
JUST SAY KNOW? SCHOOLING THE KNOWLEDGE SOCIETY

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As every age seeks to name itself in a single catch phrase, the three books reviewed here — Andy Hargreaves's *Teaching in a Knowledge Society*, Barry Smith's *Liberal Education in a Knowledge Society*, and Peter Jarvis's *The Age of Learning* — converge on *knowledge society* as a defining characteristic.¹ With knowledge the key feature of this society, it should be a wonderful time to be a university professor, and a professor of education to boot. After centuries of professorial disparagement (as mad scientists), mockery (as absent-minded professors) and isolation (in ivory towers), it would seem that our ship has come in. We might be expected on looking back to this time, if we are still given to reciting verse, to declaim in our old age:

Oh! pleasant exercise of hope and joy!
 For mighty were the auxiliars which then stood
 Upon our side, we who were strong in love!
 Bliss was it in that dawn to be alive,
 But to be young was very heaven! — Oh! times,
 In which the meagre, stale, forbidding ways
 Of custom, law, and statute, took at once
 The attraction of a country in romance!
 When Reason seemed the most to assert her rights,
 When most intent on making of herself
 A prime Enchantress — to assist the work
 Which then was going forward in her name!

These are the opening lines of Wordsworth's "The French Revolution as It Appeared to Enthusiasts at Its Commencement," composed in 1804 as part of his autobiographical poem, *The Prelude*, having visited France during those heady days of 1792.

Today, the emergence of the knowledge society brings on its own "pleasant exercise of hope and joy" and bliss, it might seem, to be alive, if not still young, given all that we have invested in knowledge and learning. Yet the source texts of today's revolution are nothing like Jean-Jacques Rousseau's *Social Contract*, or even Denis Diderot's *Encyclopédie* (which was banned from prerevolutionary French bookshops for what it would make publicly known). Themes of liberty, equality, and (not-so-gender-equal) fraternity do not form the banners of the knowledge society. This time the *agent provocateurs* and mighty *auxiliars* are the two Peters, namely Peter F. Drucker, who in 1964 started using the term "knowledge worker" in his *Managing for Results*, and Peter Senge, who popularized "learning organizations"

1. Andy Hargreaves, *Teaching in a Knowledge Society: Education in the Age of Insecurity* (New York: Teachers College Press, 2003); Barry Smith, *Liberal Education in a Knowledge Society* (Chicago: Open Court, 2002); and Peter Jarvis, *The Age of Learning: Education and the Knowledge Society* (London: Kogan Page, 2001). These works will be cited in the text as *TKS*, *LE*, and *AL*, respectively, for all subsequent references.

in 1990 with *The Fifth Discipline: The Art and Practice of the Learning Organization*.² This new age of knowledge is not advanced by works that boldly begin, "Man is born free; and everywhere he is in chains," or by an illegally published encyclopedia, but by PowerPoint slides, with their bulleted points projected on hotel ballroom walls:

- Distributed intelligence
- Collective cognition
- Flexible ingenuity

The knowledge society — also known as the knowledge-based economy — represents a managerial revolution in what might be thought of as a transformed commodities market. It makes a Western virtue of transferring the manufacturing sector overseas, while retaining the "knowledge work" necessary to manage this global financial system. As Drucker saw it a decade ago, knowledge has become the era's hot property, to be owned and traded:

The acquisition and distribution of formal knowledge will come to occupy the place in the politics of the knowledge society which acquisition and distribution of property and income have occupied in the two or three centuries which we have come to call the Age of Capitalism.³

Knowledge has become business's next big thing. It is like the subject of the famous career tip that Benjamin Braddock received in *The Graduate* forty years ago: "I just want to say one word to you. Just one word. Plastics." Today, Ben should clearly go into knowledge, knowledge that is patentable and value-added, knowledge that is derived from data-mining, market research, management strategies, and learning organizations. The American business sensibility, which has long stood as one of the nation's pillars of anti-intellectualism, has made this knowledge commodity its edge in global competition.⁴

2. Peter F. Drucker, *Managing for Results* (New York: Harper and Row, 1964); and Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday, 1990). On whether this knowledge-based economy is such a recent phenomenon, it is advisable to consider studies by economist Joel Mokyr, who makes the case for an eighteenth-century "industrial Enlightenment" in which the competitive achievement of Great Britain was furthered as much by knowledge distribution systems that ran through factories and homes (such as hygiene) as by celebrated industrial inventions. See Joel Mokyr, *The Gifts of Athena: Historical Origins of the Knowledge Economy* (Princeton: Princeton University Press, 2002). Also, literary scholar Alan Rach examines nineteenth-century popular obsessions with knowledge, perhaps most aptly characterized by the widely read publications of the Society for Dissemination of Useful Knowledge. See Alan Rach, *Useful Knowledge: The Victorians, Morality, and the March of Intellect* (Durham: Duke University Press, 1999).

3. Peter F. Drucker, "Knowledge Work and Knowledge Society: The Social Transformations of this Century" (lecture given at Harvard University, 1994), http://www.ksg.harvard.edu/ifactory/ksgpress/www/ksg_news/transcripts/drucklec.htm.

