

How the Internet gets inside us.

By Adam Gopnik

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When the first Harry Potter book appeared, in 1997, it was just a year before the universal search engine Google was launched. And so Hermione Granger, that charming grind, still goes to the Hogwarts library and spends hours and hours working her way through the stacks, finding out what a basilisk is or how to make a love potion. The idea that a wizard in training might have, instead, a magic pad where she could inscribe a name and in half a second have an avalanche of news stories, scholarly articles, books, and images (including images she shouldn't be looking at) was a Quidditch broom too far. Now, having been stuck with the library shtick, she has to go on working the stacks in the Harry Potter movies, while the kids who have since come of age nudge their parents. "Why is she doing that?" they whisper. "Why doesn't she just Google it?"

That the reality of machines can outpace the imagination of magic, and in so short a time, does tend to lend weight to the claim that the technological shifts in communication we're living with are unprecedented. It isn't just that we've lived one technological revolution among many; it's that our technological revolution is the big social revolution that we live with. The past twenty years have seen a revolution less in morals, which have remained mostly static, than in means: you could already say "fuck" on HBO back in the eighties; the change has been our ability to tweet or IM or text it. The set subject of our novelists is information; the set obsession of our dons is what it does to our intelligence.

The scale of the transformation is such that an ever-expanding literature has emerged to censure or celebrate it. A series of books explaining why books no longer matter is a paradox that Chesterton would have found implausible, yet there they are, and they come in the typical flavors: the eulogistic, the alarmed, the sober, and the gleeful. When the electric toaster was invented, there were, no doubt, books that said that the toaster would open up horizons for breakfast undreamed of in the days of burning bread over an open flame; books that told you that the toaster would bring an end to the days of creative breakfast, since our children, growing up with uniformly sliced bread, made to fit a single opening, would never know what a loaf of their own was like; and books that told you that sometimes the toaster would make breakfast better and sometimes it would make breakfast worse, and that the cost for finding this out would be the price of the book you'd just bought.

All three kinds appear among the new books about the Internet: call them the Never-Betters, the Better-Nevers, and the Ever-Wasers. The Never-Betters believe that we're on the brink of a new utopia, where information will be free and democratic, news will be made from the bottom up, love will reign, and cookies will bake themselves. The Better-Nevers think that we would have been better off if the whole thing had never happened, that the world that is coming to an end is superior to the one that is taking its place, and that, at a minimum, books and magazines create private space for minds in ways that twenty-second bursts of information don't. The Ever-Wasers insist that at any moment in modernity something like this is going on, and that a new way of organizing data and connecting users is always thrilling to some and chilling to others—that something like this is going on is exactly what makes it a modern moment. One's hopes rest with the Never-Betters; one's head with the Ever-Wasers; and one's heart? Well, twenty or so books in, one's heart tends to move toward the Better-Nevers, and then bounce back toward someplace that looks more like home.

Among the Never-Betters, the N.Y.U. professor Clay Shirky—the author of “Cognitive Surplus” and many articles and blog posts proclaiming the coming of the digital millennium—is the breeziest and seemingly most self-confident. “Seemingly,” because there is an element of overdone provocation in his stuff (So people aren’t reading Tolstoy? Well, Tolstoy *sucks*) that suggests something a little nervous going on underneath. Shirky believes that we are on the crest of an ever-surging wave of democratized information: the Gutenberg printing press produced the Reformation, which produced the Scientific Revolution, which produced the Enlightenment, which produced the Internet, each move more liberating than the one before. Though it may take a little time, the new connective technology, by joining people together in new communities and in new ways, is bound to make for more freedom. It’s the *Wired* version of Whig history: ever better, onward and upward, progress unstopped. In John Brockman’s anthology “Is the Internet Changing the Way You Think?,” the evolutionary psychologist John Tooby shares the excitement—“We see all around us transformations in the making that will rival or exceed the printing revolution”—and makes the same extended parallel to Gutenberg: “Printing ignited the previously wasted intellectual potential of huge segments of the population. . . . Freedom of thought and speech—where they exist—were unforeseen offspring of the printing press.”

