Putting Knowledge to Work & Letting Information Play:

The Center for Digital Discourse and Culture

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Edited by
Timothy W. Luke
and
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Introduction

Timothy W. Luke and Jeremy Hunsinger

This group of critical, historical, and technical assessments of digital discourse and culture is assembled to commemorate the creation of Virginia Tech's Center for Digital Discourse and Culture (CDDC) a decade ago. Organized in the College of Arts and Sciences, two college faculty members--Len Hatfield in the Department of English and Timothy W. Luke in the Department of Political Science--began operating the CDDC with Jeremy Hunsinger, who later pursued and completed his Doctorate in the Science and Technology Studies (STS) program. Hatfield was a co-founder of the English Department's Center for Applied Technology in the Humanities (CATH), and Luke was the author of a 1994 white paper for the College of Arts and Sciences calling for the creation of a new entity, namely, "Cyberschool," at Virginia Tech to design, manage, organize, and then teach wholly online undergraduate and graduate courses by 1995.

During 1996, a handful of such courses were being offered, and the practical difficulties raised by presenting such classes over the Internet within an educational institution entirely grounded upon print-based, tradition-bound, and engineering-biased modes of daily operation soon became very problematic. In 1996, a student in California or Greece could take a Cyberschool class, but they had to first travel to Blacksburg, fill out paper forms, and then write a personal check for tuition and fees. In response, and with the support of Instructional Technologies and the College of Arts and Sciences, Cyberschool divided into two smaller groups--Cyberschool I, coordinated by Luke to push for institutional innovation and reform, and Cyberschool II, coordinated by Hatfield to develop new technical responses for the challenges of online teaching (Couples & Luke, 1998; Luke, 2001). Ed Fox in the College's Department of Computer Science also had been working separately with the Graduate School and University Libraries to implement an electronic thesis and dissertation (ETD) requirement for several years. Once he joined the Cyberschool group, faculty members' discussions occasionally turned to the challenges of scholarly communication and archiving knowledge online.

Working off of the intersection of these and other groups on campus, University President Paul Torgersen approved Virginia Tech's pioneering implementation of a mandatory electronic thesis and dissertation (ETD) requirement in 1997 (Torgersen, 1998). Caught on the cusp of conflict between existing codex books and print quarterly journals produced on paper versus untested e-books and pixel-borne online publications, many academics at Virginia Tech wavered. In this context, the ETD experiment was quite a radical experiment (see Appendix A). Changing the media used in the production, consumption, accumulation, and circulation of scholarship created many anxieties about the academy's existing cultural practices for valorizing scholarly activity as well as the organizational logistics of maintaining its traditional disciplinary norms, frameworks, and archives. As a university without a traditional book publishing press, and lacking much experience with producing academic journals on campus, the

stage-skipping potentialities of creating a "digital press" for Virginia Tech seemed quite promising in 1996 and 1997 (Hatfield & Luke, 1997) for the Cyberschool (Luke 2007,p. 653-671).

Like the Cyberschool group itself, which pushed from within the College of Arts and Sciences for teaching totally online classes and granting entirely online degrees (Luke, 2004, p. 75-77), the idea of a wholly online digital press was a bit radical, especially in the mid-1990s when daily web browsing was neither common nor easy (see Appendix B). An opportunity to serve as a game-changing standard-setter was put before the University administration, which was then basically ignored due to very pedestrian concerns (Luke, 2002, p. 249-281). At root, the University's administrators expressed many insecurities about really being first at anything, even though it was an institution that prided itself in the 1990s for being all about "Putting Knowledge to Work." Anxieties, which were tied to fearing financial success, doubting any "technological initiatives" not rooted in the College of Engineering, and questioning the real staying-power of digital discourse over print media, ruled the day. At the same time, the University Libraries' own Scholarly Publications Project, and then later its Digital Library and Archives Division, was backing the ETD project along with its own limited efforts to digitize a few important small, unprofitable scholarly publications and older, out-of-print serials. With all of these different players on the field, each often ended up playing their own game, but in accordance with the restrictive rules set by the University's administration. Ironically, these rules, once again, related to its fears of profit, success, or even being first.

