

Postcolonial Access to Education Research: What Are Our Responsibilities?

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In April 2000, a World Education Forum was held in Dakar, Senegal. The 180 countries attending the Forum committed themselves to ensuring that the world's children not only have a right to education but would actually be receiving some adequate form of schooling by the year 2015.ⁱ Universal education will be no small achievement on the part of humankind. At the moment, some 130 million children between the ages of 6 and 11 do not attend school, according to Oxfam, and another 150 million leave schools with less than four years of instruction. Yet a basic level of education is very closely connected to the right to life, as mothers in the world's poorest countries who have received some schooling have a greater chance of seeing their children survive to the age of five. The education of the young also proves to be closely connected to the family's overall health and prosperity.

This concept of universal education, which will obviously require the marshalling of considerable resources, has attracted the support of the World Bank, even as its funding for educational ventures has declined over the last two years. UNICEF is doing its part through the Girl's Education Initiative and UNESCO has an Education for All program.ⁱⁱ These efforts have only taken on greater poignancy as one of the few rays of light emerging from the September 11th terrorist attacks on America has been the reopening of the schools in Kandahar, Afghanistan, after the fall of the Taliban in the fall of 2001. The excitement clearly felt those first few days not only by the young girls going to school for the first time, but no less so by the women, some with degrees from Kabul University, who were able to return to teaching after seven years of being barred from the classroom, provides an inspiring moment for universal education.ⁱⁱⁱ

While the call for universal education is clearly aimed at providing elementary education for children, secondary and higher education are no less vital to the future of developing countries. Where else are the qualified teachers of the young to be found, or as Marx had it, "who will educate the educators?"^{iv} How else will these nations ensure, among other things, that the current forces of globalization do not simply recreate colonial distributions of economic domination by treating developing countries as the West's offshore factory-labor reserve? Without assuming that education (and education research) can do it all – whether in advancing democracy, achieving social justice, or stemming the extremes of terrorism – education (and education research) surely has a part to play in helping more people to take greater hold of the forces of globalization, to find advantage and launch critique, to participate more fully in what these forces are otherwise making of the world, or else we may well ask ourselves what we are doing in this trade.

For Gene B. Sperling, on whose coverage of the World Education Forum I am drawing, the great hope for universal education lies in a "new global compact on education, one with a compelling framework that clearly sets out the roles and responsibilities of key stakeholders."^v And it is to this call for a new global compact on

education that we, as professors of education, need to respond. For we are surely key stakeholders in such a compact. Given our stake in the thoughtful and effective study of education, our role in achieving universal education is no less vital than the World Bank and UNESCO. Without question, universal education will take enormous funding, but money alone will not be enough (nor will there ever be enough money). A critical key to any successes on the road to this goal will be the world's collective knowledge and understanding of education. Our research, then, may have much to contribute to the fashioning of school programs, educational policies, and professional development opportunities that advance this goal of universal education. This knowledge could also inform the education of teachers in those nations struggling to achieve universal education. Our research programs could also form the basis of global and local collaborative research efforts with university faculty in countries struggling to achieve universal education for its young. This is only to say that we possess something of considerable, if untested, value for advancing this goal of universal education.

This leads me to believe that what is critical to our participation in this new global compact which Sperling calls for is our commitment to making this knowledge far more open and available on a global basis than our work currently is or has been. One way to greatly increase our contribution – while putting our knowledge to the test – is through “open access” publishing on the Web. This would open our work to Over the last few years, professional associations and individual scholars have setting up freely available or open access online journals, even as publishing conglomerates like Reed Elsevier, Francis and Taylor, and Sage are taking hold of an ever greater share of the scholarly journal market at ever increasing cost to university libraries, thereby restricting access, in effect, to this knowledge. A fundamental struggle over the future of knowledge is taking place, and I would ask as part of this new global compact that we as researchers do what we can to strengthen knowledge's place in the public sphere. While I will discuss the publishing question in more detail below, let me note here that the research-in-the-public-domain side has been led by such notables as the British Medical Journal, with education represented by Educational Researcher and Teachers College Record, among other journals that now offer open access to their articles.^{vi}

It needs to be noted that making our knowledge far more widely available is only the half of it. When it comes to setting out our roles and responsibilities within this new global compact, we also need to recognize that our research programs in the West are in need of far greater universal participation. That is, our work – in its very epistemological claims as research – has much to gain from the development of a global research “capacity.” The knowledge that we produce will always be limited in its claims by the very lack of research collaboration and coordination on a global scale. The quality of our research could be improved by measures that increased its engagement with the global experience of human education and learning. Although I am focusing on the relatively narrow strip known as educational research, and in particular how that research is published and distributed, because education research is exactly what we are responsible for producing, whether as faculty members or graduate students. Yet what I have to say applies with a little imagination to other disciplines at all levels of education, just as it applies to the postcolonialism responsibilities of the academy for providing greater public and global access to this potentially powerful form of knowledge.