Shirky’s and Tooby’s version of Never-Betterism has its excitements, but the history it uses seems to have been taken from the back of a cereal box. The idea, for instance, that the printing press rapidly gave birth to a new order of information, democratic and bottom-up, is a cruel cartoon of the truth. If the printing press *did* propel the Reformation, one of the biggest ideas it propelled was Luther’s newly invented absolutist anti-Semitism. And what followed the Reformation wasn’t the Enlightenment, a new era of openness and freely disseminated knowledge. What followed the Reformation was, actually, the Counter-Reformation, which used the same means—i.e., printed books—to spread ideas about what jerks the reformers were, and unleashed a hundred years of religious warfare. In the seventeen-fifties, more than two centuries later, Voltaire was still writing in a book about the horrors of those other books that urged burning men alive in auto-da-fé. Buried in Tooby’s little parenthetical—“where they exist”—are millions of human bodies. If ideas of democracy and freedom emerged at the end of the printing-press era, it wasn’t by some technological logic but because of parallel inventions, like the ideas of limited government and religious tolerance, very hard won from history.

Of course, if you stretch out the time scale enough, and are sufficiently casual about causes, you can give the printing press credit for anything you like. But all the media of modern consciousness—from the printing press to radio and the movies—were used just as readily by authoritarian reactionaries, and then by modern totalitarians, to reduce liberty and enforce conformity as they ever were by libertarians to expand it. As Andrew Pettegree shows in his fine new study, “The Book in the Renaissance,” the mainstay of the printing revolution in seventeenth-century Europe was not dissident pamphlets but royal edicts, printed by the thousand: almost all the new media of that day were working, in essence, for kinglouis.gov.

Even later, full-fledged totalitarian societies didn’t burn books. They burned *some* books, while keeping the printing presses running off such quantities that by the mid-fifties Stalin was said to have more books in print than Agatha Christie. (Recall that in “1984” Winston’s girlfriend works for the Big Brother publishing house.) If you’re going to give the printed book, or any other machine-made thing, credit for all the good things that have happened, you have to hold it accountable for the bad stuff, too. The Internet *may* make for more freedom a hundred years from now, but there’s no historical law that says it has to.

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Many of the more knowing Never-Betters turn for cheer not to messy history and mixed-up politics but to psychology—to the actual expansion of our minds. The argument, advanced in Andy Clark’s “Supersizing the Mind” and in Robert K. Logan’s “The Sixth Language,” begins with the claim that cognition is not a little processing program that takes place inside your head, Robby the Robot

style. It is a constant flow of information, memory, plans, and physical movements, in which as much thinking goes on out there as in here. If television produced the global village, the Internet produces the global psyche: everyone keyed in like a neuron, so that to the eyes of a watching Martian we are really part of a single planetary brain. Contraptions don't change consciousness; contraptions are part of consciousness. We may not act better than we used to, but we sure think differently than we did.

Cognitive entanglement, after all, is the rule of life. My memories and my wife's intermingle. When I can't recall a name or a date, I don't look it up; I just ask her. Our machines, in this way, become our substitute spouses and plug-in companions. Jerry Seinfeld said that the public library was everyone's pathetic friend, giving up its books at a casual request and asking you only to please return them in a month or so. Google is really the world's Thurber wife: smiling patiently and smugly as she explains what the difference is between eulogy and elegy and what the best route is to that little diner outside Hackensack. The new age is one in which we have a know-it-all spouse at our fingertips.

But, if cognitive entanglement exists, so does cognitive exasperation. Husbands and wives deny each other's memories as much as they depend on them. That's fine until it really counts (say, in divorce court). In a practical, immediate way, one sees the limits of the so-called "extended mind" clearly in the mob-made Wikipedia, the perfect product of that new vast, supersized cognition: when there's easy agreement, it's fine, and when there's widespread disagreement on values or facts, as with, say, the origins of capitalism, it's fine, too; you get both sides. The trouble comes when one side is right and the other side is wrong and doesn't know it. The Shakespeare authorship page and the Shroud of Turin page are scenes of constant conflict and are packed with unreliable information. Creationists crowd cyberspace every bit as effectively as evolutionists, and extend their minds just as fully. Our trouble is not the over-all absence of smartness but the intractable power of pure stupidity, and no machine, or mind, seems extended enough to cure that.

