

Preface

As I approach my 30th year of employment in higher education, I continue to feel as if I am in Wonderland. The life of the mind is, of course, always filled with wonder, and higher education enjoys proximity to two renewable sources of wonder: young people and a mission of discovery. Immersion in higher education IT adds even more to the wonder: I suspect that careers in IT in higher education leave many of us feeling like we have tumbled down Alice's tunnel to a pool of tears, the queen's croquet grounds, or a mad tea party.¹

My fascination with technology was kindled as a graduate student by a reading of Professor David Landes's *The Unbound Prometheus*, a history of technological change and industrial development in Western Europe from 1750. Landes described how changes in technology and in process occur hand in hand, leading to new forms of industrial organization.² Since that reading, I have been consumed with the desire to understand the historical and institutional context for IT—in higher education. More recently, my understanding was deepened by Professor Martin Trow, who argued that:

IT is embedded in and used by institutions that have a history. The historically shaped characteristics of colleges and universities are highly relevant to the ways IT will be used by (and over time transform) the existing structures of higher education. It is also likely that IT will cut its own channels, leading to the creation of institutions that differ from those of today, institutions where the weight of history does not condition and constrain IT's use.³

Professor Trow was most certainly right. With respect to higher education's administrative and teaching activities, IT has perhaps not fulfilled its promise to the extent witnessed in some other sectors of the economy. Here, the handicraft traditions of teaching and learning in the academy have, as Trow suggests, conditioned and constrained IT's use. Indeed, at some colleges and universities, good instructional technology is viewed as a barrier—or even antithetical—to good instruction. Change is slow.

In scientific research, however, and increasingly in social science and humanities research, IT's role has been transformational. Our ability to simulate and model physical phenomena, living systems, weather, traffic flows, and the economy through IT has placed IT on the same footing as experimentation and theory, as one of the pillars of research method. And Trow, too, was right about IT's capacity to cut its own channels. Today, so-called “open universities” serve hundreds

of thousands of distant degree seekers worldwide through a variety of technologies, and in the time since Trow's essay was written, for-profit postsecondary school revenues have grown at a nearly 19 percent compound annual growth rate to nearly 6 percent of all postsecondary education spending. These institutions, which are expected to comprise nearly 8 percent of U.S. higher education by 2011, are certainly unconstrained by the weight of history.⁴

Lastly, teaching and learning are changing—albeit more slowly—under the influence of IT. More and more courses offer hybrid forms of instruction that are made possible by the networks and various computing and communications platforms that are being placed at students' disposal. At the same time, more and more students are supplementing—or replacing—lectures, seminars, and course materials with resources they uncover on the web.

As we slide farther and farther down the rabbit hole, we stare at or interact in wonder with grids, semantic webs, wikis, podcasts, open education resources, social networks, and other destinations. IT leads us not to a pool of tears, but to “peaks of inflated expectations” or to “troughs of disillusionment.”⁵

Amidst our wonder is confusion. This volume is born of my confusion over where IT is moving and what channels it may begin to cut now in our historical institutions of higher education. This volume, too, is born of the confusion of college and university IT leaders throughout the world who need to make some sense of a chaotic and fast-changing environment long enough to guide institutional investments and to operate needed services for students, faculty, staff, and others. The volume is, if you will, a periodic measurement. It is an ice core from 2008; an assessment of where IT and social behaviors related to IT appear to be headed and of channels they may cut through our historical institutions. This volume is offered as an opportunity for very busy people to reflect on and assimilate the *meaning* of IT to higher education purposes and methods. The contributors to this volume strive to separate those torrents that may cut large and potentially disruptive channels in higher education from those smaller channels that may beautify our institutions or simply disappear without a trace. Creating this volume reflects the belief that educators and technologists need context for our actions and that we need to recalibrate this changing context more and more often. We need to think visions, not vision. We need to think of possibilities, predispositions, and probabilities, not of certainties. We need to think of directions and not fixities.