I take it that we are still overcoming the educational legacy of European imperialism within the global context in which it first appeared. Fundamental to the particular knowledge economy of imperialism is the cultural and intellectual center represented by the leading Western universities. The Eurocentrism of imperialism's knowledge economy was reinforced by a mercantile re-circulation of what was gleaned and gathered, whether in natural history or cultural anthropology, by the enterprising scientists of empire as they traveled around the periphery. What they brought home was then reprocessed within the centers of European thought and redistributed throughout the world as the great body of western learning. That we might still be engaged in such an economy within the intellectual life of Western universities is what brings me to the writing of this reflexive chapter on our own practices as scholars, rather than taking up the more common critique, as I have elsewhere, of the postcolonial shortcomings of others.^{vii}

The lesson I am drawing from postcolonial studies has everything to do with trying to break this older pattern within our own lives as scholars and students of educational research. This may seem wildly removed from writing about the current struggles against the neo-colonial forces of globalization, as if it took great courage to toss lengthy footnotes at the steel gates and riot-gear police protecting the WTO meetings, and yet the connection of scholarship and activism, between education and action, is also at the heart of this responsibility I am addressing here. There is, by all means, a place for the university scholar to engage in acts of public education on the continuing inequities perpetuated in a thinly veiled guise of an imperialism that would enable prosperity to slowly trickle down.

Postcolonialism's lesson for those who are paid to think about education is that we need to reconsider our own position, our own contributions, to an economy that is not simply about the running shoes that we, too, wear to keep ourselves radiantly fit. I want to suggest that a really sound starting point in all of this might be to see that our own small part in this very economy could be easily addressed, and brought into far greater alignment with the spirit of, if not postcolonial studies, then the possibilities of a slightly more postcolonial world.

The basic proposition is that those of us, whether as faculty or students, engaged in the production of knowledge about education have control over an intellectual resource which is contributing to the current inequities of this knowledge economy. This resource is by no means the most valuable, critical or vital resource for the welfare of people everywhere, but it is the one resource that we do control, and to suggest it is without value on this global stage, is only to call our own work into serious question. I am not against such questioning, and in fact, what I am proposing constitutes its own form of high-stakes testing of that value. Given that this is the knowledge that we control, we need to consider how it operates within the postcolonial space, how it aligns itself with the economies of running shoes and silicon chips that are shaping the globalization. My belief is that we unthinkingly turn this knowledge over to a publishing system, made up of commercial publishers and professional associations, that are excellently equipped to serve our academic careers, but that perpetuate the very system that we ostensibly protest against with our every postcolonial attack on the legacy of imperialism.

If we took back control, I contend, of our own intellectual work and established it firmly within the sphere of public knowledge, and if we ensured that this work formed

part of a global exchange given to learning about education, then we would radically disrupt a small, but not insignificant aspect, of how the world has been divided by imperialism, and we would gain a place to rightfully stand in the struggle against this lingering legacy. My case has three parts. First, I build on a recent call to open the social sciences to such global engagement; then I consider the situation of the postcolonial research library, and finally I briefly introduce a scholarly publishing project that we are undertaking which would presume to address the first two points. Before I describe how we might turn this knowledge into far more of a global resource, let me consider one prominent call for going global with our own thinking about the social sciences that underwrite our study of education.

Open the Social Sciences

The sociologist Immanuel Wallerstein, who has been describing the intricate nature of world systems for some time, recently led an international panel of scholars to consider a “restructuring of the social sciences.”^{viii} The group believed that the social sciences should do more to support “the demand for expanded participation in decision making is worldwide.”^{ix} The problem that has moved this group to action is how the social sciences have for too long been concerned with maintaining disciplinary boundaries, very much in the spirit of Michel Foucault’s observation that “disciplines constitute a system of control in the production of discourse.”^x That this control over the production of discourse, and therefore over systems of knowledge, has had everything to do with European imperialism, if most obviously in the growth of anthropology within the colonial regimes. There is no overlooking the conjoining of science’s desire for prediction and mastery, with the social sciences making its own special contributions to administrative management, authority and power at home and abroad.

The theme for restructuring this discipline, for Wallerstein and company, is to open the social sciences, to open them to greater global participation. So the Cameroonian historian, artist and Jesuit priest Englebert Mveng, who was murdered in 1995, is cited by Wallerstein et al. as warning in 1978 that the “social and human sciences themselves need to be decolonized.”^{xi} And while Wallerstein’s panel calls for a meeting of pluralism and inclusion in a “pluralistic universalism,” I think this concept makes too little of the imperial prerogative still at work in such an ideal for the social sciences.^{xii} The powerful and elaborate systems of expertise associated with the social sciences have made it hard for those outside of the Western university system to participate in the very restructuring that Wallerstein’s panel hopes will move the social sciences beyond Eurocentric models. At issue here is not the rule of reason or scientific rationality – as Amartya Sen among others have questioned as uniquely Western^{xiii} – but something more basic in terms of a colonial permission to speak, of a literal access to the discourse and opportunities to participate in it. To open the social sciences, then, is to look for ways of opening these forms of knowledge to a greater give and take on a global basis. It is to seek ways of not only simply embracing pluralism as a concept, but also of creating structures that make such plurality a reality, a living and challenging presence within the social sciences’ exchange of thoughtful understanding, systematic inquiry, and knowledge of things social. Of course, “it will not be easy to organize such worldwide interaction in a meaningful way,” as they note, which is why I am suggesting that we start

by experimenting with something as basic as the material structures of publishing and access to knowledge.^{xiv}

