

Book Review

Carr, N. (2011). *The shallows: What the internet is doing to our brains*. W.W. Norton & Company. \$15.95 (paperback), 228 pp. (ISBN: 978-0-393-33975-8).

Reflecting upon my own life, personally and professionally, with my phone synced to my iPad Mini, which is also synced to my personal iPad, has numerous different audio alerts for emails, texts, iMessages, tweets, and Facebook status updates. My PlayStation3 syncs to my Netflix and Amazon Instant Video, which additionally not only syncs to my iPad, but to my ASUS. My Dropbox alerts me when it has updated files from my work computer.

Technology is not new in its perceived effects on our lives. In 1964, Marshall McLuhan published *Understanding Media: The Extensions of Man*. Within his writing, a popular phrase found its way into our lexicon, “the medium is the message.” Carr explains that McLuhan was trying to express “that in the long run a medium’s content matters less than the medium itself in influencing how we think and act” (p. 3). Carr takes the premise of McLuhan as a given, and launches a philosophical, historical, and neurological argument that the Internet is changing our ability to think and analyze critically—that our brains are literally changing to crave the instantly gratifying, often trivial, digital world.

From a personal struggle, Carr began to realize that the Net had a strong influence over him more than the disconnected computer ever had. Carr, even when away from the Net, desired to be connected—checking emails, googling, clicking links. He was troubled that he intensely struggled to pay attention to one task for more than a few minutes—it was as if his brain was actually changing. Was it?

Carr begins *The Shallows* by relating to the readers. In using Stanley Kubrick’s *2001: A Space Odyssey* as a cycling metaphor, Carr begins with the quote, “Dave, my mind is going,” to which Hal responds, “I can feel it. I can feel it.” Carr hasn’t been the only one to feel that his brain was changing—pathologists, doctoral students, authors—well-educated men and women expressing to Carr that they can no longer read long written works, or pay attention to one task for more than a few minutes, or read critically, only skimming for important pieces of information. They yearned for him to understand that they physically could not do those tasks that they used to do so easily. Understanding that he was not alone in what was occurring to him, Carr begins his search to determine what the internet is doing to our brains.

Technology is any piece that makes a task easier for us. Carr looked historically at different technologies throughout history to see if people changed in response to the technology. He found that they had. For example, Friedrich Nietzsche, a German philosopher from the 19th Century, due to physical

ailments, had to give up his pen-and-paper writings. Falling into depression, he ordered a typewriter—a new technological advance in his time. He resumed his writing, but, his audience discovered, his writing had begun to change. His “prose became...tighter, more telegraphic” (p. 18), and when questioned, Nietzsche replied, “Our writing equipment takes part in the forming of our thoughts” (p. 19). Even the ideas of the alphabet, reading, and writing, are technologies. Before the invention of the alphabet, we were oral societies—“knowledge is what you can recall, and what you recall is limited to what you can hold in your mind” (p. 56). With the invention of the alphabet, and subsequently reading and writing, we no longer had to train our brains and commit all to memory; we could write down what we wanted or needed to remember and we no longer had to tax our brains for all vital information. However, we must be cautious because “once technologized, the word cannot be de-technologized” (p. 77). As new technologies appear, our brains will continue to route and re-route new pathways to conform to new technologies.

Carr maintains that the Internet as a medium for information has changed the way we process information. The Net is changing at an alarming rate—as is our use of it. For example, “American children between the ages of 2 and 11 were using the Net about 11 hours a week in 2009, an increase of more than 60% since 2004” (p. 86). “The typical American teen has jumped from 2,300 to 3,300” (p. 228) texts per month in only a couple of years. Facebook, if it was a country, would be the third largest country in the world. These statistics are often used to prove that we, as a society and as students, are reading more than we did 20 years ago—and that’s true. However, we are “devoting much less time to reading words printed on paper” (p. 88) and that those are two different types of reading. Reading in the cognitive sense not only relies on our sense of sight, but our sense of touch. When we transfer our reading from paper to a screen, we navigate the text differently as well as “the degree of attention we devote to it and the depth of our immersion into it” (p. 90). When we choose to read the majority of our words on a screen, rather than paper, “we don’t see the forest...we don’t even see the trees. We see twigs and leaves” (p. 91).

Scientifically, dozens of studies have found that when “we go online, we enter an environment that promotes cursory reading, hurried and distracted thinking, and superficial learning” (p. 116). The more we become connected to the Net, the more we push to do more on the Net, the more we find that our brains are becoming “different” (p. 120). We are becoming scattered in the information superhighway, and we are not gaining knowledge from the Net. David Brooks writes, “I had thought that the magic of the information age was that it allowed us to know more, but then I realized the magic of the information age is that it allows us to know less” (p. 180). Our brains are unparalleled in their ability to create new synapses when needed, but the flipside is also true—when we no longer use synapses, they cease to fire; “we become, neurologically,

what we think” (p. 33). What we are becoming are simply “hunters and gatherers in the electronic data forest” (p. 138).

Advances in technology are fun, exciting, and often pose easier ways to do things. They are alluring, bright, and feed into an addiction we don’t even realize we have. However, we must be cautious to the degree we are allowing ourselves, our human elements, to become digitized, or worse, dispensable. Are we going to become so machine-like that we, in essence become a machine? “That’s the essence of Kubrick’s dark prophecy: as we come to rely on computers to mediate our understanding of the world, it is our own intelligence that flattens into artificial intelligence” (p. 224).

Full of scientific and scholarly discussion weaved through prose that speaks to the readers, this book is intended for most everyone. High school students through senior citizens would benefit from the reading of this book. Carr’s intention is to start the discussion that the Net is changing our brains physically and physiologically. There is scientific evidence that this is occurring and we must, as a society, begin talking about what we are doing to ourselves and our constant need to be connected. Carr feels that there are changes to be made, but without a starting conversation, things will never change.

The anecdotes and examples Carr lists could have been written about me or any number of my friends and colleagues. On a philosophical level, I am drawn to what he explains has occurred throughout history as new technologies have entered our world. As a scientist, I want studies, conclusions, and facts to prove to me what is occurring in my brain. Carr delivers on both levels. Historically, Carr frames technologies and their intended and unintended consequences against the framework of time, while at the same time, offers multiple scientific studies that support what we have seen throughout history—technology changes us. In the case of the Net, not all changes are positive and some can have drastic consequences. At the same time, I do not feel that Carr is condescending to us as a society, but instead comes to us, the readers, on our level, offering a hand of support upon this possibly dangerous journey we have embarked upon.

There is no question that we rely on the Net. For personal and professional purposes, many of us are connected 24/7. We answer the dings of new email messages, the chirps of new Tweets, the ‘woosh’ sound of a sent text. We are drawn to the digitized society we have created for ourselves in the cool, crisp cases of phones, tablets, and laptops. However, it is imperative that we understand what this constant connectivity is doing to us on a physical and physiological level. If nothing else, this book opens the door for this understanding.

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