The books by the Better-Nevers are more moving than those by the Never-Betters for the same reason that Thomas Gray was at his best in that graveyard: loss is always the great poetic subject. Nicholas Carr, in "The Shallows," William Powers, in "Hamlet's BlackBerry," and Sherry Turkle, in "Alone Together," all bear intimate witness to a sense that the newfound land, the ever-present BlackBerry-and-instant-message world, is one whose price, paid in frayed nerves and lost reading hours and broken attention, is hardly worth the gains it gives us. "The medium does matter," Carr has written. "As a technology, a book focuses our attention, isolates us from the myriad distractions that fill our everyday lives. A networked computer does precisely the opposite. It is designed to scatter our attention. . . . Knowing that the depth of our thought is tied directly to the intensity of our attentiveness, it's hard not to conclude that as we adapt to the intellectual environment of the Net our thinking becomes shallower."

These three Better-Nevers have slightly different stories to tell. Carr is most concerned about the way the Internet breaks down our capacity for reflective thought. His testimony about how this happened in his own life is plangent and familiar, but he addles it a bit by insisting that the real damage is being done at the neurological level, that our children are having their brains altered by too much instant messaging and the like. This sounds impressive but turns out to be redundant. Of course the changes are in their brains; where else would they be? It's the equivalent of saying that playing football doesn't just affect a kid's fitness; it changes the muscle tone that creates his ability to throw and catch footballs.

Powers's reflections are more family-centered and practical. He recounts, very touchingly, stories of family life broken up by the eternal consultation of smartphones and computer monitors:

Somebody excuses themselves for a bathroom visit or a glass of water and doesn't return. Five minutes later, another of us exits on a similarly mundane excuse along the lines of "I have to check something." . . . Where have all the humans gone? To their screens of course. Where they always go these days. The digital crowd has a way of elbowing its way into everything, to the point where a family can't sit in a room together for half an hour without somebody, or everybody, peeling off. . . . As I watched the Vanishing Family Trick unfold, and played my own part in it, I sometimes felt as if love itself, or the acts of heart and mind that constitute love, were being leached out of the house by our screens.

He then surveys seven Wise Men—Plato, Thoreau, Seneca, the usual gang—who have something to tell us about solitude and the virtues of inner space, all of it sound enough, though he tends to overlook the significant point that these worthies were not entirely in favor of the kinds of liberties that we now take for granted and that made the new dispensation possible. (He knows that Seneca instructed the Emperor Nero, but sticks in a footnote to insist that the bad, fiddling-while-Rome-burned Nero asserted himself only after he fired the philosopher and started to act like an Internet addict.)

Similarly, Nicholas Carr cites Martin Heidegger for having seen, in the mid-fifties, that new technologies would break the meditational space on which Western wisdoms depend. Since Heidegger had not long before walked straight out of his own meditational space into the arms of the Nazis, it's hard to have much nostalgia for this version of the past. One feels the same doubts when Sherry Turkle, in "Alone Together," her touching plaint about the destruction of the old intimacy-reading culture by the new remote-connection-Internet culture, cites studies that show a dramatic decline in empathy among college students, who apparently are "far less likely to say that it is valuable to put oneself in the place of others or to try and understand their feelings." What is to be done? Other Better-Nevers point to research that's supposed to show that people who read novels develop exceptional empathy. But if reading a lot of novels gave you exceptional empathy university English departments should be filled with the most compassionate and generous-minded of souls, and, so far, they are not.

VIDEO FROM THE NEW YORKER

One of the things that John Brockman's collection on the Internet and the mind illustrates is that when people struggle to describe the state that the Internet puts them in they arrive at a remarkably familiar picture of disassociation and fragmentation. Life was once whole, continuous, stable; now it is fragmented, multi-part, shimmering around us, unstable and impossible to fix. The world becomes Keats's "waking dream," as the writer Kevin Kelly puts it.