This embrace of the global, however, could well play havoc with the panel's interest in the "search for coherence."^{xv} In the face of the increasing fragmentation of knowledge, greater coherence would be a comfort to us all certainly. Yet if we are serious about this expanded plurality, then we need to open the concept of "coherence," so that we are thinking about why ideas and findings do and do not cohere, do not form a singular and sensible whole. While a unified science would strengthen the claims of the social sciences and social scientists, it is far from an obvious or even desirable goal resulting from "the interaction of scholars coming from every clime and perspective (and taking into account gender, race, class, and linguistic culture)," as Wallerstein's panel lays it out, "and this worldwide interaction be a real one and not a mere formal courtesy masking the imposition of the views of one segment of world scientists."^{xvi} At its simplest level, for this panel, the challenge facing the social sciences is "how not to create a gap between those who know and those who do not."^{xvii} My belief is that we need to begin with the closed circulation of our own work, with the gaps in our own knowledge by virtue of this limited participation, by testing whether these new information technologies can be pushed towards greater access and openness. Where this opening will begin, and where this technology will meet its greatest test, against the scholarly traditions of print and the colonial legacy of center and periphery is in the university libraries of developing countries.

Developing Information Economies

What is basic to a postcolonial global system is far more universal access to knowledge. The point which has been forcefully made by economists now needs to be taken up as vehemently by educators. In addressing how our current knowledge economy is exacerbating economic disparities between rich and poor nations, State Street Bank analyst Avinash Persaud, for example, has recently pointed to the knowledge gap as the real problem (2001).^{xviii} This gap, by his calculations, is currently ten times the size of the income gap (based on comparisons of the number of scientists) between rich and poor nations. The reduction of this knowledge gap, Persaud holds, is critical to the development of local economies, as well as to the global spread of democracy and prosperity. And while a number of global infrastructure initiatives are already underway, including the Digital Opportunity Taskforce made up of eight of the advanced nations working with the private sectors and aid agencies to reduce the digital divide, the focus up to now has been on bandwidth and hardware rather than on extending participation in the production and circulation of knowledge.^{xix}

Even with the earlier and still present technology of print, the critical question when it comes to research, at least, is access to content, to the journals and books, conference proceedings and theses. Print, which achieved so much for forms of public literacy and democratic participation, is by no means a universal resource offering equal access to all who seek it. Books and journals have been no less a matter of who does, and who does not, have access. And this restricted access to print continues to reinforce in academic settings at least the colonial intellectual model of a dominant center holding sway against a distant periphery. So the danger is not that the technology will introduce new disparities, but that it will continue the old ones in a new guise. The fear is that, as

Colin Darch, an academic librarian in Cape Town, puts it, the North “will continue to refuse to cooperate in the establishment of an equitable world information order, based on entrenched principles of full disclosure and free flow.”^{xx}

The big losers in today’s bounding knowledge economy are the universities of the developing world. Although they might have otherwise been a source of hope against this looming knowledge gap, the university libraries of developing countries have not been able to keep up or even hold their own. This is understandable given that the number of academic journals has more than doubled to some 104,000 between 1975 and 1989, while subscription rates have also doubled over that period of time. Just to stanch the loss of journals to these libraries would be an encouraging first step toward post-colonial information economy of the near-future. It is as if print in a market economy has gone as far as it can in distributing research and scholarship to a greater portion of the world.

What we are seeing now is a retreat, a drawing back of scholarship’s reach, as journal prices race ahead (compounded by currency fluctuations) of research library budgets’ ability to keep pace. This global situation of declining access to research must figure, I would argue, in any talk of what new technologies can do for scholarship. Otherwise, our privileged position, of being able to write so knowledgeably about education, is bolstered, even as the publishing systems we rely on only further limit access to such learning as we hold valuable. At the very least, the new electronic publishing systems, which so handily connect my desktop to ever larger worlds of information, must also do something to reverse the tide of loss for others. More than that, these systems should be designed to improve access to research among universities in developing countries, while making submission to those journals as easy to undertake and inviting in Ibadan or New Delhi as in one of the Cambridges.