The business model for a Virginia Tech Digital Press, for example, proposed creating digital versions of print books and journals for sale. Yet, the University's administration worried at the time, "what if they sold?" Should they sell, then pressure would build to bring out more titles. More titles, more sales, more growth could lead to new sources of income, but that development would require greater investments in staff, space, and support to ramp up production to a break-even point. Once the break-even point was crossed, steady profits could be generated. For better or worse, the University was, and still is, a public entity not organized to make a profit; hence, some closely allied 501(c)3 corporation would also then need to be established to handle such commerce as operational gains and/or losses under its auspices as a not-for-profit enterprise. Nonetheless, sales taxes, general merchandise inventory taxes, local taxes, and other transaction costs would need to be faced, and then paid. Hence, the University's embedded institutional practices, existing mercantile structures, and established bureaucratic agencies all kept the implementation of a fully-articulated digital press very much at arm's length. Tax phobia, however, was the leading explanation used by the administration to justify not "Putting Knowledge to Work" in this way as well as avoiding a chance to "Invent the Future."

Ironically, however, the University's "land grant mission" did permit publishing to be conducted, and indeed even encouraged it, as long as its products were distributed openly as a public good for the advantage of the Commonwealth's citizens or the benefit of those seeking sound science. Rather than investing in a comprehensive strategy to design and build one of the first, if not the first, digital academic presses, like—the later-created High Wire at Stanford, Project Muse at Johns Hopkins, or Informa World at Routledge, the College put a predictable constant maintenance budget down to maintain an experimental effort. These resources enabled the Cyberschool to construct a digital point-of-publication that had to make its services available essentially like an agricultural extension station. That is, it would be like disbursing pamphlets, guides, or brochures freely to all those seeking its services without charge. Caught within these legal constraints, then, the would-be Virginia Tech Digital Press began operations a decade ago within Cyberschool as a public service, also known as the Center for Digital Discourse and Culture (Luke, 2004, p. 75-77). After the creation of the Institute of Distributed and Distance Learning in 1998-1999, this office generously has continued funding CDDC's operations as part of its research mission.

Knowledge at Work

During this past decade in public service as a digital point-of-publication, the CDDC has worked to find, create, or sustain multiple reading publics with an array of services. Yet, at the same time, its "for-free" activities ironically have tracked closely the tremendous expansion in the open source supply of informational, scientific, or technical documents as well as the radical disarticulation of their production from potentially profit-generating forms (Luke, 2006, p. 197-210). On the one hand, such "for-free" developments clearly add to the world's creative commons, but on the other hand, they also arguably contribute to a radical devaluation of many academic, artistic, intellectual scholarly, and scientific works. Once such goods are produced and circulated for free, or are disconnected from profit-generation forms via digital piracy, counterfeiting, public service, or expropriation, the P2P pressures of file-sharing lead to an uncommon economy of superabundance in which the material rewards for doing such labor increasingly are becoming scant (Lessig, 2004).

Working in its public service role, the CDDC has concentrated on issuing calls to publish experimental, innovative artistic and academic works, and it has been successful at acquiring, assessing, and then archiving them after various types of peer review. A few contacts on Virginia Tech's campus, in turn, brought the production to three fully online journals under its wing, namely, the poetry journal, *New River*, which once circulated on material machine-readable media; *Public Knowledge Journal*, a student-run public affairs annual featuring articles, interviews, and reviews on questions of public policy; and, *Spectra*, an online refereed journal about social, political, ethical, and cultural thought that publishes material from a variety of academic lectures, conferences, and symposia. At the same time, the CDDC provided hosting space and mirroring services to emerging

networks for use in developing online civil society, digital education, academic archives, and scholarly communications. Consequently, there are thousands of users per day around the world who frequent its diverse collection of archives listservs, mirrors, and publications. During the 2008-2009 academic year, the CDDC responded to an average level for page requests of 50,000 a day. Over 2 million unique users visited its collections, and over one gigabyte of data per day is transferred from its servers.

At the close of the Cold War, sophisticated computing use was changing rapidly. With this shift in the early 1990s, the central administration of Virginia Tech saw itself making the transition for the campus from centralized information processing on major mainframe systems to a more decentralized information-processing environment relying upon thousands of individual desktop and laptop computers, first using wired and then later more wireless access (Luke, 2001, p. 153-174). As the computing and communication networks at Virginia Tech became more accessible, inexpensive, and ubiquitous, on-campus experiments like Cyberschool were encouraged to try something different (Couples & Luke, 1998, p. 136-143; Luke, 1994; and Luke, 1998).

