Introduction

When the organizers of this collection of studies set out to defy the challenge of examining contemporary events while still in the making, they unfortunately and irresponsibly involved me in their adventure, extending an invitation to *corral* (and here I admit to not knowing whether I prefer the first or second definitions of this word “[“An enclosure for confining livestock” vs. “An enclosure formed by a circle of wagons for defense against attack during an encampment”]. Nevertheless, I accepted the task, motivated by what was surely the same goal of the organizers: to not let pass an opportunity to make sense of what goes on around us here and now; that is, not allow readers to carry on into the terrifying and unforgiving world posited by T. S. Eliot: “We had the experience, but missed the meaning.”

The twenty-odd studies which follow are attempts to bring before the reader concrete experiences of pioneering work in the introduction of digitally-based activities, and the evaluation of their reception and impact, in highly differing contexts, both cultural, geographical, and technological. In perusing them one cannot help but admire the social consciousness that drove these innovators, and other individuals that they describe: digitalization of knowledge and information, signifying the migration from a society of scarcity to one of abundance, and hence the creation and growth of “openness” as a philosophy; increasing access to knowledge and the certification of that knowledge to sectors of society hitherto unable to reach it; and the possibility of organizing interested individuals into “communities of learning” and of “practice,” as well as into groups to discover solutions for local problems, finance them, and to pressure governments to act with greater acumen and alacrity.

Enormous benefits have been achieved as a result of digital applications throughout society in recent decades, particularly in the fields of medical diagnosis and treatment, robotics and automation in industry and commerce, reducing the necessity of human efforts in repetitive and uninteresting physical activities in the workplace, but also displacing workers and requiring them to seek new professions and occupations.

This raises the issue of the extent to which the digital revolution has been fueled more by infatuation, hubris, and mammon than by other factors. While it is certainly true that with the employment of digital methods and tools, we are also able to complete older tasks with greater speed, greater precision and with greater power of convergence involving elements heretofore entirely quite separate. But the true test that will increasingly be applied to the new technologies of information and communication is: which of them has permitted us to execute tasks which were unimaginable until now, and which do not require us to abandon social values, principles if you wish, which we’ve held as beneficial and important for many generations. A very tough test, indeed.

This brings to mind a phrase, quite overused and erroneously attributed to being an ancient Chinese curse, but which research has shown is neither ancient nor Chinese: “May you live in interesting times!” (which has the intention of wishing the cursed person “May you experience much disorder and trouble in your life!”). An overview of the impact of digital activities on modern culture produces conclusions at
great variance. Although I had the privilege of creating and directing for almost two decades a laboratory of research and development on ICTs and education at the University of São Paulo, I was consistently fascinated by my readings in an impressive collection of books dedicated to a relatively conservative, feet-on-the-ground, and humanistic view of the role, the promises, and the “quicksand” aspects of the digital world. The following titles give a taste of their focus: Martin Bauer’s *Resistance to New Technology: Nuclear Power, Information Technology and Biotechnology*; Edward Tenner’s *Why Things Bite Back: Technology and the Revenge of Unintended Consequences*; Erik Davis’ *Techgnosis: Myth, Magic + Mysticism in the Age of Information*; Neil Postman’s *Technopoly: the Surrender of Culture to Technology*; Andrew Keen’s *The Cult of the Amateur: How the Internet is Killing our Culture and The Internet is Not the Answer*; Stephen L. Talbott’s *The Future Does Not Compute: Transcending the Machine in Our Midst*; David Shenk’s *Data Smog: Surviving the Information Glut*; Clifford Stoll’s *Silicon Snake Oil: Second Thoughts on the Information Highway*. If I had to stand on one foot while explaining what I learned from all these books, it would be essentially this: a “little bit” of resistance to technology is useful because it acts as a brake on silly or useless plans.

To ignore the criticisms of the skeptics of the digital culture is to run the risk of falling into traps of varying kinds. The overwhelmingly positive results to be found in the international literature, and in the studies in this book, on the employment of ICTs for social betterment should be encouragement enough for researchers still early in their careers. Neither superficially nostalgic views nor prophetically futuristic promises should, by themselves, sway the reader one way or the other. For example, the success of telecenters to facilitate access to the web on the part of dispossessed and elderly persons in society, can be joined to the ideas of “libraries without books” and that of “the third space” of sociologist Ray Oldenberg, who recommends places with “universal access….where citizens are free to congregate and fraternize.”

It cannot be denied that the advent of the computer, and the digital processing it requires, was one of the most important conquests made by humans—the first machine capable of executing more than one type of task, and, in its present stage of development, whether it is sitting on a table, held in the hand, worn on the body, or even adhering to one’s skin—conflating, as it does, the operations of a typewriter, a calculator, a telephone, a television, a phonograph, a modem, and a GPS. It supports one’s work, study, entertainment and social communication, and is increasingly ubiquitous. But, for all that, like many phenomena in the complex contemporary world, it brings with it both benefits and drawbacks. Seen principally in its manifestation permitting the operation of the World Wide Web, considered by many as a major public good, the critics of the web decry it as an “ecosystem” which falsely promises greater democracy. While applauded for increasing an “open culture” (see, for example, www.openculture.org), with considerable potential for the redistribution of power in society, digital culture, its detractors complain, tends increasingly to be closed and to concentrate power and wealth in the hands of a few, not necessarily the same persons who repeatedly, in times past, were the most benefitted.