In Ibadan, Nigeria, at the moment, the Development Policy Centre is busily engaged at the moment in “enhancing national capacity for policy analysis and development management.”^{xxi} One thing that makes this Centre, with its World Bank, United Nations Development Programme and the African Development Bank funding, a magnet for scholars is that although it has trouble keeping up, “journal subscriptions have also dwindled in most Nigerian university libraries,” according to the Centre’s librarian Iyabo Mabawonku. People turn to this library, as well, to browse the Internet, more so than to consult the books, even as they have to pay for this browsing, while Internet connections in Nigeria are slow if unreliable. As for the print journals, Mabawonku notes that for their prepaid subscriptions, overseas “vendors have never supplied more than 60 percent of the issues published each year,” while her letters of complaint “never acknowledged.”^{xxii} Yet Mabawonku is not without hope for the future of such research libraries, as she supports the idea of extending the library’s service to include more publishing and editorial functions.^{xxiii}

Kenya reveals a similar mix of difficult realities and continuing hope. The devaluation of Kenyan currency has cost the libraries there about 30% of their purchasing power during the latter half of the 1990s.^{xxiv} And while training on computers is widespread, and backup support staff are available, access is still limited as government support has not kept up with the growth in the student population. The public universities sell access to the Internet to both students and local communities, as do the universities in Zambia, Botswana and South Africa.^{xxv} Among the promising developments in Kenya has been the launch in 1999 of the African Virtual Library initiative, at Kenyatta

University, Nairobi. The African Virtual Library, according to Nancy Kamu, Senior Librarian at the Kenya Medical Research Institute, is devoted to “breaking through the information access barriers” as this “global platform” seeks to make African content available to the world, while improving African access to resources.^{xxvi} It has already become all too obvious to African scholars that, Kamu puts it, those companies “that market information products from the developed world... fail to recognize the potential that local content has as a part of a global knowledge.”^{xxvii}

Just how to shepherd that local content and scholarship more fully into a global system poses a particular challenge. At its most basic level, access to the research literature in any given field would provide faculty members with a basis for bringing this local sensibility to bear on global information systems. What faculty in these institutions need, to situate and represent this local content fairly and in their own terms are, in effect, “university intellectual production databases,” in the words of Susana Quiroz, Director General, Universidad Nacional Autonoma de Nicaragua, as such databases would provide a platform from which scholars could begin to build and bolster their participation in this global system.^{xxviii} That the problem goes deeper than simply access to computers and infrastructure is also made clear by Vu Van Son, Director, Central Library for Science and Technology, Hanoi, who holds that “the building up of electronic libraries seems realistic, because... Vietnam has already the computer networks or workstations.”^{xxix} In his sanguine review of “digitally empowered development,” Allen L. Hammond, of the World Resources Institute, points to “the proliferation of cyber-cafes and village phones,” as well as the spread of fiber optics links to China, Latin America, and many African countries.^{xxx} The time seems right, then, to be thinking about the value of this increased access, on a local and global scale, in areas such as research and scholarship.

India presents a somewhat different picture among developing countries, given its thriving technology sector that has made it a powerful player in the software industry, while experiencing an extremely low level of computer access among the population at large, with 0.7 computer per thousand people against a world average of 25.^{xxxi} The government, however, is committed to providing computers and the Internet services to educational institutions and related institutions. To that end, one finds for example Indira Gandhi National Open University providing computer education courses to remote areas of India, while the Information and Library Network – which connects 150 university libraries, 50 postgraduate centers, and 200 research and development centers – is implementing library automation and database systems, with gateways to international research databases.^{xxxii} This networked access to knowledge is beginning to find its way to poor villages via the Internet through projects such as the Tarahaat, a business enterprise set up by the Indian group Development Alternatives, whose village provides relevant information to support a wide array of services.^{xxxiii}

Now, in the case of the schools, it’s easy enough to trumpet showpiece projects, to turn back to Africa, like the transformation of the Myeka High School outside Durban, South Africa, which went from no electricity and few textbooks to websurfing and the Learning Channel, thanks to photovoltaic solar panels, Dell Computer and Infosat Telecommunications, with the school’s graduation rate doubling and students winning science awards and applying to colleges in ways that had not happened before (Lipschultz, 2001). Whatever one thinks of the Dell Corporation donating two or three computers (or two or three thousand computers) to development projects around the

world, it still falls to us to consider what we might do amid this changing communications revolution. Rather than, say, donating our outdated computers, I would suggest we undertake the far more radical gesture of placing scholarly work at the center of knowledge's public sphere. Certainly, academic publishing's corporate sector has recognized the need to cut developing countries some slack in the face of increasingly expensive access to research, in what might be thought of as the knowledge economy acquiring a conscience.

Over the last year, after the major pharmaceuticals radically reduced prices for HIV-AIDS drugs in Africa, the leading scientific publishing houses announced they were making biomedical research freely available to developing countries. This most recent step in knowledge-economy citizenship has come with six of the leading scientific publishers (Blackwell, Elsevier Science, the Harcourt Worldwide STM Group, Wolters Kluwer International Health & Science, Springer Verlag and John Wiley) agreeing to offer developing countries free online access to about 1,000 of the world's top medical journals. This service will be made available to medical schools and research institutions in the more than 60 countries where the per-capita gross national product is \$1,000 USD or less, from Albania to Haiti, with lesser discounts offered to 30 additional developing countries. Whether you read these measures cynically or optimistically, whether as a public-relations flip or the moral arm-twisting of international agencies, it does offer a ray of light against what is otherwise gloomily painted as the irresistible and heartless forces of economic globalization.

