Computers as Enablers—and Disablers

By Nicholas G. Carr   *Thu, Mar 12, 2015*

"When computers and other machines take challenging tasks away from us, we turn into observers rather than actors," writes the author of the acclaimed new book, "The Glass Cage: Automation and Us."

In a speech delivered back in 1969, when the Net was in its infancy, the social scientist and future Nobel laureate Herbert Simon posited that a glut of information would produce a dearth of attention. Since then, psychologists and neuroscientists have learned a great deal about how our brains respond to distractions, interruptions, and incessant multitasking.

What they've discovered proves how right Simon was—and underscores why we should be worried about the new digital environment we've created for ourselves. When it comes to thinking, we're trading depth for breadth. We're so focused on the immediate that we're losing the ability to think more deeply about the long-term implications of complex problems.

Why would we allow ourselves to become so reliant on a technology that ends up hampering our thinking and foreclosing our opportunities to excel? One reason appears to be biological.

Experiments suggest that we have a deep, primitive inclination toward distraction. We want to know everything going on around us, a trait that probably helped keep us alive when we lived in the wilds. The very act of seeking out new information has been found to trigger the release of the pleasure-producing chemical dopamine in our brains. We're rewarded, in other words, for hunting and gathering data, even if the data are trivial, and so we become compulsive in checking the networked gadgets we carry around with us all day.

But it's not just biology. It's also society. Businesses and other organizations have been complicit in encouraging shallow and distracted thinking. Tacitly or explicitly, executives and managers send signals that they expect employees to be constantly connected, constantly monitoring streams of messages and other information.

As a result, people come to fear that disconnecting, even briefly, may damage their careers, not to mention their social lives. Organizations gain the benefits of rapid communication and swift exchanges of data. But what they sacrifice is the deepest forms of analytical and critical thinking—the kinds of thinking that require a calm, attentive mind. The most important work can't be done, or at least can't be done well, in a state of distractedness,

and yet that's the state companies today have come to promote.

What's more, we're at the dawn of a new era in automation. Thanks to advances in robotics, machine learning, and predictive analytics, computers are becoming adept at jobs requiring sophisticated psychomotor and cognitive skills—tasks that until recently we assumed would remain the exclusive preserve of human beings. Computers are flying planes and driving cars. They're making medical diagnoses, pricing and trading complex financial instruments, plotting legal strategies, and running marketing campaigns. All around us, computers are making judgments and decisions on our behalf.

There has been much discussion about the effects of rampant automation on the economy and on the labor market in particular. There has been much less attention paid to its effects on human talent and motivation. But what decades of human-factors research tell us is that when computers and other machines take challenging tasks away from us, we turn into observers rather than actors.

Distanced from our work, we lose our focus and become even more susceptible to distraction. And that ends up dulling our existing skills and hampering our ability to learn new ones. If you've ever gotten lost while following the step-by-step directions of a GPS device, you've had a small lesson in the way that computer automation erodes awareness of our surroundings and dulls our perceptions and talents.

If computers were able to do everything that people can do, this might not be such a problem. But the speed and precision of computers mask their fundamental mindlessness. Software can do only what it's told. Human beings, blessed with imagination and foresight, can do the unexpected. We can think and act creatively, and we can conceive of a future that is different from and better than the present.

But we can only fulfill our potential if we're engaged in the kind of difficult and subtle work that builds talents and generates insights. Unfortunately, that's exactly the kind of work that software programmers have been taking away from us to deliver short-term efficiency gains and to indulge our sometimes self-defeating yearning for convenience.

Nicholas G. Carr is author of The Glass Cage: Automation and Us (W. W. Norton, 2014)*. This essay is excerpted from "Perspectives on the long term: What will it take to shift markets and companies away from a short-term way of thinking?" at* ***McKinsey.com****.*