The odd thing is that this complaint, though deeply felt by our contemporary Better-Nevers, is identical to Baudelaire's perception about modern Paris in 1855, or Walter Benjamin's about Berlin in 1930, or Marshall McLuhan's in the face of three-channel television (and Canadian television, at that) in 1965. When department stores had Christmas windows with clockwork puppets, the world was going to pieces; when the city streets were filled with horse-drawn carriages running by bright-colored posters, you could no longer tell the real from the simulated; when people were listening to shellac 78s and looking at color newspaper supplements, the world had become a kaleidoscope of disassociated imagery; and when the broadcast air was filled with droning black-and-white images of men in suits reading news, all of life had become indistinguishable from your fantasies of it. It was Marx, not Steve Jobs, who said that the character of modern life is that everything falls apart.

We must, at some level, *need* this to be true, since we think it's true about so many different kinds of things. We experience this sense of fracture so deeply that we ascribe it to machines that, viewed with retrospective detachment, don't seem remotely capable of producing it. If all you have is a hammer, the saying goes, everything looks like a nail; and, if you think the world is broken, every machine looks like the hammer that broke it.

It is an intuition of this kind that moves the final school, the Ever-Wasers, when they consider the new digital age. A sense of vertiginous overload is the central experience of modernity, they say; at every moment, machines make new circuits for connection and circulation, as obvious-seeming as the postage stamps that let nineteenth-century scientists collaborate by mail, or as newfangled as the Wi-Fi connection that lets a sixteen-year-old in New York consult a tutor in Bangalore. Our new confusion is just the same old confusion.

Among Ever-Wasers, the Harvard historian Ann Blair may be the most ambitious. In her book "Too Much to Know: Managing Scholarly Information Before the Modern Age," she makes the case that what we're going through is like what others went through a very long while ago. Against the cartoon history of Shirky or Tooby, Blair argues that the sense of "information overload" was not the consequence of Gutenberg but already in place before printing began. She wants us to resist "trying to reduce the complex causal nexus behind the transition from Renaissance to Enlightenment to the impact of a technology or any particular set of ideas." Anyway, the crucial revolution was not of print but of paper: "During the later Middle Ages a staggering growth in the production of manuscripts, facilitated by the use of paper, accompanied a great expansion of readers outside the monastic and scholastic contexts." For that matter, our minds were altered less by books than by index slips. Activities that seem quite twenty-first century, she shows, began when people cut and pasted from one manuscript to another; made aggregated news in compendiums; passed around précis. "Early modern finding devices" were forced into existence: lists of authorities, lists of headings.

Everyone complained about what the new information technologies were doing to our minds. Everyone said that the flood of books produced a restless, fractured attention. Everyone complained that pamphlets and poems were breaking kids' ability to concentrate, that big good handmade books were ignored, swept aside by printed works that, as Erasmus said, "are foolish, ignorant, malignant, libelous, mad." The reader consulting a card catalogue in a library was living a revolution as momentous, and as disorienting, as our own. The book index was the search engine of its era, and needed to be explained at length to puzzled researchers—as, for that matter, did the Hermione-like idea of "looking things up." That uniquely evil and necessary thing the comprehensive review of many different books on a related subject, with the necessary oversimplification of their ideas that it demanded, was already around in 1500, and already being accused of missing all the points. In the period when many of the big, classic books that we no longer have time to read were being written, the general complaint was that there wasn't enough time to read big, classic books.

Blair's and Pettegree's work on the relation between minds and machines, and the combination of delight and despair we find in their collisions, leads you to a broader thought: at any given moment, our most complicated machine will be taken as a model of human intelligence, and whatever media kids favor will be identified as the cause of our stupidity. When there were automatic looms, the mind was like an automatic loom; and, since young people in the loom period liked novels, it was the cheap novel that was degrading our minds. When there were telephone exchanges, the mind was like a telephone exchange, and, in the same period, since the nickelodeon reigned, moving pictures were making us dumb. When mainframe computers arrived and television was what kids liked, the mind was like a mainframe and television was the engine of our idiocy. Some machine is always showing us Mind; some entertainment derived from the machine is always showing us Non-Mind.

Armed with such parallels, the Ever Wasers smile condescendingly at the Better-Nevers and say, “Of course, some new machine is always ruining everything. We’ve all been here before.” But the Better-Nevers can say, in return, “What if the Internet is actually doing it?” The hypochondriac frets about this bump or that suspicious freckle and we laugh—but sooner or later one small bump, one jagged-edge freckle, will be the thing for certain. Worlds really do decline. “Oh, they always say that about the barbarians, but every generation has its barbarians, and every generation assimilates them,” one Roman reassured another when the Vandals were at the gates, and next thing you knew there wasn’t a hot bath or a good book for another thousand years.

