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Automation *versus* Artistry: On the "De- skilling" of the Workplace

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Carr, Nicholas, *The Glass Cage: How Our Computers Are Changing Us* (W.W. Norton & Co., 2014).

In *The Glass Cage: How Our Computers Are Changing Us*, technology writer Nicholas Carr raises a timely question: Are computers affecting human lives for better or worse? He shows how computer automation is changing the way we work. Computers produce more at ever-faster rates, but they may also make the work itself less enriching. Carr is best-known for his essay in *The Atlantic*, "Is Google Making Us Stupid?" (2008), and his book that deepens its argument, *The Shallows: How the Internet is Changing the Way We Think, Read and Remember*, which was a finalist for a 2011 Pulitzer Prize. Drawing on scientific research, especially social science, as well as philosophy, history, and literature, he challenges popular attitudes toward technology today. Some think technological "progress" is inherently good. Others think that technology is morally neutral—that its value depends wholly on how humans choose to use it. Yet Carr argues that Google, for example, inclines users to seek superficial information to the detriment of the learning-process itself (cf. *Glass Cage*, 78–80). Similarly, computer automation tends to transform work from being a creative encounter into a mere means to a pre-programmed end.

In *The Glass Cage*, Carr explains that an "automated system" is a computer with a "sensing mechanism," which gathers data from the external environment, and includes a "feedback method" that adjusts calculations based on the accumulated data (36). Automation simulates—and consequently displaces—actual intelligence and decision-making in the workplace: "The

person operating the computer is left to play the role of a high-tech clerk" (67). This leads to the "de-skilling" of workers and, in turn, greater complacency and dependency on computers. In short, "automation breeds automation" (202). The increasing automation of everyday tasks—as we move from GPS in the car to Google's self-driving car—seems to make life safer and less burdensome. Carr points out, however, that the interdependence of automated systems, connecting business and politics to everyday life, may lead to "cascading failures" in which small glitches lead to systemic breakdown (155). Our growing complacency toward automation makes us vulnerable to unforeseeable, large-scale emergencies. He cites a recent example that hits close to home: "Miscalculations of risk, exacerbated by high-speed computerized trading programs, played a major role in the near meltdown of the world financial system in 2008" (77).

Carr's primary and more insightful criticism of automation is that it diminishes the quality of work, draining it of thought and "artistry" (85). To be clear, he is not critical of machinery as such but favors the use of tools that enhance the human experience of work itself. For example, he contrasts the skilled "machinist," whose work is made more challenging by use of power hand-tools, with a "machine operator" who passively monitors a factory computer (111). Carr pays considerable attention to the advanced automation of airplanes (the "Glass Cage" of the title derives from the name for computerized cockpits: "a glass cockpit" [63]). He suggests that the pilot with some manual control of the plane, rather than one relying wholly on computers, is not only the happier pilot, but also the better one, ready to respond to unforeseen problems. Likewise, the doctor reliant on the guidance of an electronic medical-records system is less equipped to attend to the patient as a whole person (93ff.), and the architect dependent on advanced CAD (computer-aided design) software may lose his ability "to imagine the human qualities of their buildings" (145). In accord with Catholic social teaching (see *Gaudium et spes*, 1 and *Laborem Exercens*, 9), Carr thinks that work is integral to human dignity and that it is more fulfilling when it elicits our creativity by challenging us without overburdening us.

His philosophical perspective is a realist one that acknowledges the fundamental role of the body in human action and thought: "We're real beings in real bodies in real places" (131; also see 148, 232). Humans are meant to know reality, and we know it by interacting with our physical surroundings. To put his view of work in classically metaphysical terms: the physical movement of work toward its intended end is itself a necessary and desirable dimension of that completed actuality (see 132). The joy of flying an airplane, for instance, is intrinsic to the pilot's work of delivering passengers to their destination. Attentive care for the embodied person is intrinsic to the doctor's work of improving health. Creative sketching is intrinsic to the work of architectural planning. Bodily labor, in general, is "a form of contemplation, a way of seeing the world face-to-face rather than through a glass" (214). By contrast to this rich immediacy, the constant mediation of computer screens distances us from reality, "making our lives more programmatic" (199; see 151). Restrained in tone and lacking apparent ideology, Carr's thoughtfulness nonetheless leads him to a grim assessment: "[...] the automation of mental labor [...] may end up eroding one of the foundations of culture itself: our desire to understand the world" (123).

Carr emphasizes that we must therefore cast a critical eye on every new form of technology, yet one wonders if he is sufficiently critical in the end. Attempting to accommodate some form of automation, he expresses approval of "human-centered automation," designed to interact with, adapt to, and enhance the human worker: "Some early users of the systems report that they feel

as though they're collaborating with a colleague rather than operating a machine" (165). But this sort of automation, giving the illusion of interpersonal collaboration, might be most dangerous of all. As Pope John Paul II writes in the opening of *Laborem Exercens*, "work bears a particular mark of man and of humanity, the mark of a person operating within a community of persons." If automation tends to displace what it attempts to simulate, as Carr reveals, should we not avoid this "adaptive automation," lest it displace community? Carr never addresses this problem.

Similarly, he raises an important ethical issue about automated "decision-making" but fails to reach clarity on it. Google's self-driving car, he points out, will need to be programmed to make instantaneous "decisions" about life and death (186–89). Let us say that a child suddenly walks into the path of a self-driving car, leaving insufficient time to brake. Should the car swerve violently to save the child and risk the life of the driver? What if there were several passengers in the car—should that alter the car's response? Carr exposes the conundrum generated by such automation: who should program these moral decisions and what criterion should they use? Yet he skirts a deeper question, without raising it explicitly: should this kind of automation exist at all? Perhaps driving *should* be left to a driver, who can assume direct responsibility for the consequences. Likewise, perhaps "lethal autonomous robots (LARs)," designed to act like soldiers in the battlefield, should not exist at all. Machines should not "decide" whether or not to pull the trigger on a *possible* enemy. Indeed, they cannot actually decide. Soldiers must not be removed from the work of soldiering. Nor, more generally, should "programmed morality" displace actual, real-time moral decisions, lest we begin to forget that we humans are the moral agents.

On the whole, *The Glass Cage* succeeds in showing, quite vividly, how expanding automation is displacing *human* work to our detriment. But this reader would recommend a firmer readiness to completely reject certain forms of automation. If society continues to uncritically embrace it, one should be ready to live differently than most, so as to recover an essentially human way of life. Carr does not draw out some of the important ethical implications of his largely accurate cultural assessment. A more minor complaint: *The Glass Cage* lacks any clear structure and reads more like a series of essays. Its breezy style will please some and bother others. Regardless, one cannot help but admire Carr's capacity to raise profound questions about technology in such an accessible way.

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