Caught within this institutional transformation, the CDDC, as a digital point-of-publication, operates openly and continuously through the pull of its pooled digital resources and the densely clustered points of interest centered at this node of/for interactivity. Its domains are, as Crang and Thrift (2000) observe, about spaces best apprehended as being a "*process* and in process" (p. 3). All of its content cascades out of informational processing, but its root machinic network practices are flexible spatial formations whose "process in process" enables innumerable networks of unknown, unacknowledged, and perhaps even unknowable people to share expertise and insights round the clock and all around the world. No digital discourse is truly just dematerialized digits, but its hollowed out, accelerated, compressed dematerialization as pixilated images, digitized sounds, or hypertext totally changes the economics of knowledge production and consumption (Luke, 2006, p. 197-210).

Digital points-of-publication, like CDDC in 1998-1999, often began as sites for maintaining, capturing, and accumulating digital versions of print documents long out of copyright as well as experimental efforts at producing born-digital documents for the use of many communities. Yet, the explosion of web logs, social media, virtual communities, and mobile wireless device writings (text messages, Twitter, and podcasts) over the past five, ten, or fifteen years have so transformed the field of objects to be possibly assessed and archived that any center of digital discourse and culture soon realizes it could potentially be responsible for serving as the repository for almost all forms of human and machine communication. Moreover, its archival function kicks into gear as communicative interactions occur rather than after they are first experienced and then maybe, in part, forgotten, neglected, misinterpreted, hidden or destroyed. Forestalling those ravages of time historically was once what libraries, archives, presses, and collections tried to prevent. In the polymorphic material exchanges of digital

culture, the friction, signal loss, or forgetting of nondigital communication could diminish to near nothing since everything possibly can be traced, stored, and recirculated from its born-digital origins and operations.

The proliferation of enterprise software applications over the past decade, at the same time, has led rapidly to the digitalization of not only scholarly discourse and learned culture on campus, but also the day-in/day-out administration of university institutions themselves. For the most part, alumni, academic, administrative, staff, and student interactions on and off campus with each other and their larger economic and social contexts are now embedded in multiple streams of digital discourse and culture. Fewer and fewer entirely print-and-paper interactions occupy individuals and groups, working together or apart, on campus as the university's institutional administrative practices go digital, while the intrusion of wireless environments also bring more and more teaching engagements via web-based social media sites, and podcast content sharing.

Just as operations like the Center for Digital Discourse and Culture are established to remediate scholarly communication, academic publication, and knowledge archiving, these fundamentally decentering practices of discursive and cultural digitalization are reshaping most, if not all, university procedures. From supply purchases, alumni association, student application, class registration, accreditation review, personnel administration, records management, institutional publicity, course content, faculty assessment, stakeholder engagement, outreach work, or even parking services, many everyday moments in the academic life world are now like an e-commerce or e-governance transaction. Hence, the CDDC is now only one of many nodes for being digital in an institution that largely engages with itself, its own, and all others elsewhere as digital beings (Luke, 2003).

The open source ethos of the Center for Digital Discourse and Culture has been, and continues to be, one of diversity and perhaps even disruption. This ethos is centered more on participation, accessibility, and sharing in a fashion that the closed copyright standards of print were meant to find disturbing (Lessig, 2004). Yet, more and more intellectual production circulates within huge corporate-controlled publication machines intent upon integrating even more titles into their vast and varied suites of titles. Perched within the conventional credo of bourgeois liberalism, their standards of value draw from the imperatives of the twentieth century culture industry in which viewing, reading, and listening publics are largely left only with a "freedom to choose what is always the same" (Horkheimer & Adorno, 1998, p.266).

Comfortable conformity, basic banality, and methodological monotony, then, plague many of the print products afforded by major corporate-controlled publication. While purchased, it is never clear that many journal articles circulating under these conditions are read all that often or perhaps even ever. Once accepted, edited, and circulated, their main use comes in service as stepping-stones in personal research agendas, professional promotions, or institutional assessments are satisfied. Frequently written more to be

concentrated and counted than read and relished, the symbolic economies of most scientific, technical, and professional articles in this publishing industry sit at their ideal equilibrium (Baudrillard, 2004).