4. In his well-known book on the theme of anti-intellectualism in American life, historian Richard Hofstadter writes, "If evangelicalism and primitivism helped to plant anti-intellectualism at the roots of American consciousness, a business society assured that it would remain in the foreground of American thinking." Richard Hofstadter, *Anti-Intellectualism in American Life* (New York: Vintage, 1962), 49.

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However little knowledge's capitalization may seem to have to do with scholarly inquiry, university research and instruction are increasingly coming under its sway.⁵ So we find pharmaceutical companies restricting the publication of the clinical trial research that they are increasingly underwriting; we see universities claiming ownership of faculty members' online courses, in their pursuit of global market opportunities.⁶ Corporate incursions into scholarly publishing over the past few decades have made access to knowledge in the form of journal subscriptions increasingly unaffordable for research libraries, which cannot help but seem a small, if alarming, irony for universities in a knowledge society. This has led to an emerging "open access" movement among faculty members and librarians, who are actively creating alternative models of journal publishing that enable far greater public and global access to research and scholarship, thereby increasing its value as a public good. These efforts have the potential to shift the foundation of the knowledge society, creating a situation in which the sort of knowledge we work so hard to produce in universities might be treated, not solely as an economic good, but as a resource that is best made publicly available wherever possible.⁷

Despite the challenges posed by knowledge society economics, this model is coming to roost in schools of education, as the three books under review attest in advising teachers to work with and against this society/economy's strategies, to help students learn valuable skills and knowledge, and to emphasize life-long learning within a restructured job market. This is not to say that the authors blindly follow the knowledge society's siren call. Yet, for all their critique and caveat, they make their peace with it by seeking to establish what is worth knowing in the knowledge society — whether in the sense of reaching the peak of your creative powers, as in Andy Hargreaves's book; extending the very limits of education, as in the Barry Smith collection; or creating a greater place for your humanity, in an ethical and spiritual sense, as in Peter Jarvis's collection.

Now, public education has always had this awkward relationship with the economy. After all, some would say that public schooling itself was originally instituted to deal with the surplus childhood workforce created by industrial

5. See, for example, Derek Bok, *Universities in the Marketplace: The Commercialization of Higher Education* (Princeton: Princeton University Press, 2000); Roger L. Geiger, *Knowledge and Money: Research Universities and the Paradox of the Marketplace* (Palo Alto: Stanford University Press, 2004); and James Turk, ed., *The Corporate Campus: Commercialization and the Dangers to Canada's Colleges and Universities* (Ottawa, Ontario: Canadian Association of University Teachers, 2000).

6. See Jon Thompson, Patricia Baird, and Jocelyn Downie, *Report of the Committee of Inquiry on the Case Involving Dr. Nancy Olivieri, the Hospital for Sick Children, the University of Toronto, and Apotex Inc.* (Ottawa, Ontario: Canadian Association of University Teachers, 2001), <http://www.caut.ca/en/issues/academicfreedom/olivierireport.asp>; and, for the Bryson Decision, see "Landmark Academic Freedom Decision at UBC," *CAUT Bulletin Online* 54, no. 4 (2004), <http://www.caut.ca/en/issues/academicfreedom/marybryson.asp>.

7. See John Willinsky, *Rights and Vanities: The Case for Open Access to Research and Scholarship* (Cambridge: MIT Press, in press). The practical and programmatic dimensions of this work consist of researching questions regarding access to knowledge and of developing open-source publishing software for journals and conferences. See also the Public Knowledge Project, University of British Columbia, <http://pkp.ubc.ca>.

advances in the latter half of nineteenth century, with an eye toward providing the young with new skills, daytime warehousing, cultural integration, and a cooling out of expectations. Yet such an economically determinist conception of education has long been resisted by the brave and contrary spirit of many a school teacher. Think of George Sampson who, in writing about the role of teaching literature in secondary schools a half-century ago, boldly held that "it is the purpose of education not to prepare children for their occupations, but against them."⁸ Teachers have long seen themselves as public servants protecting the young and innocent from business's avarice. Teachers have fought hard to keep the corporate wolf outside the schoolroom door, even as their unions fight the privatization of public education.⁹ They face an even greater challenge now that the knowledge society comes wrapped in the garb of creativity, ingenuity, and continuous learning. Further complicating this situation, as Drucker points out, is how difficult it will be for "the knowledge society to give decent incomes and with them dignity and status to non-knowledge people." After all, knowledge workers will amount to no more than a "large minority of the workforce," according to Drucker, which leads him to warn of the "danger of a new class conflict."¹⁰

Of the three books, *Teaching in the Knowledge Society* by Andy Hargreaves, Thomas More Brennan Professor of Education at Boston University, is perhaps the most cautious about schooling in the knowledge society. The book's subtitle, *Education in an Age of Insecurity*, not only refers to a post-9/11 America, but to an America in which school teachers are beset by high-stakes testing reforms, based on the singular measure of achievement scores, that have become the dominant political response to the educational needs of this knowledge society. Teachers are Hargreaves's audience, and he ministers to their sense both of possibility and of entrapment within what he identifies as the "knowledge society triangle," which offers them three stances: A teacher can play the role of a *catalyst*, realizing "all the opportunity and prosperity" the knowledge society promises; a *counterpoint* to its lack of "inclusiveness, security and public life"; or a *casualty* of the "standardized solutions" (TKS, 10).