"You cannot do science without information," said Barbara Aronson, a librarian at W.H.O. who helped pull the agreement together. Researchers in some of the world's poorest countries, she pointed out, will now have information equivalent to "a top-flight U.S. library."^{xxxiv} Think of the difference that a thousand journals will make to the University of Zimbabwe, for example, which has had to slash its journal subscriptions from 600 to 170 due to rapidly escalating subscription costs.^{xxxv} This recently acquired access to bio-medical journals amounts to a small triumph for the public sector of this global knowledge economy. Now, the question that lingers, in my mind at least, is why should this open access for developing nations be limited to one albeit critical field of research. How long will it be before publishers and scholars in agriculture and zoology, as well as in economics and education, ask themselves how they can better realize the global responsibilities that follow from trading in this public good? We have, as they say, the technology to do the job.

New Information Economies

Whatever else they can do, digital technologies are not about to make the costs of constructing and circulating knowledge disappear. Yet there are different models afoot for in thinking about information technologies and knowledge economies. On the one hand stands the commodification and branding, the repackaging and re-purposing, of value-added knowledge, while on the other hand, there is a struggle to make this knowledge as public as possible. We have seen as much with print, and the spread of this earlier information technology. At one level, this global spread of computers can be compared to the initial spread of print technologies, with its own expansion of literacy, education, and the public sphere. A new knowledge economy sprang up around the book trade and fortunes were made and lost in publishing. Print added greatly to the public

quality of certain kinds of knowledge, with that public quality seen as vital to this knowledge's integrity, as well as to the integrity of democratic states. Getting knowledge out into public lay behind the popularity of the original coffee-shop culture of 18th century London, of the 19th century public library movement, and of 20th century public radio and television. The Web already parallels in many ways the public library, even as it is deeply engaged in the marketing of knowledge and the treatment of information as a commodity. Certainly, in scholarly publications, the commercial publishing houses are offering more and more sophisticated access to back issues and archives, while increasing costs for what is now print-plus-electronic access.

Now, I do not imagine that the circulation and construction of this knowledge can suddenly be conducted free of charge. The Web is a series of machines working in consort, not a miracle. The economics will need to be carefully worked out on sustainable models based on current library allocations for serials and the fact that the research and much of the labor is pre-paid by researchers' grants and university salaries. Even as research status as a public good gains growing support from government research agencies, as well as foundations and philanthropic organizations, it is being increasingly published by commercial publishers at increasing costs to research libraries.

This growing commercialization of scientific knowledge has already led to a revolt among researchers and librarians, as exorbitant price increases for scientific journals have reduced serial holdings among the U.S.-based Association of Research Libraries by six percent over the last decade, with the Association fighting back by sponsoring alternative publishing efforts among scientists.^{xxxvi} Some 29,000 in number from over 174 countries have signed the Public Library of Science's call for free access to scientific publications, if not immediately on publication then no later than six months after their initial release.^{xxxvii} The economic model for going with open access is that money to pay for these publishing systems is available through a reallocation of the leading research libraries' serial budgets, the research, as well as the reviewer's time, is already paid for through public sources in most cases, and that the value of this research can only be increased by a more open exchange on a global scale.^{xxxviii}

Up this point, the movement to create "open access" to research has been largely focused on the sciences. In the field of education, such work has been a thoroughly piecemeal and poorly indexed process that lacks a guiding vision of the policy and political implications of researchers committing themselves to making their largely publicly sponsored work fully a part of the public domain. Educational researchers should be leaders in this field. Not only do we know a thing or two about human learning, we are perhaps best equipped, along with historians, to appreciate how, in an earlier era of publishing innovations, print was used to advance the democratic qualities of knowledge. There were those who bravely sought to use this technology to foster public literacy and public knowledge, whether through public libraries, public schooling, inexpensive newspapers or the penny mail. And while that print technology was also directed at forming national identities and operated within national institutions, the new frontiers of cyberspace are all about the global possibilities of public exchange and engagement around the written word and multimedia image.^{xxxix}

To that end, a team of us at the University of British Columbia are working on the Public Knowledge Project which, like a number of other initiatives, is designing alternative scholarly publishing and indexing systems for the Web.^{xl} Now this work is

about doing more than simply make publishing easier and faster for our colleagues. Our goal is to, in what has become our catch phrase for our work, improve the scholarly and public quality of research on a global scale. To test and improve the design of these publishing systems, we have been interviewing policymakers in Canada's federal government about their use of research, working with teachers' federations on supporting the responses to provincial policy initiatives, and supporting local newspaper coverage of educational issues. The resulting work is taking the form of innovative websites that integrate academic research with other orders of related knowledge such as policy, practice, and program materials, as well as providing links to relevant media reports and reference works. We have also begun working, as well, with research librarians in Cameroon, in a phase we soon hope to extend to other countries in our efforts to better understand how scholarly publishing can serve a much wider audience while also improving the indexing and integration of resources and greater access to sources.