And, if it was ever thus, how did it ever get to be thus in the first place? The digital world is new, and the real gains and losses of the Internet era are to be found not in altered neurons or empathy tests but in the small changes in mood, life, manners, feelings it creates—in the texture of the age. There is, for instance, a simple, spooky sense in which the Internet is just a loud and unlimited library in which we now live—as if one went to sleep every night in the college stacks, surrounded by pamphlets and polemics and possibilities. There is the sociology section, the science section, old sheet music and menus, and you can go to the periodicals room anytime and read old issues of the *New Statesman*. (And you can whisper loudly to a friend in the next carrel to get the hockey scores.) To see that that is so is at least to drain some of the melodrama from the subject. It is odd and new to be living in the library; but there isn’t anything odd and new about the library.

Yet surely having something wrapped right around your mind is different from having your mind wrapped tightly around something. What we live in is not the age of the extended mind but the age of the inverted self. The things that have usually lived in the darker recesses or mad corners of our mind—sexual obsessions and conspiracy theories, paranoid fixations and fetishes—are now out there: you click once and you can read about the Kennedy autopsy or the Nazi salute or hog-tied Swedish flight attendants. But things that were once external and subject to the social rules of caution and embarrassment—above all, our interactions with other people—are now easily internalized, made to feel like mere workings of the id left on its own. (I’ve felt this myself, writing anonymously on hockey forums: it is easy to say vile things about Gary Bettman, the commissioner of the N.H.L., with a feeling of glee rather than with a sober sense that what you’re saying should be tempered by a little truth and reflection.) Thus the limitless malice of Internet commenting: it’s not newly unleashed anger but what we all think in the first order, and have always in the past socially restrained if only thanks to the look on the listener’s face—the monstrous music that runs through our minds is now played out loud.

A social network is crucially different from a social circle, since the function of a social circle is to curb our appetites and of a network to extend them. Everything once inside is outside, a click away; much that used to be outside is inside, experienced in solitude. And so the peacefulness, the serenity that we feel away from the Internet, and which all the Better-Nevers rightly testify to, has less to do with being no longer harried by others than with being less oppressed by the force of your own inner life. Shut off your computer, and your self stops raging quite as much or quite as loud.

It is the wraparound presence, not the specific evils, of the machine that oppresses us. Simply reducing the machine’s presence will go a long way toward alleviating the disorder. Which points, in turn, to a dog-not-barking-in-the-nighttime detail that may be significant. In the Better-Never books, television isn’t scanted or ignored; it’s celebrated. When William Powers, in “Hamlet’s BlackBerry,” describes the deal his family makes to have an Unplugged Sunday, he tells us that the No Screens agreement doesn’t include television: “For us, television had always been a mostly communal experience, a way of coming together rather than pulling apart.” (“Can you please turn off your damn computer and come watch television with the rest of the family,” the dad now cries to the teenager.)

Yet everything that is said about the Internet's destruction of "interiority" was said for decades about television, and just as loudly. Jerry Mander's "Four Arguments for the Elimination of Television," in the nineteen-seventies, turned on television's addictive nature and its destruction of viewers' inner lives; a little later, George Trow proposed that television produced the absence of context, the disintegration of the frame—the very things, in short, that the Internet is doing now. And Bill McKibben ended his book on television by comparing watching TV to watching ducks on a pond (advantage: ducks), in the same spirit in which Nicholas Carr leaves his computer screen to read "Walden."

Now television is the harmless little fireplace over in the corner, where the family gathers to watch "Entourage." TV isn't just docile; it's positively benevolent. This makes you think that what made television so evil back when it was evil was not its essence but its omnipresence. Once it is not everything, it can be merely something. The real demon in the machine is the tirelessness of the user. A meatless Monday has advantages over enforced vegetarianism, because it helps release the pressure on the food system without making undue demands on the eaters. In the same way, an unplugged Sunday is a better idea than turning off the Internet completely, since it demonstrates that we can get along just fine without the screens, if only for a day.

