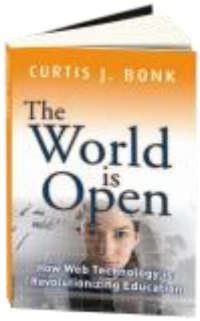
From: Bonk, Curtis, 2009, *The World is Open*: pp 65-69, San Francisco: Wiley Jossey-Bass.



FASTER THAN A FORD?

Throughout history, human learning always has one foot firmly planted in the production of knowledge with the other in the dissemination of and access to such knowledge. Today, the Web of Learning provides the foundation for both. In terms of knowledge access and dissemination, tools for searching and finding information such as Yahoo!, Google, and MSN Search expand and organize one's educational quests. Some people get it; others simply do not.

My friend and mentor, Dr. Brian J. Ford in Cambridge, has wrapped his brain around this issue of access for several decades, and his views are more optimistic and historical than most. Brian was working with computers in the 1970s and first wrote articles on computers 30 years ago. He has been on the Internet since 1993 and his personal website, first launched in 1996, records 40,000 hits a day. Run a search on Google for *e-learning professor scientist* and a link to information about Brian is at or near the top of the list each time, out of 1.5 million search hits from sites around the world.

Before detailing a few of his ideas, it is important to realize that Brian is a leading scholar in the field of biology. In addition, he is an independent scientist, prolific author, internationally known researcher and scholar, popular interpreter of scientific issues for the general public, lecturer in many countries, current and former fellow with many universities, former director of British Mensa, and BBC television and radio personality. He hosted a TV game show, *Computer Challenge*, which is likely on TV in

America as I write. But the list goes on. Brian is also a pilot, piano and keyboard player (who began by jamming with rock guitarist Dave Edmunds), popular cruise ship speaker, award winning photographer, scuba diver, and trained marksman. What caught my attention is that he is author of a satire on science and education that claims to be a book with the world's longest title of over 40 syllables.[1] It's too long to include here. Where would someone with such a background and interests file his publications and reference information? Why, on the Internet, of course.

In trips to London and to the University of Leicester in the UK during the past few years, as well as in our many email conversations, I have had many chances to discuss emerging technology trends with Brian: in particular, e-learning and access to such learning. I could see that this extraordinary man was enamored with the Web of Learning. Perhaps, this biologist viewed it as a Web of Life.

Despite all his accomplishments, when I first met Brian in March 2005, he had taken up residence at the University of Leicester with the express purpose to conduct e-learning research under the tutelage of Dr. Gilly Salmon, the UK's e-learning guru. Why? Well, he realized that every college and university around the planet now had a Web presence, but this presence needed to extend beyond online books, presentations, and lectures. Brian knew that much of the content found online was backward-looking, or even deficient. He pointed out that little research was being done on the quality and interactivity of such contents. And he set off to do some new research, as well as take account of the work others had done.

I could sense from our many discussions that there was a revolution brewing, and he wanted to be a researcher, teacher, and advocate within it. Brian had taken up similar duties during preceding generations of educational delivery technologies—correspondence, radio, television, and computer-assisted instruction. He told me that as had happened throughout human history, new educational doors were opening. But the pace of such change today was much more rapid, and as a result, the opportunities were more diverse and extensive.

Brian had done a previous fellowship at the famed Open University in Milton Keynes and had witnessed firsthand the power of correspondence courses including television lectures at "ungodly hours" that could be recorded and watched at a later time—as many times as one wanted. That

too was a revolution since learning did not have to take place at the school, college, or corporate training setting. Instead learning happened at one's home while wearing night slippers and quietly sipping one's favorite brew.

Brian told me that "The Web just offers access at speed. But just because something is good, doesn't make it a good read." As such, resources and materials that might be posted online are not automatically improved over other choices or made more palatable. Nevertheless, we, the human race, have entered a period that has immense and unparalleled implications for teaching and learning. Links to new ideas and resources are available in the blink of an eye. Blink twice and you might be amazed with the resources that you can mold, shape, and reuse for educational gains.

Brian wanted me to think about just how much the speed of access had changed since Newton's times at Cambridge where he, too, is based. He asked me to think still harder and consider life hundreds of years earlier. I tried this thought experiment, but my years of searching in Google and Yahoo! had clouded my judgments. When I returned home from a trip to the UK in January 2007, Brian sent me an article he had just penned for *Laboratory News*. In the article, he openly wondered how productive he would have been if he had been required to ride on horseback to get to the university library, as had been the case 500-600 years prior. In addition to the arduous journey to the library, he would still have to find information once inside. Worse still, the scholar would need to wait for days, weeks, or months, for a scribe to produce a copy of any document that corresponded to his interests.

The printing press reduced timescales for the producers as well as consumers of knowledge. Now time might be measured in minutes, hours, or days, instead of weeks or months. And multiple copies of learning materials could swiftly be made available for learners, not just at one location, but anywhere with a postal code and enough money to purchase them. Brian reminds us that recordings of lectures on cassette have been used for decades, and photocopiers have saved incalculable amounts of time. He sees the single idea of digitization as having reduced the time lapse from months or hours to mere milliseconds. And with it, educational opportunities open up and multiply!

The Web of Learning has benefited from these reduced access times still more. Brian J. Ford states:

> The Internet, however, is the ultimate miracle. A mouse click takes you to the library; you can search not only for titles, but for content. Google, Yahoo, and the rest are digitizing books everywhere. Now, if you need to access comments inside a book from the other side of the world, we are down to milliseconds. The fact that you can search instantly for any term – in any book – is something that you could not do with the printed word. Digitization alone has made that possible.[2]

It was May 14, 2008 when I caught up with Brian on a beautiful day in Atlanta. He was about to speak to a group of microbiologists about his new theory related to the intelligence of cells, and I was airport hopping on my way to speak in Charlotte, North Carolina. Soon he was showing me amazing footage of living cells making what appeared to be purposeful decisions, some with obvious eye-like lenses and retinas. If cells are intelligent, then the brain is not the only organ in the body in which to study human thinking and action.

As always, our discussion turned to e-learning. Could cells display similar intelligence to what is seen in smart mobs of humans who band together as text messages come in? Finally, I found a question he could not answer. Next, we discussed the evolutions of educational technology during the past few decades and what e-learning presented that was different for human learning. I asked Brian about the evolution of learning technologies he has been involved in since his initial work with the BBC and even before that. He told me:

> When I was a kid, I can remember seeing the occasional bit of film or a tape locked away in a drawer; or a rare book. And if I happened to bump into a friend who might ask me, I could show him that very page on which the section of text that interested him was situated. Now that book, if I wish to, that tape, that film, that photograph, can go straight on the Internet. The Internet conveys immortality. It confers permanent immortality on fleeting realities. And, as a result, things you have forgotten in the bottom of a dusty drawer, are out there forever, digitized for everyone to access, anytime they like, and wherever they are in the world.

Yes. Digitization could conceivably make every idea in every book written and saved, available for educational as well as non-educational uses. For Brian, such possibilities represent the most gigantic step ever for teaching and learning. And this is swiftly moving from possibilities to actualities. As proof, many such digitization efforts—especially those related to e-books—are noted in this chapter.

---

[1] *Wikipedia*, 2007, s.v. "Nonscience," http://en.wikipedia.org/wiki/Nonscience (accessed July 20, 2008).
[2] Brian Ford. "Absolute Zeno," *Laboratory News* (January 16, 2007): 16, http://www.brianjford.com/a-05-ZENO.HTM (accessed July 26, 2007).