The ideal here is twofold. First, we want to create portable publishing systems that will make journals, conferences, and theses freely available on the web in a comprehensively indexed fashion that connect "open access" research systems everywhere.^{xlii} Secondly, we want these systems to link, literally, to related studies in other databases as well as to policy, and practice resources, so that different orders of knowledge and different perspectives can be consulted and weighed by the users of these systems. The idea is to position the research within a rich context of materials so that it is in a better position to inform rather than dictate what is to be done. These publishing systems are intended to convey to readers, interested in a given topic of question, the nuances and complexities, uncertainties and probabilities, that mark the state of education research. The key to improving the scholarly and public quality of this knowledge lies in a clear demarcation of the review process behind each publication, an opportunity for critical engagement with the research and a review of others' engagement with it, and finally a thorough indexing of the work.^{xliii} The authors' indexing of their own research enables readers to move among related works, whether from a dissertation about a certain curriculum initiative to a teachers' organization working with a similar project, whether from a news story about a new kind of school in Cameroon to related research programs underway in communities around the globe.

The "open access" publishing systems, which can be installed on Web servers by research libraries, professional associations or individuals anywhere in the world (even as they will be linked by automated indexing systems), will not only support the publishing and indexing of journals, conference papers, and dissertations, they will provide access to data sets, critical forums, collaborative initiatives, and other globally based research ventures. These joint research projects, such as the Global Forest Watch that brings together satellite imagery, local observations and data collecting, have begun to have an impact on the use of forest products by major corporations.^{xliiii}

Although many initiatives developing scholarly online resources are underway, these new systems and new ways of working together on a much larger scale are still very much in a formative period, working within a context of research and development, trial and consultation. What has become clear is that the future of the scholarly communication, especially in the current play between commercial publishing interests and public-spirited efforts, isn't going to be determined by the technology. It will be far more a matter of the research community's commitment and ingenuity, as scholars and

researchers decide on the place our work will hold in this knowledge economy. The critical question at this juncture is whether academic research, in areas such as education, belongs within the public domain or is a good to be traded and marketed. The case I am presenting here and elsewhere, of course, is that we need to move in this public direction and in ways that move deliberately and with due speed away from too-long-standing colonial patterns of academic knowledge and university systems.

Cautions and Risks

Now, one may ask whether there is any reason for caution in taking hold of the computers as a vehicle of postcolonial hope for education in this broader sense. After all, it may be that “computers turn knowledge, relationships, and even the genetic basis of nature itself into commodities” and that on this basis it may well pose a threat to indigenous forms of knowledge that suffered under colonial rule, as C. A. Bowers, Miguel Vasquez, and Mary Roaf hold.^{xliv} They rightly hold that the technology is hardly neutral. Whatever my interests in using it to increase democratic access to knowledge, they would remind me that this technology is not a natural ally to “tribalism” or the “traditional knowledge of communal relationships.”^{xlv} In their work with Aboriginal peoples in America, they have grown concerned with its ability to amplify or exaggerate the cultural patterns of print “over the living reality of the spoken word [which] has been an important source of Euroamerican oppression of Native peoples in the past.”^{xlvi} If digital technology “reinforces the rootless form of individualism,” on the one hand, and if, on the other, “local, richly contextualised rituals, dances, stories, and traditional economic activities become distorted and lose their character, and identity-forming qualities when represented on a one-dimensional screen,” then we have some sense of how the technology itself is not just the product but an instrument of a globalism that has everything to do with the colonial legacy.^{xlvii} Bowers, Vasqueza and Roaf allow that computers can be used on Native American reservation schools, rather than proscribing their use, with the “recognition of cultural gains and losses” and the hope that such awareness will minimize the loss of “their own traditions.”^{xlviii}

In this case, with global information systems occupying ever greater portions of the private and public sectors of this knowledge economy, a significant ethical difference appears to be operating at two levels. First, without presuming to know what is best for others’ lives and traditions, we should still feel compelled, I think, to open what we claim is a public good to a wider conception of the public. This expansion entails exploring our responsibilities to a public that extends beyond the nation-state. Cyberspace is the perfect medium for thinking beyond the nation, especially as it involves the benefits of sharing knowledge and information on the scale of humankind rather than within the particular boundaries that we have constructed between people. Now, as Hardt and Negri warn, there is no stepping outside “the informational colonization of being” that is affected through the globalizing scope of this “Empire,” dominated as it is by communication industries that “not only organize production on a new scale and impose a new structure adequate to global space, but also makes its justification immanent.”^{xlix} Scholarship in the social sciences, for example, can offer people alternative sources of communication and understanding by bringing its own form of legitimation and authority to the public sphere, giving a more democratic structure to this global space, outside the scope of the communication industries.¹

Yet for scholars to begin to engage the world in this way will call our own universalist presumptions into question. We need to accept that our understanding of education, for example, is only as good as its engagement with the full realm of human experience. Our knowledge is necessarily partial, in the double sense of the word. The best check on that partiality is to become part of a global exchange, not only among university researchers, but also among those who are working with these concepts of education in classrooms and homes of very different sorts. The particular system of knowledge that is based on scholarship and research, in which we at the university have so heavily invested our lives and understandings, could stand to be far more connected to other forms of knowing and knowledge, to other perspectives on systematic inquiry, other forms of educational practice, lest it retain its on-high perspective on the world, its colonial geography of center and periphery.

