also the root of the word *technology*.

What Wiener meant is really pretty simple: New technologies endow us with new skills, and those skills define how a society operates. Back in 3300 BC, tinkers figured out how to smelt bronze, and suddenly they could produce metals with then-unheard-of-strength—metals which in turn produced drastically deadlier weapons and radically more efficient farming tools. A few thousand years later, the telegraph wire allowed people to send a message from Europe to the United States instantaneously, and suddenly the pace of business and news sped up to a degree that seemed almost insane. (Previously, a message took *two weeks* to cross the ocean on a steamer.) Twenty years ago, computer scientists figured out a technique for compressing a pop song into an e-mailable three-meg file, and, *boom*: they reshaped the entire recording industry, dooming the slow-to-react labels and empowering amateurs to reach the globe from their bedrooms. They probably didn’t intend these things to hap-

pen, but they did. Every new technology changes society. Usually the changes are small and meaningless. And then, every once in a while, they're huge, weird, and totally unexpected.

What I love about good technology writing is that it captures these changes. Often it's not really about technology at all, but about people. *What happens to us when we're given strange new powers?*

That question is at the heart of every article in this anthology. Sure, the writers collected here are all technically savvy; they're superb at describing, in suitably nongeeky lay terms, how the gizmo works. But they're even better at teasing out the odd—and sometimes scary—transformations new technology wreaks upon the world.

Sometimes the changes are merely delightful, as when inventor Dave Arnold rejiggers well-known foods to produce a new-age corn dog and a superdistilled, “breathable” gin and tonic (a nifty feat of modern alchemy described by Ted Allen in “Doctor Delicious”). Or sometimes the changes are politically subversive, as when Robin Mejjia describes how a young human-rights activist uses satellite images to document genocide, peering from the sky in order to bypass the control of local dictators. More often the social transformations are subtle and unheralded. A lot of everyday technologies creep into our lives, very slowly, and it takes a superb writer to stand back and point out what's happened without our noticing. I'm thinking here of “Say Everything,” Emily Nussbaum's description of how young people, growing up in an age of omnipresent Facebooking, blogging, and Flickr-picture-posting, have embraced a radically looser sense of personal privacy than their parents—a shift that Nussbaum credits with having created the biggest cultural generation gap since rock and roll. (Speaking of personal privacy, I should disclose that Nussbaum is my

wife, though her story is so good I decided to risk the charge of marital logrolling by including it.)

Technology writing is a sneakily broad format—a kind of catchall. Because technological change influences every aspect of our lives, tech writers get to cover everything—architecture, design, health care, law, sports—so long as there’s a good gearhead angle. Charles Graeber’s story about the frantic attempt of Cannonball Run freaks to drive across the United States in barely 32 hours is filled with hilarious, outrageous, cop-radar-defeating detail. And yet, it also works, on another level, as a rollicking sports story about crazy daredevils. John Seabrook’s superb article “Fragmentary Knowledge” is a straightforward piece about archeology, which describes how rival teams of archeologists tried to figure out what the Antikythera Mechanism—a mysterious artifact from the first century BC—actually is. But since the story involves the use of a newfangled eight-ton X-ray machine, and since the Mechanism *might* be the world’s first computer, it’s also a technology story with a gorgeously meta twist: cutting-edge tools being deployed to investigate the origins of cutting-edge tools. And then again, “Fragmentary Knowledge” is also a tale of people striving for knowledge and bragging rights to a great discovery—and *that* human drama is as old as the hills. Technology changes how we do things and what we do, but it doesn’t change human nature: It just amplifies it.

There is a ton of science—really marvelous science—in these pages. Because technology and science have such a symbiotic relationship, technology writing has always been a sort of stealth form of science journalism. It’s often “practical” people—inventors, farmers, doctors—who stumble upon a new scientific principle while trying to create some gee-whiz new device. And so it goes in these pages too. Over

and over again, we start off reading about a new gizmo and wind up hip deep in some fascinating and breakthrough science. In “The Brain on the Stand,” Jeffrey Rosen describes lawyers who are trying to exculpate their clients by using “brain-scanning” machines to show that these accused murderers’ brains do not possess crucial details of a crime scene. Of course, this technique plunges us into some gripping and freaky questions about the mind: *What do memories actually mean? How does the brain record them?* Not to mention some even more unsettling questions about the future of human rights: *Can a judge compel you to have your brain scanned, against your will—or would that violate your Fifth Amendment protection against self-incrimination? Can your brain testify against you?* No one yet knows the answers to these questions, which is precisely why I’m glad we have so many good technology writers around to ask them.