This volume—in my thinking—really represents the third volume in a visioning and context-setting exercise that began with the writing in 1992 of *Sustaining Excellence in the 21st Century* and continued in 1999 with *Dancing with the Devil*.⁶

Sustaining Excellence chronicled the emergence of the campus network and its capacity to link what we then called the campus technology archipelago. This report forecast the flattening of college and university organizations as access to resources on the network made it possible for members of the organizational community to make decisions without a dependence on formal hierarchies. *Sustaining Excellence* forecast, as well, the federation of central campus systems with local and personal systems, unified via a network and a common user interface.

Dancing with the Devil looked outside the walls of the university as the potential for the Internet and the new World Wide Web created simultaneously (1) the capacity to expand the college or university's presence, (2) unprecedented access to scholarly information resources, (3) the capacity to deliver core academic services at a distance, and (4) the opportunity for profit-oriented newcomers to enter higher education's market. The notion of empowerment permeates both of these volumes.

It Is Still about Empowerment

The theme of empowerment continues to pervade my thinking and the thinking of many of my colleagues. Looking back, I am pleased that I recognized this strand nearly 20 years ago, but I chuckle at my naïveté. In 1992, my colleagues and I at the University of California recognized that the network would draw power from the center of the administration to the myriad departments, schools, and colleges where the real mission of the university is discharged. This group of gifted and visionary central administrators welcomed this new sharing of responsibility. But we all believed that we could control the flow of power and that networks would foster shifts of power—among organizations! We did not understand—like Martin Trow—that IT was a force that would cut its own channels. Today, many writers refer to this empowerment as “consumerization.”

Most futurists overstate the proximity of change and understate its magnitude. The premise of this volume is that the spectacular success of the network, the persistent interconnection of billions of people, the emergence of English as the global language of commerce, and other forces are empowering individuals. This empowerment has the potential to cut imaginable channels in our existing institutions and to make room for new institutions.

One colleague recently asked: Does the emergence of the network, unimaginable resources, and of virtual worlds now make it possible to liberate higher education from economics that are dominated by the cost of maintaining physical environments? Can we provide meaningful and cost-effective learning environments for 100 students? Can we imagine a return to the School of Athens? One need not look far to uncover the impact of IT on neighborhood banks, travel agencies, encyclopedias, libraries, political campaigns, and other institutions. The question remains: How can information technology change historical institutions of higher education? Perhaps in 2008 the question is: What is the role of the *institution* in a world where *individuals* are empowered to seek solutions anywhere in the network cloud?

To understand the possible impacts of IT on institutions, it makes sense to separate the idea of the university from its corporeal form. Western higher education traces its roots to Plato's academy of skeptics nearly 2,500 years ago. This history is dominated by adaptability. Colleges and universities rank among the world's most persistent institutions. Many have survived—in recognizable form—for more than a millennium, despite war, regime change, recession, revolution, and other upheavals.

Universities and colleges have themselves been empowered. Colleges and universities were chartered originally by popes and kings as *places* where *elites* and *experts* were sequestered. Over time, their governance evolved and the dominion of priests and clerics, or that of government ministers, yielded to *shared governance* by rectors and academics. Fueled by the Renaissance, the invention of movable type, the Protestant reformation, democratic egalitarianism, and the Industrial Revolution, colleges and universities grew in number, size, and influence and were largely empowered to govern themselves as perpetuities.

The themes that pervade this history until the 20th century are skepticism, expertise, physicality, expansion, influence, resiliency, empowerment (self-governance), place, and craft. The history of the university has also long been characterized by autonomy and by the separation of utilitarian and nonutilitarian education.⁷ The metaphors of the ivory tower, gated city, sheltered grove, and city-on-the-hill continue to find substance in campus plans and architecture. Finally, and more recently, the university mission and organization were enlarged to recognize the intimate and complex interplay of instruction and research.

Along the way, higher education's gates were swung wide open as societies and individuals came to understand the importance of knowledge in the production of national wealth and social mobility. While the modern college and university retains certain medieval

Table 1. Kant's Polarities Updated: New Conflicts

FROM	TO
Elite	Popular
Pure	Applied
Not-for-Profit	For-Profit
Education	Marketplace
Ivory Tower	Real World

Source: Reprinted with permission from Mark C. Taylor, "Useful Devils," *EDUCAUSE Review*, July/August 2000, 44.

aspects and forms, its adaptability and persistence do not arise out of inflexibility. Professor Mark C. Taylor traces higher education's evolution as shown in Table 1.