The free availability of extensive informational resources on the web signifies potential growth in the number of individuals who can chose to study independently, shirking the route of formal schooling and training in favor of learning exactly what one wishes to study, and the manner in which to study it (for more on this, Google: “From Andragogy to Heutagogy”), and this is good. But not all societies permit or encourage such independence, which frequently is concomitant with cultural restrictions on innovation and entrepreneurship. Similarly, without adequate supervision, many young people attempt to “multitask,” simultaneously trying to study to meet their educational responsibilities while listening to music, chatting with friends on social media and inevitably failing to concentrate on the priority activity.
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The Internet, on the one hand, by its very efficiency and flexibility, destroys many occupations, makes thousands of individuals “redundant” and unnecessary in the workplace; but, on the other hand, it also creates new areas of human endeavor, heretofore unknown opportunities for innovation and the use of “imagination.” Certainly, the complexity of the contemporary workplace will require the development of a new class of professionals, “gatekeepers,” whose function will be to assist other professionals (such as in medicine, law, science and technology, among others) to accompany the appearance and evaluation of new ideas, information, programs, applications and ways of working. This also falls into the area of benefits which digital culture brings: the digital appliance which can serve as a non-human personal assistant, intelligent agent, or concierge. But here, too, we find critics who warn that the more intelligent the machines we build, and the better they get at learning, the greater the risks for humankind in general, principally the loss of our control.

Though the Internet seems to provide us with infinite quantities and types of information, the rapidity and continuity with which this happens, and how we should deal with the ever-increasing obsolescence of data and opinions, and the technologies to store them, are problems still to be solved. When digital technologies began to reach into people’s residences, in the early 1980s, I foresaw a day when every voter in a democratic society could use his personal terminal to indicate to the legislator of his district his opinion, and that an impartial registry would collect and make public all such opinions, thus obliging legislators to follow through, when voting, with their community’s thoughts and hopes. Such a simple, inexpensive and useful tool to force true democracy on politicians—but it hasn’t yet come to pass, and I hope that others will take up the study of just why it hasn’t happened and how it could.

While we can see, on the horizon of time, the incipient growth of global online courses offered by universities, companies, syndicates and professional associations, we have yet to study how to perfect the protocols for conducting such courses when participating learners come from different cultures, especially their pedagogical habits. For example, individuals from countries in the Far East are known to have absolute respect for course instructors, never questioning the issues presented or their authoritative sources; whereas learners from North America understand that the more they challenge the instructor’s affirmations, the more they demonstrate their agile and independent thinking, the better will be the grade they earn. And in this potpourri of differing pedagogical strategies we must also recall those from certain European countries which favor taking discussions to their utmost abstract, philosophic levels, while there are others who insist on minimizing an excess of theoretical discussion in order to deal, as much as possible, with pragmatic, real-life aspects of the issues under discussion. How to hold a class under such circumstances, especially when there might not be available the visual clues to indicate irony, sarcasm or disbelief, so important for a good discussion for learning?

Participating in social media, voicing one’s opinions on a variety of topics, even those about which one has only superficial knowledge, may be helpful in reinforcing one’s self-esteem, but if assertions are not accompanied by convincing supporting evidence (which can only come from authentic knowledge), then the exchange of information is merely idle chatting of little enduring benefit. And the digital resources already available to us make it clear that while plagiarism may now be easier than before (merely a couple of mouse clicks), it is also easier to detect it and to confront the offender with the sources “borrowed.”

The issue of greater opportunities for acts of espionage and surveillance when digital resources are employed by governments, entities of civil society, or individuals is a subject of ongoing concern, and will depend as much on differing cultural habits around the world regarding privacy as on the technical advances made to control it.
The research presented here by the respective authors should provoke the reader’s imagination with regard to the need for new research. For example, if the digital revolution is thrusting millions of individuals into new occupations which do not necessarily require a full day’s (eight hours) attention, how can we occupy the minds of such individuals, in their idle hours, through valuable online learning and entertainment activities? Likewise, considering that research shows that over fifty percent of university graduates in the last 50 years have changed professions five or six times during their economically-active careers—that is, they abandoned the careers for which they originally studied, and, being made redundant by the force of technology, or through attraction to other fields of work, have changed paths—what can digital means do to support and facilitate their “migrations”? Twenty years ago, the American scholar of communications Herbert I. Schiller asked: If, in the future, all of the contents of the courses of the very best universities become freely available on the web, what will we do with the other institutions? What digital answers can be uncovered through research on this issue?

Yet another question requires investigation: considering the virtual avalanche of new scholarly information appearing each year, greatly displacing the knowledge held in textbooks used in schools and colleges, how can we justify copyright periods of seventy years on all books, when the useful life of knowledge used in education (science, humanities, and the professions) rarely extends beyond three to five years? Protection for seventy years should be attributable only to those works which will not change for seventy years, such as literary works, musical and dramatic compositions, and the cinema. For all the rest, three or five years should be the maximum protection.

And yet another question which merits investigation with regard to ICTs in society: what are the personality-types that are attracted to certain professions (for example, technology-avoidance types or the opposite), and when the results are in, let us ask: is this good for the profession?

There really is no end to the questioning that the subject of this “brave, new world” of the digital revolution obliges to ask. Going forward with controlled enthusiasm is probably the wisest advice that can be given. Avoid excessive expectations: when seeing exaggerated promises of digital resources permitting highly individualized services, remember anthropologist Margaret Mead’s warning: “Just remember that you are absolutely unique…just like everybody else.”

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