Hargreaves guides teachers toward pursuing the roles of catalyst and counterpoint. The key is to teach *for* and *beyond* the knowledge society in an effort to preserve education's standing as a public good within what is otherwise the knowledge economy's focus on private ends, from shareholder-value to return-on-investment. Yet, at the core of this twin approach of teaching for and beyond the knowledge society, Hargreaves ultimately sees schools incorporating the same "basic changes in how corporate organizations function so that they enhance continuous innovation in products and services by creating systems, teams, and

8. George Sampson, *English for the English* (Cambridge: Cambridge University Press, 1952), 11.

9. See Maude Barlow and Heather-Jane Robertson, *Class Warfare: The Assault on Canada's Schools* (Toronto: Key Porter, 1994); and Larry Kuehn, Maria de la Luz Arriaga Lemus, Dan Leahy, Vicky Smallman, and Manning Marable, eds., *Globalization, Privatization, War: In Defense of Public Education in the Americas* (New York: CUNY, 2002), <http://www.psc-cuny.org/ICwhole.doc>.

10. Drucker, "Knowledge Work and Knowledge Society."

cultures that maximize the opportunities for mutual, spontaneous learning" (TKS, 17). What was not so long ago the spirit of free love — brought to mind by Hargreaves's citing of music lyrics from the 1960s — has been transformed into the "mutual, spontaneous learning" of this new age of corporate culture.¹¹

In order for teachers to participate in the "grown-up" world of adults working toward a common institutional goal, as Hargreaves sees it, they need to take their lead from the best of this knowledge society's corporate sector and strive to form learning systems, learning organizations, and professional learning communities, as "no one teacher knows enough to cope or improve by himself or herself" (TKS, 25). Now this pursuit of a "collective intelligence," in association with its close ally "emotional intelligence," can seem like a breath of fresh air in schools, where highly competitive, test-driven classrooms predominate (TKS, 26–27). Yet what is lost in this improve-the-learning-systems approach, with its development of "the capacity to motivate oneself and others," is any room for thinking through the very purpose of that system, and what it does for, say, those who will not have the choice of becoming, or will not choose to become, knowledge workers (TKS, 26).

Certainly, Hargreaves is right to hold that it is only educationally responsible to promote students' opportunities in this knowledge society. But if "all children must be properly prepared for the knowledge society and its economy," it also seems important to ask whether the knowledge society is itself properly prepared for all children (TKS, 21). In raising this question I do not mean to suggest that students need to be further streamed in school, as if to prepare them either for knowledge or non-knowledge work, to use Drucker's terms. The schools have always done more than their share in sorting students out for the economy. They have done less well in preparing students to advance the general democratic quality of their society and workplace. And this seems to me part of an educational responsibility that will help to maintain just the sort of balance that Hargreaves seeks for schools in the knowledge society.

For as fully as Hargreaves appears to be jumping on the corporate-think wagon in his first chapter, he turns on this "so-called knowledge society" in the second, accusing it of being a place where "style prevails over substance," leaving us with neither solitude nor community (TKS, 38–39). It is in this chapter that Hargreaves stresses the need for "protecting and strengthening democracy" and "preserving the public, communal democracy that parallels the knowledge society and is also imperiled by it" (TKS, 54). He warns of globalization's "vast morality deficit," while drawing on the work of Benjamin Barber and Manuel Castells in explaining

11. On this kinder, gentler capitalism, Slavoj Žižek cautions that "the topic of 'new' digitalized capitalism" and the "latest trend in corporate management" is to do precisely what Naomi Klein calls for in her critique of global capitalism, namely, to "diversify, devolve power, try to mobilize local creativity and self-organization." See Slavoj Žižek, "The Ongoing 'Soft Revolution,'" *Critical Inquiry* 30, no. 2 (2004): 294, emphasis in original; and Naomi Klein, *Fences and Windows: Dispatches from the Front Lines of the Globalization Debate* (Toronto: Vintage Canada, 2002), 245. "Would she not be applauded," Žižek hardly needs to ask of her call for mobilizing local creativity, "by contemporary capitalist modernizers?" 294. Consider, for example, Starbucks brochures that speak of how "we fulfill our mission to contribute positively to our communities and our environment."

the rise of fundamentalist and terrorist responses to this new form of global domination (*TKS*, 47). On the question of where should we turn at such times, Hargreaves urges that we seek “a cosmopolitan rather than a conquering vision of a globalized knowledge society” (*TKS*, 48). The cosmopolitan vision comes up again in Smith’s book, and it is important to recall that Immanuel Kant introduced this concept in his proposal for “perpetual peace,” which was based on a recognition of universal or cosmopolitan rights that he felt would exist among communities adhering to the rule of reason.¹² In a similar spirit, Hargreaves holds globalization to be a matter not only “of market opportunity but of moral responsibility to the less fortunate of our world” (*TKS*, 48). The ethical and alliterative force of Hargreaves’s writing is worth noting. It adds to the sense of urgency and resolve he brings to this Age of Insecurity — all the more so, as he fittingly explains that his endowed chair at Boston College is a tribute to Thomas More Brennan, who was a victim of the World Trade Center attack.