Hermione, stuck in the nineties, never did get her iPad, and will have to manage in the stacks. But perhaps the instrument of the new connected age was already in place in fantasy. For the Internet screen has always been like the palantír in Tolkien's "Lord of the Rings"—the "seeing stone" that lets the wizards see the entire world. Its gift is great; the wizard can see it all. Its risk is real: evil things will register more vividly than the great mass of dull good. The peril isn't that users lose their knowledge of the world. It's that they can lose all sense of proportion. You can come to think that the armies of Mordor are not just vast and scary, which they are, but limitless and undefeatable, which they aren't.

Thoughts are bigger than the things that deliver them. Our contraptions may shape our consciousness, but it is our consciousness that makes our credos, and we mostly live by those. Toast, as every breakfaster knows, isn't really about the quality of the bread or how it's sliced or even the toaster. For man cannot live by toast alone. It's all about the butter. ♦

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What Facebook Is Doing to Your Brain Is Kind of Shocking.

Kat Ascharya in Modern Health

I'm confined at home, sick and hopped-up on painkillers and Benadryl. Besides a conversation with the pharmacist about the side effects of the medications, I haven't spoke to anyone in days. Not that I can hold a conversation anyways.

Everything is fine, but then, I begin to feel odd — not from the injuries, but from the isolation. I send out texts to family and loved ones. A few of them respond, mostly in a functional or perfunctory manner. Everyone, it seems, is busy, but I'm satisfied — at least they know I am alive and not rotting in the bedroom as my cat eats my face.

But then, the restlessness comes back. I jump on Facebook, which I almost never do, and leave friendly, positive comments on posts of babies and party pictures. I wait for replies, but don't get any right away — a few likes, but nothing substantial.

Next, I go on Facebook chat, but I click off quickly — I forgot I still had a few exes as friends, and the last thing I want is a real-time conversation with them. So, I hop on Gchat, but it's a ghost town. Who Gchats anymore, anyway? So off to Twitter — but that's just a stream of links and marketing, not the fun faux-cocktail party it used to be.

I'm dissatisfied. I'm irritated. No one is around to talk to me, and I feel... lonely.

I have plenty of friends on Facebook and Twitter and close relationships with family and loved ones, but the barrage of chats, likes and tweets don't do much to assuage that piercing, sharp sadness of loneliness. In fact, it makes me feel just a bit more forlorn.

What's the use of technology if I reach out and no one is there? Despite a growth of technology that promises to connect us, the knife of loneliness from modern life continues to sharpen.

According to Merriam-Webster, loneliness is defined as “being sad from being apart from people” or “being without company.” The very definition is simple, but the condition is more complex than sitting in a room by yourself.

Psychologists differentiate between loneliness and solitude. In solitude, you lack contact with other people. That isn't necessarily loneliness: driving alone while singing to music on the radio is an experience of solitude, for example. Artists, musicians and other creative types often find it necessary for their work and seek it out.

It can also be a welcome refuge, or even spiritual practice, giving you the time and quiet for contemplation.

Loneliness, though, is the discrepancy between your desired level of social contact with what you actually achieve, according to authors Letitia Peplau and Daniel Perlman in their seminal work, “Loneliness: A Sourcebook on Current Research, Research and Therapy.” It's that contradiction between how we want to feel versus what we actually experience that opens up the chasms of emptiness within us.

As a result, you can experience loneliness even when you're surrounded by friends and colleagues all day and go home to a spouse, partner or children at night.

If we can experience loneliness even in the presence of others, what causes that feeling then?

Certain life events can spin you into isolation: the death of a loved one, a breakup or divorce, a move away from everything you've known. Chronic psychological and physical issues can also make you feel isolated, too. And those with clinical and even postpartum depression can create the feeling of loneliness, while close relationships riddled with poor communication, anger and resentment can also lead to a disconnect.

Interestingly enough, marriage often breeds loneliness for that reason — we have high expectations and desires that our spouse will keep us from feeling alone, but we often find anger and resentment building up over the years when they prove too preoccupied, busy or simply complacent about the relationship.

In fact, about three-in-five seniors said they were lonely, despite being married and living with their partners, according to a study by the University of California, San Francisco in 2012, underscoring that marriage is no insurance against the feeling of desolation.

