

The scuba diver and the surfer

Review of Nicholas Carr's *The Shallows: What the Internet is Doing to Our Brains*

■ MARCO TOLEDO BASTOS*

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The Shallows: What the internet is Doing to Our Brains.

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ABSTRACT

The Shallows: What the Internet Is Doing to Our Brains approaches the cultural and intellectual impact of the Internet over its users. Nicholas Carr founds its work in neurological research contrasting the neuronal circuits of book readers to those marked by the use of the internet. Thus he grounds his hypothesis that the technologies we use to control, recover and store information literally change our neuronal circuits. Moreover, the idea that the contemporary medial scenario, full of interruptions and distractions represents an obstacle to the kind of comprehension and memorization imperative to reading in depth.

Keywords: Internet, digital media, internet technologies, cyberculture, education.

As McLuhan suggested, media aren't just channels of information. They supply the stuff of thought, but they also shape the process of thought. And what the Net seems to be doing is chipping away my capacity for concentration and contemplation. Whether I'm online or not, my mind now expects to take in information the way the Net distributes it: in a swiftly moving stream of particles. Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski. (Carr, 2010, pp. 6-7)

Nicholas Carr is a columnist for *The Guardian* who published in 2008 the controversial article *Is Google Making Us Stupid?*, an essay that evolved to the New York Times bestseller *The Shallows: What the Internet Is Doing to Our Brains*, published in June 2010 by W. W. Norton. Ambitious and highly readable, it examines the

* Marco Toledo Bastos is a Postdoctoral Fellow at the Faculty of Communication and Arts of the University of São Paulo. He is a researcher at the Center for Philosophical Studies of Communication of the University of São Paulo, the Latin American Research Center on Meaning and Communication of the Mexico National University and the Research Network for Media Anthropology of the University of Frankfurt.

cognitive and cultural consequences of Internet use in contemporary times. The book is written as a journey from a quieter and less chaotic time, when reading was more than skimming, towards a frenetic world of fast and continuous information updates. Carr addresses a plethora of anxieties about how the Internet changes our brains and debates whether the Net's bounties sacrifices our ability to read and think deeply. Lacking the sustained attention ability learnt with great effort for the purpose of reading and reflective thinking, we become the shallower creatures mentioned in the book title.

Carr examines the Internet's intellectual and cultural consequences describing how human thinking has been shaped through time by *tools of the mind* — the alphabet, maps, printing press, clocks, computers and the Internet. Carr interweaves the media analysis with an account of recent discoveries in neuroscience by Michael Merzenich and Eric Kandel. These researchers claim brains are malleable and change in response to experiences to fit the environment—a process neuroscience calls plasticity. Thus, if the brain is trained to respond to the faster pace of the digital world, then it will be reshaped to favor that approach to experience the world as a whole. The technologies we use to control, to find and to store information literally reroute our neural pathways, and each technology would carry an intellectual ethic—a set of assumptions about knowledge and intelligence that redesign our relationship to the world.

This is explained by the way printed book serves to strengthen our attention, as it promotes deep and creative thought. In stark contrast, the Internet encourages the rapid, distracted sampling of small bits of information from many different sources. Carr revolves around a number of neurological experiments that contrast the neural pathways built by reading books versus those forged by surfing the Internet, in which web pages lead us on from one text, image, or video to another while we are interrupted by all sorts of messages and alerts. Internet ethic is the ethic of the industrialist—says Carr—an ethic of speed and efficiency, of optimized production and consumption, and now the Net is remaking us in its own image. As we become more and more adept at scanning and skimming, we lose our capacity for concentration, contemplation, and reflection.

The potential for unwelcome neuroplastic adaptations also exists in everyday, normal functioning of our minds. Experiments show that just as the brain can build new or stronger

circuits through physical or mental practice, those circuits can weaken or dissolve with neglect. “If we stop exercising our mental skills,” writes Doidge, “we do not just forget them: the brain map space for those skills is turned over to the skills we practiced instead.” Jeffrey Schwartz, a professor of psychiatry at UCLA’s medical school, terms this process *survival of the busiest*. The mental skills we sacrifice may be as valuable, or even more valuable, than the ones we gain. When it comes to the quantity of our thoughts, our neurons and synapses are entirely indifferent. The possibility of intellectual decay is inherent in the malleability of our brains. (Carr, 2010, p.35)

Carr stresses that plasticity does not mean elasticity, as neural loops do not snap back to their former state the way a rubber band does, but rather hold onto their changed state. Because the new state might not be a desirable one, plasticity can indeed be the cause of pathology (Carr, 2010, p.34). In any case, the neuroplasticity examples used within the book are both enlightening and troublesome. Since Carr is not a scientist himself, he had to work mainly from secondary (and sometimes tertiary) sources, often taking for granted what other journalists or scientists have said. Carr’s research relies heavily on Doidge’s book *The Brain that Changes Itself*, which is already a diluted look at neuroscience written by a psychoanalyst. Nevertheless, the point is clear: reading and writing have changed our perceptual mechanisms in the brain, while the Internet is most probably changing our attention control and executive function, much in the way Günther Anders and Marshall McLuhan first stated with the phrase *the medium is the message*.