Discomforting disruption, intriguing inventiveness, or aggravating analysis, on the other hand, can be found more readily in open source publishing where the production of predictability is not valued over the heightening of heterorthodoxy. Likewise, the open source archives in which such digital creations rest are usually accessible, and the hits, downloads, and links to their materials are always identifiable. The participatory, inventive, and disruptive spirit of their creation stress the free collective quality of their production, circulation, accumulation, and consumption. And, even better, traffic statistics per item, per day, per project allow one to see they are being scanned, linked, and reprocessed into other networks of utilization (Luke, 2007). Once digitized, they are mobilized to be used, and utilized they are in frequently mobilizations on multiple lines of flight in many digital discourses and cultures.

At Play with Information

These collected papers are critical reflections about the digitalization of discourse and culture. Certainly, the influence of this transformational change in communicative interaction has swept rapidly and widely through major universities, nation states, learned disciplines, important businesses, and government agencies during the past decade. As new information and communication technologies (ICTs) have been created, and then communities of users became interested in, enrolled by, and engaged with their communicative possibilities, informational content, or technical forms, only a few voices asked clearly and critically what it will mean. Many of the most important voices that have asked articulate, critical, and telling questions of the rapid changes brought on by the spread of ICTs are gathered here in this volume. Each author in his or her own way considers what accepting digital discourse and informational culture now means for contemporary economies, governments, and societies.

Yet, these changes are only the beginning. With desktop and laptop computers still serving as the main access portals and/or personal accumulation points of many e-texts, the reading and writing economies of digital discourse and culture are caught at a historical conjuncture for such modes of literacy. It is not unlike the last days of manuscript text production when precious, heavy, expensive tomes, scrolls, and documents rarely could leave special sites, like the manuscriptoria of courts, monasteries, or a few great universities. Embedded intelligence, smart objects, ubiquitous computing, and the so-called “m-revolution” that these systems pull together in new ICT assemblages, however, are also coming on quickly. The more fixed material links of e-texts to relatively costly, hard to move, and expensive office-proposed computers are being broken by many smaller, cheaper, multipurpose mobile wireless devices--from cell phones to e-readers to tablet computers--that can, in a fashion,

approach modes of versatility, simplicity, and movability for texts comparable to the paper codex book. They are expected to number 1 billion by 2010.

In addition, these devices' integration into effective systems of monetary payment, electronic structures of personal identification, and efficient streams of everyday life management are ramping up new streams of digital discourse and culture for densely embedded intelligence relaying information from GPS grids, RFID tags, web-enabled appliances, smart power grids, or telematic traffic controls. Once again, these clustered technical transitions underscore how thoroughly common digital discourse and culture are becoming almost invisible, but in plain sight, even though many lay and expert communities continue to regard them as exceptional rarities.

Ben Agger's contribution, "The Book Unbound," is a critical reassessment of the Internet, mobile personal digital assistants, mobile phones, and social media. His appreciation of the materiality of different media ecologies leads to incisive remarks about how the practices of reading and writing are changing rapidly as writers and readers adapt to these new communications media. Echoing classic Marxian worries from the Frankfurt School, Agger sees all that once was solid and separate disappearing, as well as merging, into wireless bits spinning in the air.

Mark Poster addresses parallel concerns in his "Culture, Media, and Globalization" as he explores how different communicative devices and their articulated networks of communication alter the nature of individual subjectivity and collective identity. Looking at the linguistic turn in philosophy, the spreading impact of cultural, economic, and technological globalization, and the new media that advance these globalist shifts in politics with their coincident linguistic turns, he concludes that it is now time for all critics to bring "the information machines" (or ICTs) of modern life under very close critical scrutiny.

Doug Kellner's "Barack Obama and Celebrity Spectacle" brings Agger and Poster's critical apprehensions together. With his rereading of how Barack Obama--the 2008 Democratic Party presidential nominee and national electoral victor for the President--was, and continues to be, caught up in a now endless tabloidized, televisualized, and twitterized 24x7 media spectacle, Kellner worries about the digital bits and sound bites that bridge the worlds of popular culture and electoral politics. Arguably, this (con)fusion of worlds creates considerable electoral sizzle on the campaign trail, but then also sparks endless snooping for any sitting presidential administration that degrades effective governance via scandal mongering, gossip generation, and disinformation drives. The degree to which Poster's information machines now power contemporary politics, and the limits that Agger sees flowing from a public that increasingly reads and writes tweets, e-mails, and weblogs as their political discourse are disturbing developments for a truly democratic society that Kellner's essay affirms. Such

a world arguably emboldens politicians who loosely delight in "going rogue" rather than those who deliberate carefully in close ties of advise-and-consent.

