Finding Your Own Personal Aristotle

Review of The End of College: Creating the Future of Learning and the University of Everywhere, by Kevin Carey

Review by John Austin

There are few areas of modern life untouched by recent advances in technology. Those advances have transformed the industries of travel, finance, retail, entertainment, and journalism — in some cases virtually overnight. Not so for colleges and universities. For the most part they have remained stubbornly resistant to change. According to education writer Kevin Carey that day is over.

Carey’s lively and readable new book, The End of College: Creating the Future of Learning and the University of Everywhere (Riverhead Books, 2015), argues that a tsunami of disruptive innovation has reached our shores. Driven by billions of dollars in investment capital, rapid advances in artificial intelligence, and a bold spirit of entrepreneurialism, higher education “stands at the brink of transformation.”

Carey’s book offers two arguments, both important and compelling. One is about what he calls the “hybrid university” — diseased by rising costs, bloated programming, and expensive facilities, and struggling to reconcile its core values of research and teaching. The other is about the “university of everywhere,” a new kind of learning organization, the outlines of which are only now emerging and in a variety of forms. According to Carey, these new initiatives — online course providers such as edX, Udacity, and Coursera; start-up liberal arts colleges such as the San Francisco–based Minerva Project; and new programs emerging from universities such as the University of Minnesota and Carnegie Mellon University — have the potential to reach more students than ever before, create new kinds of “nano-degrees” that will challenge higher education’s monopoly on credentials, and provide employers with more nuanced forms of evidence about student learning.

Carey is certainly correct that the hybrid university is broken. Rates of completion, time to degree, and measures of student learning and engagement all suggest that our colleges and universities are, as Derek Bok, the former president of Harvard University, has persuasively argued, “underperforming.” Students are working less than they were a couple of decades ago and learning little. At the same time, they are going into tremendous debt to finance their educations. While advances in technology have driven down prices in many other industries and forced companies out of business, the cost of higher education has, according to Carey, risen 80 percent since Netscape went public in 1995.

Rising tuitions have rendered hybrid universities vulnerable to these emerging models. He rightly notes that only a small fraction of the American public can afford the cost of a university degree. Most students go to college simply to get a job. The new start-ups that Carey describes are ideally suited to meet the needs of those students and at a fraction of the cost, providing access to resources that were once scarce and expensive.

It is difficult to predict the future, but a few trends seem clear.

First, digital learning environments will continue to evolve and improve, especially with advances in artificial intelligence and adaptive learning. Massive open online courses (MOOCs) will morph — and get better — and new, more powerful digital learning environments and forms of assessment will emerge. We will continue to see breakthroughs in customization, personalization, and how feedback is delivered to students. It would be
a mistake to underestimate the power of these innovations. Smart machines are now driving cars, writing news stories for publications such as Forbes, and reading X-rays — tasks once considered uniquely human. (See Martin Ford’s Rise of the Robots: Technology and the Threat of a Jobless Future.)

This innovation will be driven by tremendous capital investment. One source with whom Carey speaks estimates a potential market of almost $5 trillion. Carey notes that a team of 250 people worked for five years to develop video game Grand Theft Auto V at a cost of $115 million. We will see similar investment in education and course design — and with similar results. Already many of these courses are artful, innovative, and engaging, incorporating into their design the most recent findings of learning science.

Second, some fields and disciplines will lend themselves to blended and online forms of learning better than others. Carey frames his book with an account of his experience taking edX’s The Secret of Life, an online version of the Massachusetts Institute of Technology (MIT) introductory biology course that has a strong emphasis on genetics and is taught by Eric Lander, the biologist who led the Human Genome Project (Carey received a B in that course). Disciplines such as biology, in which the canons of knowledge are relatively fixed, are ideally suited for online and blended forms of learning, and there is a strong trend toward STEM and job-related training. It is not accidental that the first MOOC emerged from Stanford’s Computer Science Department and that some of the most effective online courses to date are, according to the best research, in fields such as statistics and computer science (rather than, say, anthropology or the arts). Almost all of Udacity’s course offerings are in the fields of data science, web design, application development, and software engineering.

Had Carey framed his book around a course in the humanities he might have written a different kind of book. Many believe that the intimacy, dynamism, and immediacy of the classroom seminar, one of the world’s great educational innovations, cannot be replicated virtually. Writing in the Wall Street Journal not long ago, Williams College President Adam Falk argued that “human interactions can’t be replaced by any magical application of technology.”

But even here Carey is bullish about the future. He notes that advances in video, voice recognition, and holograms will in the future “more closely approximate actual face to face meetings,” and he envisions a time in the not too distant future in which “cognitive tutors” will offer all students their own personal Aristotle. A number of the more innovative online

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Carey focuses his analysis on the United States, but the University of Everywhere will have its greatest impact beyond the U.S. borders. As Carey notes, there remain obstacles in the United States to the kinds of innovation he envisions: institutional inertia, resistant faculties, and accreditation agencies (Yale University and its partner company "U recently failed to obtain accreditation for a master's degree in its school of medicine, according to the New York Times). Few of these regulatory and cultural obstacles exist internationally, where the demand for high-quality education is immense and growing. Countries with emerging economies and high unemployment will have the opportunity to retool their workforces with new kinds of micro-degrees in emerging fields and do so at little cost and at a scale unthinkable within more traditional university structures. MIT, for example, offers a seven-course sequence in programming that costs a mere $425 and which can be completed in a fraction of the time it takes to complete a four-year degree.

Carey has very little to say about K-12 education, except to note that more and more young people will be able to build " portfolios of digital badges and other credentials online to attract the attention of universities around the world." Selective universities are already using online credentials to identify students of outstanding potential. The highest scoring student in edX's Circuits and Electronics course, taught by Anant Agarwal, who now serves as the CEO of edX, was a young man from Mongolia. He now attends MIT.

"Future learning organizations," Carey writes, "are going to use fewer people to teach more students." Given the developmental needs of young people, I am not certain that this will be true in K-12 sector, and I suspect that online and blended learning will continue to be supplemental in most schools. That is not to diminish their importance. Students require the intimacy of the brick-and-mortar classroom, but they also need to learn how to collaborate and to learn online. As Carey writes toward the end of his book, "Liberal education is the work of a lifetime." For students comfortable learning online, a lifetime of learning awaits.

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