As a result, Carr brings to the general reader the media theory thesis that technology shapes our minds. What was before a sneaking suspicion of technology users that technology changes them—personally and as a society—is backed up by a number of theories and studies. Carr’s controversial thesis is based upon his own experience, and that of several other serious book readers, that show they are having increasing trouble reading for prolonged periods. Carr brings in neuroscience data showing that this shift in concentration levels may be the result of the immersion in the Internet world of links, clicks, and tweets rather than just advancing age or other less ominous causes. Carr also acknowledges that the strategy he used to write the book was a mix of the best of both systems: the fast internet for preliminary thinking and gathering sources, and the quiet contemplation away from the Internet to gather his thoughts and write the book.

I'm not thinking the way I used to think. I feel it most strongly when I'm reading. I used to find it easy to immerse myself in a book or a lengthy article. (...) Now my concentration starts to drift after a page or two. I get fidgety, lose the thread, begin looking for something else to do. The deep reading that used to come naturally has become a struggle. (Carr, 2010, pp. 5-6)

Media theory is in fact all over the book, which begins with a history of media from the first development of written prose through Gutenberg's press to the contemporary digital age. Carr points out that each of these developments created significant changes not just in media advancement, but also in the very nature of how humanity thinks. The author notes that Socrates absolutely loathed the development of written texts, as he feared that humanity would lose its cohesion with the natural world and its independent thought. Carr recasts the Platonic dialog *Phaedrus* to examine the effects of written text in the ancient times, but he also revolves around authors such as James Carey, who explains how other technologies, such as mapmaking and timekeeping, altered our perceptions with the physical and natural world, and Marshall McLuhann and Friedrich Kittler, who explain the co-evolutionary quality of media.

The book is divided in three main parts. The first focuses on neurology and the Internet. The second part of the book addresses the history of media, from written text to computers and the Internet. The third section discusses the consequences of the intertwining of our lives with the Internet. Chapters are curiously separated by a short *digression*, which seem to reinforce our distracted society. The chapter entitled *The Church of Google* discusses the memory and is arguably the most convincing part of the book, as it takes the reader back to the arguments first presented in the essay *Is Google Making Us Stupid?* Carr makes the point that memory does not work like a hard drive. Instead, it forms a central part of the way that we think. Therefore, there is a primary error in trying to *offload* our memory onto the Internet or digital devices in general thinking that we can just look at it later without going through the process of internalizing information. It is not possible to look later at information that the brain has not processed and thus is not aware of.

The author is also concerned that the continuous distractions the Internet creates can undermine empathy, compassion and emotion as we lose track of reality and context. Carr

makes the case that these technologies “turn numb the most intimate, the most human, of our natural capacities—those for reason, perception, memory, emotion” (Carr, 2010, p. 211). This general theme has been bubbling in education circles: as thinking becomes a more superficial act, we lose touch with challenging ideas and controversial arguments, for we tend to rely more on conventional lines of thought. And even though the Internet is a powerful tool to find information, it often requires a context that is not always immediately obvious. Commenting the researches of neurologist Antonio Damasio, the author claims that his experiments revealed that

while the human brain reacts very quickly to demonstrations of physical pain—when you see someone injured, the primitive pain centers in your own brain activate almost instantaneously—the more sophisticated mental process of empathizing with psychological suffering unfolds much more slowly. (Carr, 2010, pp. 220-221).

The Shallows is a cat amongst the pigeons at the digital-garden party suggesting that not all is rosy with the new golden age of access and participation. Carr’s work takes up again the intellectual debate on apocalyptic and integrated, first presented by Umberto Eco with the book *Misreadings (Apocalittici e Integrati)*, now updated to the debate on Internet optimists and pessimists that comprehends, on the pessimistic spectrum, Lee Siegel and Mark Helprin, and on the optimistic spectrum, Nicholas Negroponte and Kevin Kelly. Nicholas Carr roams around these two places, just as Jaron Lanier does, as he presents a pragmatic skepticism towards technology. Carr himself recasts this debate rebranding it as a technological clash between determinists versus instrumentalists. Determinists are of the opinion

that technological progress, which they see as an autonomous force outside man’s control, has been the primary factor influencing the course of human history. Instrumentalists, by contrast, are the people who (...) downplay the power of technology, believing tools to be neutral artifacts, entirely subservient to the conscious wishes of their users. Our instruments are the means we use to achieve our ends; they have no ends of their own. (Carr, 2010, p. 46)

The author takes the stance of technological determinism together with Martin Heidegger, Günther Anders and Karl Marx, whose quotation “The windmill gives you society with the feudal lord; the steam-mill society with the industrial capitalist” is brought to contrast with James Carey’s claim that “Technology is technology; it is a means for communication and

transportation over space, and nothing more” (Carr, 2010, p. 46). Carr understands that the claims of the determinists gain credibility in a broader historical or social view:

Although individuals and communities may make very different decisions about which tools they use, that doesn’t mean that as a species we’ve had much control over the path or pace of technological progress. Though we’re rarely conscious of the fact, many of the routines of our lives follow paths laid down by technologies that came into use long before we were born (Carr, 2010, p. 47).

The author bases his arguments upon Joseph Weizenbaum, for whom “the introduction of computers into some complex human activities may constitute an irreversible commitment” (Carr, 2010, p. 207). The result of this process is that our intellectual and social lives may—advises Carr—come to reflect the form that the computer imposes on them.

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