Hargreaves next provides the book with a welcomed empirical basis by reporting on a series of case studies in which he participated in New York State and Ontario schools. The schools are obviously caught in the throes of knowledge society reforms, and, to his credit, Hargreaves is not afraid to present the voices of teachers who support standards-based reforms that he, on the contrary, feels suck the life out of education. Yet his main focus is on those teachers who have suffered the other side of this reform: “I love teaching...but right now I am so depressed about the politics surrounding teaching that I sometimes do not know how I will go on” (*TKS*, 118). In a sense this book hinges on his good fortune in finding Blue Mountain secondary school in Ontario, which proved to be the “epitome of the knowledge society,” and in a good sense (*TKS*, 127). Here we see all of the key terms represented in the day-to-day workings of the school: collective intelligence, learning organization, learning community, systems thinking, and continuous improvement. Sure, Blue Mountain had a new building, teachers with laptops, and a community of middle- to upper-middle-class families working in its favor; still, there is much value in hearing from an inspired teaching team, in seeing how innovative Leadership Teams and Key Process Teams work, and in learning about the caring and excitement that marked this school.

That does not mean it can happen everywhere, or in very many schools at all, but it is nonetheless important to learn how the learning community can work in one special school, and work well enough that you can begin to understand Hargreaves’s faith in a systems model. It also turns out that over time Blue Mountain suffered its own setbacks in the face of provincial standardized reforms, even as it was held up as a provincial model for others to follow. Hargreaves deserves full marks for realistically conveying the pathos of bureaucratic processes.

12. Immanuel Kant, “Perpetual Peace: A Philosophical Sketch,” in *Kant: Political Writings*, ed. Hans Reiss, trans. H.B. Nisbett (Cambridge: Cambridge University Press, 1970). The sketch was an immediate response to the wars of revolutionary France. For current discussions of Kant’s ideal, including its Stoic roots and its global democratic potential, see James Bohman and Matthias Lutz-Bachmann, *Perpetual Peace: Essays on Kant’s Cosmopolitan Ideal* (Cambridge: MIT Press, 1997).

Hargreaves works this bifurcated idea of teaching *for* and teaching *beyond* the knowledge society with equanimity (TKS, 79–80). His common goal here is furthering the learning community, that happy expression of collective intelligence, which he sets against “performance-training sects” that attempt to guarantee results through intensive teacher training, giving priority to low-achieving students, and focusing on areas such as literacy and math (TKS, 176–177). He acknowledges the educational benefits of providing strong support structures and grants their demonstrated success in improving test results, especially among poor and minority students. But still he is dismayed by how sect-like and dogmatic these performance-training approaches are. Teachers have little opportunity to engage *in their own* learning communities devoted to sharing inquiry and developing local solutions. There is something less “grown-up” about teaching based on training rather than on directing your own learning and sharing. He also offers the troubling scene of poor schools dominated by performance-training sects while creative learning communities blossom in more affluent neighborhoods.

One cannot help but share Hargreaves’s concern that “performance-training sects may well trap ‘underdeveloped’ schools and their teachers within cycles of minimum competence” (TKS, 191). Yet to suggest that these students will end up serving their superiors in restaurants and health spas for the simple reason that they do not learn “to create knowledge, develop their ingenuity, or solve unfamiliar problems” is hardly a convincing analysis of the knowledge society’s class basis (TKS, 196). This view tends to reinforce the democratic myth that schools are the engine of equal opportunity. For schools cannot, in good faith, promise all young people “a chance to be among the most successful, high skill workers within the knowledge economy,” or at least they cannot yet promise anything like a *reasonable* chance at such positions (TKS, 192). To then speak, as Hargreaves does, of nations facing up to “the challenge of redistributing economic and social resources across the society” rings a little hollow, as it is not clear how encouraging teachers to teach with and beyond the knowledge society will affect current patterns of resource distribution (TKS, 205). It only serves, first, to draw attention to how much more thought and effort are needed on this question of *equality*; moreover, it shows how far equality and other human rights are from this business agenda of organizations learning collectively in the pursuit of continuous improvement, in order to “respond quickly to their unpredictable and changing environments” (TKS, 127, 204).

Still, there is no denying that Hargreaves makes an effective case for teachers striving to set up professional learning communities, going well beyond Peter Senge’s own look at applying his principles to the schools.¹³ In this way, Hargreaves provides teachers and administrators with a sense of hope and possibility against considerable educational and political challenges. But that still leaves us with the agenda question. What exactly are we to learn *about*? What do we need to

13. Peter M. Senge, Nelda H. Cambron McCabe, Timothy Lucas, Art Kleiner, Janis Dutton, and Bryan Smith, *Schools That Learn: A Fifth Discipline Fieldbook for Educators, Parents, and Everyone Who Cares About Education* (New York: Doubleday, 2000).

know, as teachers and students, to extend the democratic quality of our lives, which may lead us at times to take a stand against our occupations, in the spirit of George Sampson, as well as against an economy and a government based on the knowledge of too few?