The impact of the Internet on literature is a major zone of inventive activity for digital discourse development as the papers by Falco, Opie, Hall, and Swiss all attest. Falco's "*The New River*: Collected Editor's Notes" is a project in "e-literature" that antedated CDDC by a few years, and it has been a signature publication for the Center since its inception. As a site for wholly born-digital literary work with hypertextual and multimedia applications, *The New River* is an excellent example of this aesthetic practice made possible in the world of digital discourse on culture. Brian Opie's "Textscapes and Landscapes" is a fascinating study on postcolonial analyses of literature. It looks at the writings of British poet William Golder and his writings in and on New Zealand after his arrival in Wellington during 1840. A writer whose work otherwise would be hard to access, Opie's analysis of his poetry is an example of how electronic publishing makes possible a wider reception of writers like Golder. In addition, Opie explores how electronic text centers, like the one he recently helped launch in New Zealand, spark new research about "the text" itself, the audience it addresses, and the context in which it is received. Swiss's brief meditation, "The Unexpected Pleasures of Collaboration," on electronic collaborative writing; Wittkower's study of "cuteness" in the aesthetics of online design, websites, and traffic; and Thomas's reflections about the evolution of hyperlinks in code, "From Gunny Sacks to Mattress Vine," as textual devices, and for writing online in general, are also significant interventions on how different aspects of digital discourse and culture "get done" as coded assemblages of objects and elements.

Hall's exploration of "Fluid Notes on Liquid Books" as flexible, open networks of scholarship is an excellent example of the scholarship that CDDC has sought to promote as it was launched in the mid-1990s with the Virginia Tech Cyberschool. In reaction to the turbulence being experienced by traditional publishers, Hall is one of the key leaders working with the *Culture Machine* series of The Open Humanities Press to rethink and then remake the print codex book into a more complex instance of digital discourse for a global culture.

In turn, Guédon's "Text as Technology" is a focused analysis of how reading and writing on electronic reading and writing technologies can alter the text as the genres of "liquid books," "e-literature," or "digital art" become more common cultural artifacts. The proprietary struggle over the design, sale, and use of dedicated e-book readers is a struggle between major corporate enterprises rather than big ideas as Sony, Google, Amazon.com, Adobe, Barnes and Noble, Apple, and Microsoft all duke it out over who will be left standing to build the best black box for accumulating, accessing, and authoring electronic texts. Yet, the media ecology in which that ultimate ethical success might occur, as Guédon notes, is yet to emerge and stabilize itself. Until it does, and then even more so after, sites like CDDC will be essential for digital discourse and culture to thrive.

Fox, Srinivasan, and McMillan recount the development of what they see as "open scholarship and open systems" in their "Electronic Thesis and Dissertations: Progress, Issues, and Prospects." As pioneering leaders in the transition from traditional bound paper dissertations to contemporary electronic theses and dissertations (ETDs), the authors expertly reassess the progress these types of scholarly communication represent. Yet, at the same time, they are attentive to the problematic issues caused for individual scholars, specific universities, and the academic world in general, first, by opening and, then, accelerating new packets of knowledge for a more rapid and widespread movement of such digitized research results.

Peters very thoroughly examines the merits of "openness" per se as a value in academic life as well as commercial enterprise in his "Open Works, Open Cultures, and Open Learning Systems." Returning to Umberto Eco and Ludwig Wittgenstein, Peters sees a continuing struggle in modern history between free open culture and proprietary closed culture that pitches the merits of a more equitable open education system against the less liberatory closed control of information favored traditionally by many companies, the nation state, and major universities.

Hunsinger parallels some of the history in this introduction, but goes beyond it. He describes the engagements that the Center for Digital Discourse and Culture has had in the world, our efforts to build systems, and provide services to the broader community. He highlights the importance of our engagement with academic processes of legitimation of digital work and promotion. This chapter provides insights into the past and future of academic work as digital works.

