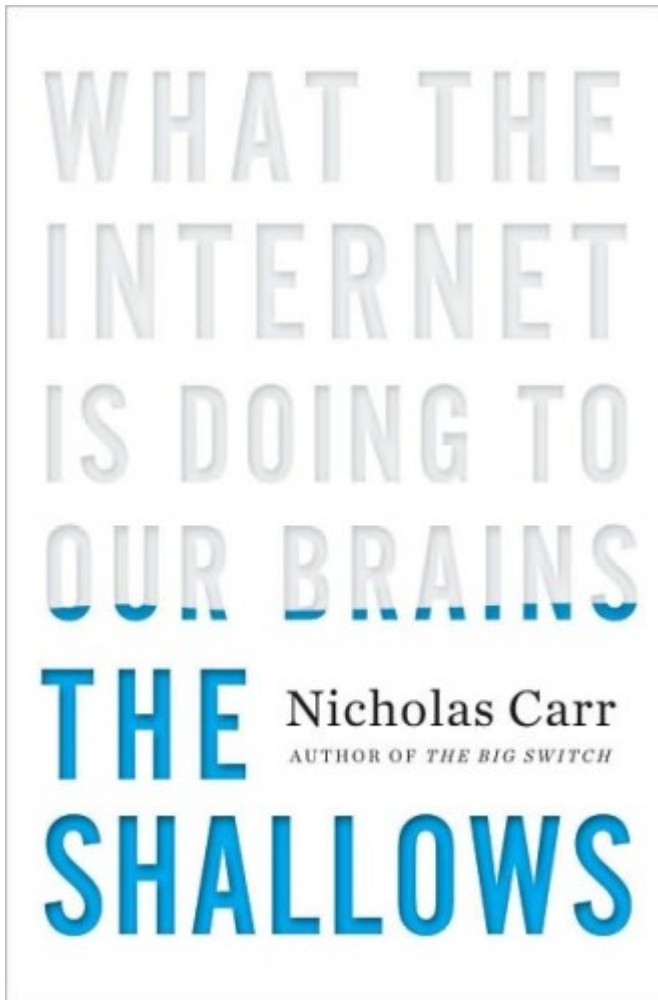


# How our minds have changed

by [LaVonne Neff](#) in the [October 5, 2010](#) issue

## In Review



## The Shallows

By Nicholas Carr  
Norton

Computers are changing the way we think. "Calm, focused, undistracted, the linear mind is being pushed aside by a new kind of mind that wants and needs to take in

and dole out information in short, disjointed, often overlapping bursts—the faster, the better." This is probably not a good thing.

So says Nicholas Carr, the author of two previous books on the perils of information technology (*Does IT Matter? Information Technology and the Corrosion of Competitive Advantage* and *The Big Switch: Rewiring the World, from Edison to Google*). This third book is as pessimistic as the others, but it hits more of us where we live—glued to our computer screens.

If Carr's description of the easily distracted computer brain applies to you, you may want to skip this roughly 90,000-word book and go directly to his 4,175-word *Atlantic* article, "Is Google Making Us Stupid?" (July/August 2008), which has much the same premise. You won't need to read the whole thing: you can take the typical web user's approach instead. "Start by glancing all the way across the first two or three lines of text. Then [let your] eyes drop down a bit, and . . . scan about halfway across a few more lines. Finally, . . . let [your] eyes cursorily drift a little farther down the left-hand side of the page." Bored? Just click on some of the article's 22 hyperlinks.

If you're still reading this review, though, you have not yet lost the skill that went viral shortly after Gutenberg invented movable type, when a surge of readers learned to disengage "their attention from the outward flow of passing stimuli in order to engage it more deeply with an inward flow of words, ideas, and emotions." Such engagement, says Carr, made people "more contemplative, reflective, and imaginative." Rather than noticing every passing bunny and butterfly, as the hunter-gatherer mind was trained to do, the linear mind stayed focused. And the results of linear thinking were impressive: the Renaissance (and, though he doesn't mention it, the Reformation), the Enlightenment, the industrial revolution and modernism.

Today, however, young adults average more than 19 hours a week online, but only 49 minutes reading books, magazines or newspapers. Most Americans "spend at least eight and a half hours a day looking at a television, a computer monitor, or the screen of their mobile phone. Frequently, they use two or even all three of the devices simultaneously." Unlike our literate forebears, we no longer memorize vast tracts of poetry, philosophy and scripture in our youth; nor do we spend long middle-aged evenings poring over books. Rather, like our foraging ancestors for whom a sudden change could mean dinner or death, we constantly scan our environment—or our computer screens—in search of novelty. This worries Carr. The

changes in our brains, he says, could signal "a reversal of the early trajectory of civilization."

But why bother with memorization, the rote learning of facts, when a boundless store of data is at our fingertips? Isn't having an internal library less important than knowing where to find the information we need?

Having access to external data is a far cry from having a richly furnished brain, Carr argues. Working at the computer, we deal almost exclusively in short-term memories (RAM). Little of what flashes on the screen imprints itself on our brains (is saved to disk); indeed, the abundance of rapidly changing information actually interferes with the formation of long-term memories (ROM), which can take years to consolidate. With impoverished long-term memories, we lose our individuality, our intellect, our capacity for invention. Unless our minds are well stocked with the collective memory of our cultural heritage, we are unable to reinterpret ancient wisdom for the present day, and we cannot transmit it to future generations. "Out-source memory," Carr warns, "and culture withers."

Carr does not delve into the religious implications of his thesis, though he points out that "technology's numbing effect" is not a new condition: the psalmist noted it in his description of idolaters who grow to resemble their insentient images (Ps. 115:4-8 and 135:15-18). However, if human thinking is changing as dramatically today as it did 500 years ago when books went mainstream, then religion is being transformed along with the rest of culture. In their early years, religions of the Book—Judaism, Christianity, Islam—entrusted their scriptures to learned leaders who guarded and interpreted them for the faithful. When the majority of Western Christians owned books, however, power shifted from holy men to Holy Writ. Without Gutenberg, it is hard to imagine the Protestant Reformation, religious freedom, American revivalism or, eventually, Vatican II.

As we shift paradigms from Gutenberg to Gates, our religious practice is changing once again. Once upon a time the Sunday morning sermon lasted at least an hour, and many of the devout returned for a Sunday evening sermon as well. Mainline pastors prepared for ministry with a classical education as well as extensive theological study (Marcus Whitman, missionary to the Northwest, wanted to be an ordained minister but, lacking resources for a lengthy education, settled for becoming a physician).

Those days are long gone. The word, no longer hidden in our hearts, dissolves into an infinity of words flashing and prancing on our screens. We glance and pounce, seldom stopping to ponder, rarely pursuing one thought or one line of argument long enough to make it our own. Our church services are fast-paced and entertaining, with sermons and songs often projected on giant screens.

Not everyone, of course, has allowed the Internet to hijack every corner of their lives. Alongside the swift and shallow comes increasing interest in the slow and profound. Yoga, slow food, walking tours and meditation have never been more popular, and many religious people are turning to ancient practices such as contemplative prayer, chant, the labyrinth, *lectio divina* and the divine office. Carr himself, though a heavy user of the Net, still manages to read books and journals—check out his 28 pages of notes!—and to make a living by writing books and magazine articles that other people read.

The linear mind is not yet extinct, but this does not disprove Carr's point any more than a cool day in July disproves global warming. In *The Shallows* he argues convincingly that intellectual climate change is already reshaping the world. Read it now, while you still can. Slowly.