It would seem that these learning communities need to devote more attention to the question of how schools can serve a wider swath of students at the very point where they stand side by side, on equal footing, imbued with certain rights and responsibilities, as citizens in a democracy should stand. Students and teachers might then begin to take on democracy's serious knowledge work, such as addressing the political system's shortcomings in realizing its ideals and dreams. As a result of knowing what to expect from this knowledge society, they might grow skilled at improving those prospects and expectations by degrees. The students might also learn to identify specific points of democratic failure, and various means of addressing those failures, while helping others to learn about and act on them, whether within or beyond the knowledge society.¹⁴

There is a very different kind of give-and-take on this theme of the knowledge society to be found in the collection of essays that make up *Liberal Education in a Knowledge Society*, edited by Barry Smith, a professor of philosophy at the University of Buffalo. The book takes its title from the chapter by Carl Bereiter, professor emeritus in human development and applied psychology at the Ontario Institute for Studies in Education (OISE), with spirited critical responses following Bereiter's "target article" (as it is identified) from economists, philosophers, humanists, and educators, each taking aim at his construction of liberal education and knowledge societies. With a concluding rejoinder by Bereiter at the end, it makes for one of the liveliest and more focused collections I have encountered in some time.¹⁵

Bereiter's approach to *liberal* education is certainly provocative. He begins by identifying "two of the most important influences" on education today as "futuristic business literature" and cognitive science (*LE*, 11). Now futuristic business literature may initially strike you as a term of some opprobrium, but Bereiter, like Hargreaves, is fully prepared to advise schools to run with this literature's "revolutionary vision" of knowledge-based organizations maximizing the knowledge resources "generated out of (and to a large extent residing in) the work of everyone in the organization" (*LE*, 16). Unlike Hargreaves, Bereiter's goal is to turn the school into "a workshop for the generation of knowledge," in which "learning is not [students'] job...their job is producing knowledge" (*LE*, 12, 19). This is not about

14. Easier said than done? On my practical, school-based efforts at addressing democratic shortcomings, see Patrick Inglis and John Willinsky, "The Soup Kitchens of Democracy: Practicing Theory," in *The Practical Critical Educator*, eds. Robert E. White and Karyn Cooper (Dordrecht, The Netherlands: Kluwer, in press); and John Willinsky, "High School Postcolonial and the Students Ran Ahead" (University of British Columbia, unpublished paper).

15. The book grew out of a conference that both honored Bereiter's four-decade association with the book's publisher, Open Court — dating back to his development of the still highly regarded Open Court Reading Program — and brought his work under critical scrutiny from a wide range of disciplinary perspectives, much to the credit of both Bereiter and Open Court.

setting up learning organizations, or creating project-based, child-centered, and discovery learning, with children “playing at being scientists” (LE, 22). No, it is about having schools emulate the type of knowledge-intensive models used by research laboratories, as well as “market research and opinion research companies, and research and design departments within larger organizations” (LE, 19). By way of an example of what is accomplished in the school’s knowledge workshop, he refers to how one student’s query on what keeps gravity from leaving the earth is met by another student’s response that she “has read that gravity is a force between things and therefore not something contained within things. Several students seize on this as making sense of the idea they have heard that gravity is everywhere” (LE, 23). Bereiter explains that “we do not know how much has been *learned*,” only “that knowledge has been produced” (LE, 24, emphasis in original). Knowledge is produced by making sense of ideas, which leads to the *liberal* aspect of this approach.

Students are to be taught to focus their work on, in Bereiter’s words, “immaterial knowledge objects that can be discussed, modified, replaced,” consisting of “theories, problem formulations, historical accounts, interpretations, proofs, criticisms and the like” (LE, 27, 29). He takes his model for this realm of ideas from the philosopher Karl Popper’s model of three worlds, with the result that students are set to working with, among other things, ideas of evolution, the Pythagorean Theorem, Newton’s laws, and Plato’s scheme of a republic.¹⁶ And when a student points out that “Mendel worked on Karen’s problem,” referring to a classmate, you can appreciate why Bereiter is rightly proud of how the students are working in the company of giants (LE, 29). The young are to be initiated “into a culture that transcends the particularities of their social and ethnic background” (LE, 12).¹⁷ I am not at all sure that one culture can transcend another. Can a culture transcend the particularities of its own social and ethnic background and still be a culture? And isn’t there great educational value in considering the historical and cultural particularities of important ideas like evolution or Plato’s republic? Bereiter holds that “enculturation into a cosmopolitan World 3” is nothing less than a matter of “children’s rights to education,” rights that are otherwise threatened, in his eyes, by multiculturalists who would go on about, for example, “Eurocentric science” (LE, 31). Although Bereiter is clearly weary of identity politics, if “World 3 transcends cultural boundaries” *because* in part its propositions are “open to challenge by anyone anywhere,” then this transcendentalism should be kept open, without suggesting that multicultural, feminist, or even historicizing inquiries somehow endanger children’s educational rights (LE, 30). Such inquiries could well enrich their education.

16. Popper describes three worlds or realms: World 1 is the physical world; World 2 is, as Bereiter explains, “the subjective world, comprising the knowledge in people’s heads”; and World 3, which is made up of conceptual objects, is the one at issue in his educational program (LE, 27).