This evolutionary sweep is a work in process and today's higher education remains defined by the continued creative tension and debate between utilitarian and nonutilitarian values. Increasingly, I believe, the challenge for higher education is to understand how technology and changing human behavior influence skepticism, expertise, physicality, expansion, influence, resiliency, empowerment (self-governance), place, and craft.

Issues Raised in This Volume

The essays in this volume span a wide variety of topics. The contributing authors are among the best thinkers and practitioners in their fields. In the main, this volume examines issues such as the virtualization of service delivery, the "opening" of software and academic course content, and globalization through the lens of the empowered individual. The contributors raise, but rarely answer, questions about the roles of place, expertise, the library, and governance in the virtualized and distributed world of the network cloud.

The elephant in the room is the question: If a 300-year-old institution like *Encyclopedia Britannica* can be threatened in five years by *Wikipedia*, can other aggregators of expertise (aka colleges and universities) be similarly challenged? Similarly, if knowledge and talent are now globally understood to be the *sine qua non* of the Information Age, then can colleges and universities lever their communities, reputations, credentials, and presence globally? And, finally, how does the new channel cut by information technology change scholarship? Does the existence or accessibility of new tools, instruments, and resources change academic practice, and how do changes—or constancies—get socialized?

Acknowledgments

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If authors are the architects of books, then the editorial and production staff are the engineers that render the words clear, usable, and maybe occasionally inspiring. At EDUCAUSE we are actively trying to experiment and model behaviors that promote openness and that is especially important for a volume like this. This inclination means that we depend on EDUCAUSE staff and contractors for a wide range of editorial, art design, book design, layout, printing, and distribution services. Nancy Hays of EDUCAUSE coordinated the efforts of a large cast of very talented characters. Elizabeth Black, whose paintings I collect, was intrigued enough to produce the towers and clouds that appear occasionally in the volume. She is a gifted artist. Anita Kocourek has done graphic design, layout, presentations, and all things graphic for me for nearly 20 years. She has that rare ability to take my scribbles on napkins and render them into beautiful and meaningful illustrations. Catherine Yang is a trusted and valued colleague

who is one of the best strategic thinkers I know. She provided senior leadership to the editorial, art, and production team. Her kindness and good nature, too, always kept this project of many parts on track. Lorretta Palagi provided expert editorial support.

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Finally, and not at all least, Julia Rudy again worked as my editorial alter ego. Julie began as my editor more than 15 years ago when I was at the University of California and she was at CAUSE. She lured me to CAUSE, then EDUCAUSE, and is not only the best editor I know, she is a friend. Julie postponed retirement to have this last ride with me. It has been a pleasure and honor to work with her and I dedicate this volume to her, just as she dedicated her life to the higher education IT community.

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Endnotes

1. Lewis Carroll, *Alice's Adventures in Wonderland* (London: Macmillan Publishers, 1865).
2. David S. Landes, *The Unbound Prometheus* (Cambridge, England: Cambridge University Press, 1969).
3. Martin Trow, "The Development of Information Technology in U.S. Higher Education," *Daedalus* (Fall 1997): 294.
4. From Jeffrey M. Silber's study, *Education and Training*, published by Equity Research: BMO Capital Markets—U.S. (September 2007): 85–86.
5. From Gartner Hype Cycles, developed by Gartner, Inc., to represent the maturity, adoption, and business application of specific technologies, <http://www.gartner.com/pages/story.php.id.8795.s.8.jsp>.

6. R. N. Katz and R. P. West, *Sustaining Excellence in the 21st Century: A Vision and Strategies for University Administration* (Boulder, CO: CAUSE, 1992); and R. N. Katz and Associates, *Dancing with the Devil: IT and Higher Education* (San Francisco: Jossey-Bass, 1999).

7. See Mark C. Taylor's summary of Immanuel Kant's *The Conflict of the Faculties* in "Useful Devils," *EDUCAUSE Review* (July/August 2000): 42.

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