Indeed, you could say that we’re living in a golden age of technology journalism. Ten or 15 years ago, tech writing was confined to small media ghettos. There were a bunch of terrific fan magazines, like *Byte* magazine and its now countless progeny, but nobody other than nerds like me read them. When mainstream newspapers and magazines covered technology, it was mostly gadget reviews—little 600-word, *Consumer Report*-esque assessments of the latest gewgaw, with a one- to five-star rating. At best, you could find some tolerably okay writing in the business pages, where eyeshade-sporting investors flocked looking for some new breakthrough. But, otherwise, mainstream media devoted precious little attention to technology. The front page was reserved for news with more traditional “importance,” like, say, partisan politics.

Today, however, things are radically different. The top newspapers and magazines are stumbling all over themselves to cover technology—putting it not just on the front

but in the culture and Op-Ed pages too. Why? You can mostly thank the internet boom, which made the cultural and political impact of technology completely unignorable. Everything's been hit. Ebay and Amazon and a zillion tiny mom-and-pop shops have gamed the economy into something uncannily different from what it was before. The cab drivers who ferry me around Manhattan spend their entire shift chitchatting with their families in India and Pakistan via dirt-cheap voice-over-IP phone calls that are almost too inexpensive to meter. And even electoral politics are bending under the gale force wind of the net, with YouTube gaffe clips destroying candidates and online fund-raising vaporizing the influence of the wealthy Republican and Democratic donors who once drove their parties like personal go-karts. No wonder the nation's editors are in a lather to cover this stuff, and cover it well.

One thing you'll notice about this anthology is that I've disproportionately populated it with stories from a few big, glossy magazines like *Wired*, *Popular Science*, the *New Yorker*, and the *New York Times Magazine*. Obviously, technology writing takes place everywhere now. But I'll admit I have a bias: I am a devoted fan of long-form journalism—stories with a documentarian's view, stories that give us scenes and characters and rummage deeply in the implications of a given technology. This sort of work needs time and space, and only a small number of magazines still have the resources to provide them.

I'd originally hoped to include some writing from blogs. As it happens, I spend a large part of my day reading Web sites that regularly produce superb, nuanced takes on the social implications of technology. But when I tried to pick some excerpts, I realized that online writing often takes place as a dialogue: Author A writes a short post that writer B comments on, prompting A to write her own reply, while

bloggers C through L are weighing in too. And, in the middle of it all, *presto*: Blogger D will pen a stunningly brilliant, well-reasoned point in gorgeous prose—something that I’d love to put in an anthology such as this one. But what I discovered is that, if you try to excerpt D’s writing, it simply won’t make sense because it’s entwined so talmudically with everyone else’s. This is itself, of course, an example of cultural change driven by technology: Before the net, it wasn’t possible for people worldwide to peer at each other’s thoughts and then fire back a rapid retort.

Maybe 10 years from now this book will be a sort of hybrid: a digital artifact you hold in your hands that includes not just the sort of lengthy, stand-alone think pieces I’m offering you now but also a curated collection of the salonlike conversations going on online. And maybe it’ll update itself in real time: You’ll open it to discover that the book has grown another chapter or that one of the authors has added some new thoughts or that someone halfway around the world has inserted a really astute commentary. What exactly would you call such a thing? Will it still be regarded as a book? And will it be a sign of cultural decline? Do we need the permanence, the unrevisability, of paper to freeze ideas in place so we can deeply imbibe them? Or will this new genre of device spur some subtly new way of reading, the kind of newfangled practice that will cause future parents to complain that they don’t understand their kids’ books anymore?

Sounds like a good technology story. Maybe someday we’ll be writing it.