17. A.W. Carus, the chairman of Open Court, takes this a step further in his contribution to the book. His chapter focuses on moral expertise, and he frames it as a defense of Bereiter’s proposal: “The Platonic/scientific canon should be learned by everyone because it is better suited than any alternative as the basis for a genuinely autonomous mental life” (LE, 216).

A clear picture of how a World 3 classroom can work is afforded in the chapter by Marlene Scardamalia, Bereiter's collaborator and the President's Chair in Education and Knowledge Technologies at OISE. Scardamalia's contribution to the book provides an impressive series of classroom examples, drawn from across the K-12 grades, of this World 3 pedagogy. She includes screen shots taken from her and Bereiter's commercially available software program, Knowledge Forum, which provides students with, for example, "scaffolds" or prompts to guide their writing, such as "My theory..."; "This theory cannot explain..."; and "Putting our knowledge together..." (LE, 87). Knowledge Forum is by far the most sophisticated piece of educational software available today for helping students to think through and share ideas. In analyzing how students use this tool, Scardamalia focuses on the "collective cognitive responsibility" demonstrated, as people "take responsibility for knowing what needs to be known and for insuring that others know what needs to be known" (LE, 69). It makes for a convincing educational display, as we see first-grade students theorizing on why leaves turn different colors in the fall ("I think the chlorophyll goes into the tree to keep warm") or fourth-grade students exploring how light and color work ("We were wrong. The moon looks blue because there is a lot of dust in the air") (LE, 82).¹⁸ What could be more admirable, and respectful of the minds of the young, than providing them with the very thing one has enjoyed most in academic life? Well, the rest of this collection offers critics aplenty willing to press, if gently, the limits of Bereiter and Scardamalia's proposal.

For example, a chapter by Cambridge University economists J.S.S. Edwards and S.C. Ogilvie calls into question the very idea of the knowledge society that is central to Bereiter's work, pointing out that it is "the production of services" that accounts for seventy percent of U.S. workers today (LE, 41). The evidence that these two economists assemble also identifies a need for systematic and specific support for low achievers, who are destined to be in a worse position economically than they would have been thirty years ago, while "the economic evidence shows no obvious problems of any significance in the education received by high and middle achievers" (LE, 52). So, despite the claims in Scardamalia's chapter that this knowledge-generating approach is given to "democratizing knowledge" and "collective responsibility" (LE, 80), Edwards and Ogilvie see this "know-biz" approach adding to the economic inequities, especially in the United States and England. High and middle achievers appear to have been well served educationally in this knowledge society, even though they may leave school with, according to research Bereiter cites, "pre-Newtonian conceptions of physics, pre-Darwinian conceptions of biology and pre-Smithian conceptions of economics" (LE, 15). Such dissonance raises questions about whether we really understand what education is needed, or will serve the interests of all, in a so-called knowledge society. It also serves to remind us that the close study of how research laboratories or knowledge societies

18. Knowledge Forum is intended to offer the teachers something concrete "to take the place of recipes," according to Bereiter, and thus has "a very strong pedagogical bias," although it does not "proceduralize or micromanage the learning process" (LE, 241). Knowledge Forum can be viewed and experienced at <http://www.knowledgeforum.com>.

operate does not yet figure in the formulation of Scardamalia and Bereiter's educational proposals.¹⁹ But then neither do such proposals address the increasing income gap that this economy — be it knowledge- or service-based — has created among people, or how this gap affects the education of their children.

The material situation of ideas is a theme in Gordon Wells's contribution to this book. Wells, who was Bereiter and Scardamalia's colleague at OISE for many years (as was Andy Hargreaves), takes a different approach to developing an educational program based on the idea of knowledge generation. Wells's version takes the form of an Inquiring Communities project that emphasizes how knowledge arises out of activities, especially activities that include collaborative discourse. For Wells, "knowledge isn't *in* the text [in an immaterial sense]. Knowledge is what is (re)created and advanced in the course of the reader/writer's transactions *with* the text and in the oral discourse that frequently accompanies these transactions" (*LE*, 115, emphasis in original). While Wells shares Bereiter's penchant for cognitive science, he leaves aside the "futuristic business literature" and Popperian epistemology in favor of a cultural archeology of the mind. Drawing on the work of Kieran Egan and others, Wells situates what he does within a phylogenic stage-theory in the grand evolution of knowledge. According to this theory, knowledge has evolved from a strictly instrumental form of knowing that took shape some two million years ago (in association with tool making) to the current age of meta-knowing.²⁰ However, the accumulated impact of earlier modes, Wells points out, should not be sacrificed to an exclusive focus on theoretical knowledge or metaknowing, which is a danger he sees as inherent in Bereiter's World 3 focus on theory building (*LE*, 119).

Bereiter has the final word in *Liberal Education in a Knowledge Society*, as is only fair after hearing the critiques of the others, and in the concluding chapter he sets out to make his argument more "intelligible," as he puts it (*LE*, 223). That is to say, while he handles the criticisms as graciously as they have been served up by the other contributors to this book, nothing they have said appears to give Bereiter cause to modify his ideas (only to clarify them further). The promise of Scardamalia's collective cognitive responsibility seems to go unrealized on this occasion. The productive generation of knowledge in the equivalent of a classroom setting in this case amounts to a statement of position from each participant.