That such expansions and connections are bound to be technologically mediated should be a source of caution in itself, as Bowers, Vasquez, and Roaf warn. If this digital technology threatens “the extinction of experience” and “undermines the viability of the earth’s ecosystem,” then computer screens should carry warning messages as strongly worded as cigarette packages, even as the computer can provide access to information on those dangers.^{li} At this point, it is hard to imagine a means other than digital technologies for not only sharing what we know, but also of expanding who participates in that knowing. It is hard to foresee a way of achieving a goal as broad and important as universal education without utilizing technologies for the coordination and support of new ways of thinking about and understanding schooling.

Certainly, the social sciences can do a better job of opening their own form of knowledge to a larger world. They can bear the risks of far greater participation, just as local cultures will bear the risk of globalizing influences in order to play a greater part in giving a postcolonial shaping to this world. That the technology can be successfully directed to such ends is, at best, an idea and a hope. As such, new scholarly publishing systems for education warrant cautious testing to see if they can help us break older patterns in the circulation of knowledge and the spread of education. These publishing experiments need to take place against the chilling historical backdrop of earlier efforts at a universal education, as when the West placed educating the native at the heart of its imperialism’s moral economy. The way forward is not without dangers, certainly, and yet our best hope is bound to lie in the risk of moving ahead through this ever-present past.

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- ⁱ Gene. B. Sperling, "Toward Universal Education," Foreign Affairs 80 no. 5 (2000): 7-14.
- ⁱⁱ Ibid.
- ⁱⁱⁱ Erik Eckholm, "In Kandahar, a Top School Reopens and Girls Are Welcome," New York Times December 23, 2001, B1.
- ^{iv} Karl Marx: "The materialist doctrine concerning the changing of circumstances and upbringing forgets that circumstances are changed by men and that it is essential to educate the educator himself": "Thesis on Feurbach," in Karl Marx and Frederick Engels, The German Ideology, (Moscow: Progress Publishers, 1976), 616. Also available at <http://www.marxist.com/classics/marxengels/thesesfeur.html>.
- ^v Ibid., 8.
- ^{vi} British Medical Journal (<http://www.bmj.com/>); Educational Researchers (<http://www.aera.net/pubs/er/>); Teachers College Record (<http://www.tcrecord.org/>); American Educational Research Association maintains a Webpage listing, at this point, close to a hundred education journals that are freely , see AERA's "Electronic Journals in the Field of Education" (<http://aera-cr.ed.asu.edu/links.html>).
- ^{vii} John Willinsky, Learning to Divide the World: Education at Empire's End (Minneapolis, MN: Minnesota University Press 1998), especially chapter 2. The center/periphery model, which I believe still holds sway with the academic system, meets an effective challenge, when it comes to the current wave of globalization, by Michael Hardt and Antonio Negri in Empire (Harvard University Press, 2000). Hardt and Negri argue for Empire as "a new form of global sovereignty" made up "of a series of national and supranational organism united under a single rule of logic" and operating as a "decentered and deterritorializing apparatus" (p. xii, original emphasis). That the university system does operate as "a [knowledge] regime that effectively encompasses the spatial totality or really that rules over the entire 'civilized' world" suggests that their analysis is not without bearing on the themes of this essay, as does their call "to invent new democratic forms and a new constituent power that will take us through and beyond Empire" (p. xiv-xv).
- ^{viii} The members of the Gulbenkian Commission on the Restructuring of the Social Sciences included Immanuel Wallerstein (USA), Calestous Juma (Kenya), Evelyn Fox Keller (USA), Jürgen Kocka (Germany), Dominique Lecourt (France), V. Y. Mudimbe (Zaire), Kinhide Mushoji (Japan), Ilya Prigogine (Belgium), Peter J. Taylor (UK) and Michel-Rolph Trouillot (Haiti); Immanuel Wallerstein. et al. Open the social sciences: Restructuring the social sciences (Palo Alta, CA: Stanford University Press, 1996).
- ^{ix} Ibid., 79
- ^x Ibid., 32
- ^{xi} Ibid., 57
- ^{xii} Ibid., 60
- ^{xiii} Amartya Sen, "East and West: The Reach of Reason," New York Review of Books, July 2000, 33-38.
- ^{xiv} Wallerstein et al., Open the Social Sciences, 77.
- ^{xv} Ibid., 67.
- ^{xvi} Ibid., 77-78.
- ^{xvii} Ibid., 80.
- ^{xviii} Avinish Persaud, "The Knowledge Gap," Foreign Affairs, 80 no. 2 (2001): 107-117.
- ^{xix} Allen L. Hammond, "Digitally Empowered Development," Foreign Affairs (March/April 2001), 99.
- ^{xx} Colin Darch, "The Shrinking Public Domain and the Unsustainable Library" (paper presented at The Electronic Library: Gateway to Information. Resource Sharing and User Services in the Electronic Library, Lund, Sweden, 1998). Available at <http://www.lub.lu.se/sida/>.
- ^{xxi} Iyabo Mabawonku, "Providing Information for Capacity Building: The Role of an NGO Library in Nigeria," Information Development 17, no. 2 (2001): 100.
- ^{xxii} Ibid., 105.
- ^{xxiii} Ibid.
- ^{xxiv} S. M. Mutula, "The IT Environment in Kenya: Implications in Public Universities," Library Hi Tech 19, no. 2 (2001): 156.
- ^{xxv} Ibid., 163.