Existentialists, who follow the mid-20th-century philosophy made prominent by famed thinkers like Jean-Paul Sartre, believed loneliness was the essence of modern humankind. We are born alone and we ultimately die alone, and the task of human existence is coming to terms with that essential truth and finding meaning through our actions and accomplishments.

Whether you agree, loneliness is a very palpable aspect of contemporary life. Study after study finds that people of all ages feel lonelier and more isolated. In 2008, a landmark study conducted by the University of Chicago discovered that one-in-five Americans often felt lonely. And according to the AARP, in 2010, two-in-five seniors often felt the pain of being alone, up from 20 percent in the '80s.

Meanwhile, in the U.K., the Mental Health Foundation reported that nearly three-in-five young adults aged 18 to 34, despite all their social networking, admitted to feeling isolated and disconnected often or all the time.

It turns out, social isolation doesn't just make us sad — it can make us sick. According to a meta-analysis of studies focusing on the elderly and loneliness, seniors without adequate interaction are more likely to die prematurely. Loneliness impairs immune function, according to the University of Chicago. In terms of effect on mortality, the risk of being alone is comparable to that of smoking, and twice as dangerous as obesity.

If loneliness is really a state of disconnection — an isolation from a group, person or community — then the increasing presence of technology should help ease the pain, right?

Actually, technology has a magnifying effect on our social isolation, often making us feel more alone, or lonelier than before. Long before Facebook was even a gleam in Zuckerberg's eye, in 1998, a seminal study conducted by Carnegie Mellon researchers showed that growing Internet use coinciding with an increase in loneliness. Meanwhile, in the '90s, academics noted an apparent "Internet paradox," according to *The Atlantic* — a contradiction between the growing opportunity to connect with others and an equally increasing lack of social contact.

With results going against expectations, researchers, scientists and academics posed the question: is technology actually making us lonelier? And that question became even more acute with the rise of social media — a set of technologies that, by definition, promise to help us connect and stay in touch.

There is no real evidence of a direct link between our enthusiasm for social media and our growing feeling of emptiness. Many of us, though, have an instinctual belief that Facebook isn't good for our emotional health and relationships, especially in terms of the lopsided way we use it.

I can send out missives over Facebook, Twitter and e-mail while sick at home — but that's no guarantee that people will reply, given how casual we've become about these avenues of communication.

Facebook, of course, can contribute to the growing sense of isolation: you log into the site and are confronted with the abundance of people's lives humming along without you, complete with photos of trips, friends and gatherings you're not going on. Through the same kind of social comparison that fuels hate-reading and other toxic behaviors, we can feel the inadequacy of our own social life. The gulf between what others supposedly have and our own reality can make us feel dissatisfied, and yes, a bit lonelier than we were before.

MIT professor Sherry Turkle raised the red flag over the subtle ways our devices and social media reshape how we relate to each other and ourselves. In her book “Alone Together,” she tells is a cautionary polemic against the way technology is sculpting our communication and relationships. Our propensity for Skype, text and Facebook, among other online and mobile methods, puts control and convenience at the forefront, but at the cost of genuine connection.

Turkle, whose earlier works included “The Second Self” and “Life On the Screen,” has made it her career to study the effects of computers and technology on social relations. In the era of technology, she argues that many of our online connections are, by design, shallow and superficial. Devices and practices like texting give you more control over what you show, but also allow you to disengage from communication at will.

According to Turkle, people are “drawn to connections that seem low risk and always at hand,” leading to emotional laziness and neglect — mistaking a “like” on Facebook as a genuine connection or a chat with someone because they happen to be online. As a result, we don’t expect so much from our online friends, and that convenient and cavalier approach also fuels a tendency to treat others as objects or fads that are quickly discarded as we move to the next thing.

It is connection on demand, and when it gets difficult or boring, it’s easy just to switch off. In some ways, that is what we love about communicating online and over devices — but ultimately, it breeds loneliness.

“Well, what’s wrong with that?” you may ask. We all feel uncomfortable when we’re in an exchange with someone and it becomes either too revealing or too vulnerable. In person, there’s no escaping someone’s keen gaze or scrutiny. But electronically, we can switch it off and find relief from the discomfort — or we just never have to get that deep.