Bereiter does acknowledge in this concluding chapter that the knowledge society is unpredictable, but this leads him merely to advise the young to "learn to do work that cannot be outsourced...to distant places" (*LE*, 236). It is admittedly a small point, made in passing, but it is nonetheless a strange turn to make in the name of a cosmopolitan, liberal education. He further sets up the threat from

19. See, for example, the research on labs by Karin Knorr Cetina. Like others who take this empirical approach to science studies, such as Bruno Latour and Stephen Woolgar, Cetina's work has led her to conclude, "I would not want to link the notion of knowledge societies to an increase of truth and unambiguous solutions, but rather the opposite." Karin Knorr Cetina, *Epistemic Cultures: How the Sciences Make Knowledge* (Cambridge: Harvard University Press, 1999), 251.

20. Kieran Egan, *The Educated Mind* (Chicago: University of Chicago Press, 1997).

“distant places” by pointing to the flexible approach to knowledge work that “they are trying to do in [the schools of] Hong Kong and Singapore,” which he then counters by pointing out how the approach he and Scardamalia have developed “more directly addresses the need” for “creative knowledge work” (*LE*, 236).

This worrisome play on sustaining the West’s competitive advantage in the economic clash of civilizations gets at one of the roots of the knowledge-society concept, namely, its way of legitimating the West’s place at the center of things — as *the* knowledge society — even as that status fades in the context of a globalized economy. Rather than looking for an us-versus-them advantage, the schools need to consider how globalization can unfold in more equitable and, I would have to say, more cosmopolitan ways. Given the two questions that Bereiter identifies as key to this “new phase of civilization, a knowledge age” — *what is this concept good for?* and *how could it be improved?* — it seems fair to ask, first of all, whether Bereiter’s World 3 transcendentalism is good for engendering a global sense of a diverse but interdependent world, and then to ask how his concept can be improved in this critical regard (*LE*, 243). The questions might lead students to find that, like Mendel, Kant worked on their (cosmopolitan) problem of, in this case, recognizing universal rights across communities while pursuing a greater rule of public reason.²¹

In *The Age of Learning: Education and the Knowledge Society*, Peter Jarvis, professor of continuing education at the University of Surrey, has edited a collection of papers on the theme of adult education by members of the Center for Research in Lifelong Learning, of which he is the convener. If Hargreaves is speaking to teachers in an Age of Insecurity, while Bereiter, Scardamalia, and company are talking about students working alongside Mendel and Darwin, then Jarvis’s collection is addressed to the informal and lifelong, the incidental and just-in-time, learner and instructor. This book has its own integrity as a collection, with its systematic coverage of what is otherwise a wide-ranging topic, if largely from a British perspective. It covers basic adult education, professional upgrading, and informal learning both inside and outside of educational institutions. For the same reason, the book often takes the form of an extended literature review, introducing the reader (as graduate student) to the full range of issues confronting adult education, without providing the concentrated and detailed look at specific educational programs that the other books under review afford.

Still, any discussion of the knowledge society would do well to recall, as Linda Merricks does in her chapter in the Jarvis collection, that the worker’s education movement, with its centuries-long tradition of the autodidact and the worker library, constitutes its own heroic instituting of a knowledge society and epistemic community. This proud history includes the extracurricular efforts of politically

21. Kant, “Perpetual Peace.” The students might find that Peter Singer worked on their problem, as well: “The thesis of this book is that how well we come through the era of globalization (perhaps whether we come through it at all) will depend on how we respond ethically to the idea that live in one world. For the rich nations not to take a global ethical viewpoint has long been seriously morally wrong. Now it is also, in the long term, a danger to their security.” Peter Singer, *One World: The Ethics of Globalization* (New Haven: Yale University Press, 2002), 13.

committed tutors from the great universities, such as Raymond Williams and E.P. Thompson, as they carried a notable academic tradition, and its associated knowledge production, into more democratic settings. This was an education that also wrestled with liberal questions of stepping beyond the vocational to “understanding the great issues of life,” as one official put it in the 1950s (*AL*, 7). Like Hargreaves, Merricks wants to balance the *economic* imperative of lifelong learning with a *democratic* imperative that needs to be made every bit as present in the knowledge society, though she sees vocationalism continuing to triumph in government policies (*AL*, 11).

Against this prevailing idea of a knowledge society, Colin Griffin and Bob Brownhill identify the emergence of a *learning society* a couple of decades earlier, which sought to develop a wider range of skill-sharing activities and open sources of information that extend well beyond traditional educational settings. They distinguish among models of learning that place their emphasis on cultural, technological, and democratic elements, although these three different models are linked by a common focus on “citizenship, cultural change, [and] equal opportunities,” among other features (*AL*, 59). There is little here of Hargreaves’s professional learning community or of Bereiter and Scardamalia’s World 3 pursuit of immaterial knowledge objects. That said, the learning society can still take a liberal form, according to Griffin and Brownhill, as it focuses on “autonomous individuals who are moral agents” taking advantage of opportunities to learn, which imbues this brand of liberalism with the nineteenth-century spirit of John Stuart Mill (*AL*, 67).