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- ^{xxvi} Nancy Kamu, "Breaking Information Access Barriers: The African Virtual Library Initiative (Avl-I)" (paper presented at The Web and Beyond: Harnessing the Potential of IT for Improving Health, Washington, DC, 2001). Available at <http://www.med.jhu.edu/ccp/ppt/2001/kamau/>.
- ^{xxvii} Ibid.
- ^{xxviii} Susanna Quiroz, "Libraries and Technology: A Challenge in a Developing Country, Nicaragua" (paper presented at The Electronic Library: Gateway to Information. Resource Sharing and User Services in the Electronic Library, Lund, Sweden, 1998). Available at <http://www.lub.lu.se/sida/>.
- ^{xxix} Vu Van Son, "Electronic libraries: Feasibility of their building up in Vietnam" (paper presented at The Electronic Library - Gateway to Information. Resource Sharing and User Services in the Electronic Library, Lund, Sweden, 1998). Available at <http://www.lub.lu.se/sida/>.
- ^{xxx} Hammond, "Digitally Empowered Development," 98.
- ^{xxxi} K. Lal, "Institutional Environment and the Development of Information and Communication Technology in India," *Information Society*, 17 (2001): 109; S. Rao, "Networking of Libraries and Information Centres: Challenges in India," *Library Hi Tech* 19, no. 2 (2001): 176.
- ^{xxxii} Rao, "Networking of Libraries and Information Centres."
- ^{xxxiii} Hammond, "Digitally Empowered Development," 101. Hammond also reports on how MIT's Media Lab and a Costa Rican foundation are doing similar things with abandoned shipping containers into digital community centers throughout central America, with information resources education, health and finance; *ibid.*
- ^{xxxiv} M. Pedersen, "Medical Journals To Offer Lower Rates in Poor Nations," *New York Times*, July 9 2001, A6.
- ^{xxxv} E. Nagourney, "For Medical Journals, a New World Online," *New York Times*, March 20 2001, S1.
- ^{xxxvi} Association of Research Libraries (<http://arl.org>).
- ^{xxxvii} See Public Library of Science (<http://www.publiclibraryofscience.org/>).
- ^{xxxviii} See John Willinsky, "Proposing a Knowledge Exchange Model for Scholarly Publishing," *Current Issues in Education* 3 no. 6. Available: <http://cie.ed.asu.edu/volume3/number6/>.
- ^{xxxix} Benedict Anderson points to how the newspapers were particularly well suited to fostering nationalism, but of course public schooling did not fail to carry its own flag-waving weight in this regard; *Imagined Communities: Reflections on the Origins and Spread of Nationalism* Revised Ed. (London: Verso, 1983).
- ^{xl} See the Public Knowledge Project (<http://pkp.ubc.ca>) for prototypes, demos, downloads, and publications, as well as links to other initiatives in this field.
- ^{xli} These publishing systems could well serve as "self-help tools" that Allen L. Hammond, of the World Resources Institute, believes need to be made "directly available to communities and individuals in poor regions"; "Digitally Empowered Development," 98.
- ^{xlii} See John Willinsky and Larry Wolfson, "The Indexing of Scholarly Journals: A Tipping Point for Publishing Reform" *The Journal of Electronic Publishing* 7, no. 2 (2001), Available at <http://www.press.umich.edu/jep/07-02/willinsky.html>.
- ^{xliiii} Hammond, "Digitally Empowered Development," 104. Global Forest Watch (<http://www.globalforestwatch.org/>) is run by the World Resources Initiative.
- ^{xliiv} C. A. Bowers, M. Vasquez, and M. Roaf, "Native People and the Challenge of Computers: Reservation Schools, Individualism and Consumerism," *American Indian Quarterly*, 24, no. 2 (2000): 181-199.
- ^{xlv} *Ibid.*, 185.
- ^{xlvi} *Ibid.*, 186.
- ^{xlvii} *Ibid.*, 136. It is also worth noting with Shirin Rai that "what gets hidden in the setting up of this hallowed space [of the local] is its splintered nature – the divisions of class, ethnicity, language, and caste that divide women also fracture the local"; cited by Kathleen Staudt, Shirin M. Rai, and Jane L. Parpart, "Protesting World Trade Rules: Can We talk About Empowerment," *Signs* 26 no. 4 (2001), 1253.
- ^{xlviii} Bowers, Vasqueza and Roaf, "Native People," 196-197.
- ^{xlix} Hardt and Negri, *Empire*, 34, 33.
- ¹ For Hardt and Negri, what is at issue is the "right to reappropriation," and in particular a "reappropriation of knowledge" which, as a "political demand of the multitude," is all about "having free access to and control over knowledge, information, communication, and affects," as it is "articulated with the powers of science and social knowledge through cooperation": *ibid.*, 404, 406-407, 410.
- ^{li} Bowers, Vasqueza and Roaf, "Native People," 192, 194.