Switching away or avoiding those revealing moments, ironically, creates more loneliness by robbing us of the opportunity to create a bond. Genuine connection and companionship, according to Turkle, involves emotional risk — the risk of being authentically yourself, of being vulnerable, honest and open. Essentially, it involves intimacy in various degrees: a close feeling of friendship, attachment or affinity.

Loneliness, then, is really an absence of intimacy in our lives. We can be married, go to work and hang out with friends, but if we feel there’s no one we can really confide in — and no one who really “gets” and understands us — we feel alone, disconnected and untethered to others. Those kind of close bonds often need an investment of time to create and maintain. Technology can help provide the channel, but we have to give real, authentic content for them to create genuine sharing and social bonds.

Though it’s convenient and easy, technology often gives the illusion of companionship and connection without the risks of intimacy and connection — and we settle for the illusion instead of putting in the effort. There’s no risk in liking a friend’s big announcement of a professional or personal accomplishments on Facebook, for example — but to express your congratulations in person while grappling with your own feelings of envy, inadequacy or sadness is much more difficult.

It’s easier just to keep our interaction then at Facebook-level — but it keeps us safe, but alone.

Though we’re accustomed to talking about intimacy in primarily romantic or sexual terms, intimacy to some degree or another is the connective tissue in healthy relationships of all kinds, ranging from family to friendships. Closeness can be cultivated with the soul mate you marry, but also with the conversations you have with your hairdresser or the rapport you have with the man at the deli that hands you your coffee every morning and asks about your kids.

It takes all kinds of connections to create a sense of relatedness permeating your life, but the result is feeling like you’re knit into a genuine social fabric. An active Facebook can be part of that mosaic of connection, but it can’t be the strongest or primary one.

In truth, the “epidemic of loneliness” is likely the result of large-scale changes in society and economics, not just technology. Overall, more of us in the U.S. live alone than ever before — about one-in-four of Americans, according U.S. Census Bureau — and move farther away from families and friends for work and education. We have to rebuild our social fabrics more often, and there’s no real way to accelerate the process of forming genuine bonds in our communities and relationships.

We also have less time to do this, as a result of lengthening workdays and crushing economic pressures. It all adds up to added stress — and a growing sense of being alone in the world.

In the end, technology doesn’t cause loneliness — it’s something we do to ourselves, whether it’s out of fear, shyness, anxiety, fatigue or plain old laziness. Technology makes it easy for us to mistake popularity for rapport, and “likes” for genuine bonds. But human bonds take time, effort and care to form and maintain, as well as an intentionality often sacrificed in favor of the prized convenience of technology.

It’s really up to us to restore that sense of mindfulness with how we use our devices to communicate and relate to one other.

The biggest tip, often, is to turn off the devices. Marriage counselors of all stripes advise couples, for example, to turn off their phones or tablets in bed. But the advice also applies when you’re out at drinks with friends, at lunch with colleagues or hanging out with children. The intention is to be fully present when you’re with someone and give them the gift of your full attention.

Technology can do wonders as a tool to connect us, if used with intention. A Sydney University project helped seniors learn how to use Facebook, Skype and Twitter, and found that their levels of loneliness and isolation decreased as they reached out to their community.

The most radical advice to ease the loneliness of technology, though, may be to simply allow yourself to be... lonely. Buddhists have long advocated simply letting difficult emotions run their course and pass through you in meditation, and not try to reduce the discomfort.

Comedian Louis C.K. joked about the approach in an appearance on Conan O’Brien’s show, talking about how smartphones have taken away the ability for people to simply sit still and feel the “emptiness” and loneliness of time. Though he takes a comical slant to the idea, he believes the essential emptiness is part of being human — and necessary to appreciating genuine happiness.

Louis C.K. may be a closet existentialist, but his humorous take sheds light on the fact that everyone will, at some point in their life, experience loneliness, whether it’s because our family or friends die or, like me, simply because we’re ill and everyone is busy. We can jump on Facebook, send out a text or browse the Internet to escape the discomfort. But then we also lose a deeper appreciation of the happiness and people in our lives already, as well as opportunities to develop insight on where we want to go deeper. ♦