This is not to deny the less romantically charged corporate-training side to lifelong learning. Paul Tosey and Stephen McNair take up this corporate or work-related learning issue, raising concerns about whether it has become “orthodoxy, if not a dogma” that those who choose not to submit to training forfeit their rights as an employee (*AL*, 104). This type of coercive educational intervention into people’s lives, along with the force of accreditation agencies, has more to do with bureaucratic rationalization — itself hastened by the knowledge society’s founding principles of scientific management — than with what we like to think of as the spirit of learning. It returns us to the educational dilemma that Drucker identifies: the limited number of people who will make the knowledge society their creative workshop versus those “non-knowledge people” who make up the majority and will be trained to provide the necessary support services to the knowledge society.

Jarvis, who edited *The Age of Learning*, does readers a great service by dealing in some detail with the largely forgotten *Imprisoned in the Global Classroom*, an extended essay by Ivan Illich and Etienne Verne.²² Illich and Verne were writing in response to efforts by the French government to establish an *education permanente* for the workforce, which was to be funded by taxing workers. Illich and Verne saw the classroom as a site of surveillance and control — a situation that, as Jarvis

22. Ivan Illich and Etienne Verne, *Imprisoned in the Global Classroom* (London: Writers and Readers Publishing, 1976).

points out, has only increased with the spread of new educational technologies, which have also stepped up the commercialization of knowledge through the branding of online education programs, such as Universitas 21, and the corporatization of scholarly publishing (*AL*, 198).²³ The oppressive quality of permanent state schooling was bound to rub Illich, the man who popularized the phrase “de-schooling society,” the wrong way, but the important point to realize here is that the knowledge society can intensify and dehumanize work in this way, as Hargreaves warned, with teachers trained to follow scripted lessons in pursuit of high-stakes testing goals.

Here we have the crux of the knowledge-society hierarchy, which is divided between the innovative work of a very narrow creative class and the constant training and upgrading that follows for the rest. Along the way, the corresponding cost of access to knowledge increases in both a financial and bureaucratic sense. Jarvis worries that lifelong learning for the majority of people “is about becoming flexible but not free,” and, by flexible, he means scrambling to learn new work and jumping to catch the next employment wave (*AL*, 201). Lifelong learning becomes a form of personal risk management, with the economic risks that once belonged to the entrepreneurial class, as John Holford points out, now shouldered by the laboring classes (*AL*, 207). Still, Jarvis’s critique of the training treadmill, like the other critiques presented in this collection, fails to lead to any sort of plan or direction for what can be done to bring concern and critique together with earlier traditions of democratic initiatives and community-based education. What is the point of a knowledge society, one might wonder, if one is not then driven to act on what one knows?

Across the three books under review here, the specter of the knowledge society — as projection and reality as well as possibility and scourge — begs for far more focused responses to the educational and social issues that it raises. Where are the suggestions for how best to learn to see the world as one and to recognize cosmopolitan rights as universal, or for how to understand why this new economy continues to differentiate work in ways that students can be prepared for and prepared against (in terms of those universal rights and limited opportunities)? Certainly, Hargreaves provides an extremely helpful service in identifying needs and goals that wise and thoughtful teachers would do well to rally around in their professional pursuits. Bereiter and Scardamalia have developed, demonstrated, and packaged (with Knowledge Forum) an excellent means for moving even the youngest students headlong into the realm of powerful ideas. And Jarvis’s colleagues have assembled the full scope of learning’s lifelong promises and challenges, from shop floor to legislature. Good scholarly work, all of it.

23. Universitas 21 is described on its Web site as “an international network of leading research-intensive universities. Its purpose is to facilitate collaboration and cooperation between the member universities and to create entrepreneurial opportunities for them on a scale that none of them would be able to achieve operating independently or through traditional bilateral alliances,” <http://www.universitas21.com/about>.

Yet there seems another unspoken imperative here, given how implicated teacher educators are in the business of this Age of Information and given how clearly we stand at a crossroads in determining the public and democratic quality of this so-called knowledge society, to return to Hargreaves's phrase. As I read it, at least, we need to defend universities' public service in this knowledge-based economy, even as we advise teachers, educators, parents, and policymakers about how they might better prepare for and stand within this knowledge society. We have a deeply vested interest in the public, educational, and democratic qualities of this new knowledge economy. It is an interest that we have only begun to exercise and effectively demonstrate — in, for example, creating public and open spaces for circulating on a global scale the knowledge this public system generates.²⁴

Rather than let a new age of business management principles and technologies set the tone for the whole of this knowledge society, I am suggesting that we would do well to demonstrate publicly the other side of this fascination with knowing. This is the side concerned with knowledge not solely as a form of work, but as a desire and a right to know; not entirely as a means of global competitiveness and dominance, but as an extension of educational opportunities; and not simply as a way of moving *beyond* the knowledge society, but as a responsibility to realize a cosmopolitan understanding of universal rights and acting on that understanding to effect a greater sense of community.

24. Slavoj Žižek puts the division, with which I think teachers, students, and faculty need to wrestle, this way: "On the one side, we have patents, copyrights and so on — all the different modalities in which information is offered and sold on the market as intellectual property, as another commodity....On the other side, there is the prospect of the exchange of information *beyond* the property relations characterizing capitalism." Žižek, "The Ongoing 'Soft Revolution,'" 304–305.

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