One of the most tangible expressions of closed guild privileges in the educational system is, of course, the institution of academic tenure for professorial faculty. Schatzki in "Digital Research and Tenure & Promotion in Colleges of Arts and Sciences: A Thought Piece" examines how the infiltration of online, electronic, or digital discourse into scholarly communication creates a valorization problem, if not a legitimacy crisis, for many disciplines that have not already made a transition to open access archives, like physics, mathematics, or computing sciences. While there are no definitive solutions, Schatzki encourages the liberal arts to emulate some practices begun by early entrants into digital discourse among the natural sciences.

The chapter that Timothy Luke and Jeremy Hunsinger produced exhibits some of the central problems that institutions face in the digital age. Ostensibly it is about citizenship, research institutions, research funding, and the transformations of assumptions in the European Union, but each of those issues occurs in parallel fashion in many of our institutions today. Higher education is continually challenged with neo-liberal agendas such as privatization, the transformations of ownerships and rights, and the construction of consumption as its dominant narrative. Bringing these issues to

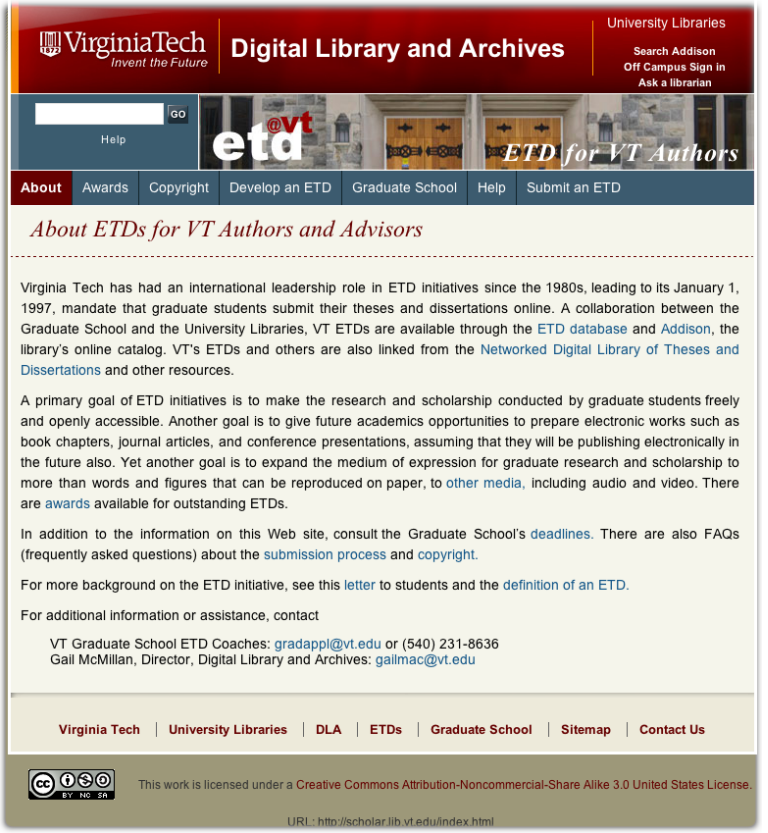
light, through this chapter is a necessary addition to recontextualize many of the arguments we have in higher education today.

Timothy Luke's chapter, "Reweaving the World: The Web as Digital Discourse and Culture," expresses some summary thoughts by returning to Lyotard's *The Postmodern Condition: A Report on Knowledge*. Part prophecy, part pathos, and part philosophy, Lyotard's quirky 1979 report on "the knowledge society" anticipates many aspects of digital discourse and culture. Today, as various scholars call for the creation of "Web science," it is important to recall that the opening of the electronic frontier as well as the freeing of information always occurs within the containments of cybernetic command, control, and communication. As the Web has rewoven the world, its nexus of power is such that one always finds that knowledge is continuously on report, being relentlessly put to work, and supposedly inventing the future. And, its goal is not to discern truth, because its truths are already disclosed in the practices and processes of performativity (Luke, 2003, p. 272-283).

In some sense, Birkerts's (1994) anxieties about the proliferation of ICTs as well as the intensification of computer-mediated communication that this technological change brings have come to pass as "the primary human relations--to space, time, nature, and to other people--have been subjected to a warping pressure that something new under the sun. . . we have created the technology that now only enables us to change our basic nature, but that is making such change all but inevitable" (p. 15). Of course, many other new information (and noninformation) as well as communication (or noncommunication) technologies also cause certain concrete changes that could exert warping pressures, but it is fair for Birkerts to wonder if those changes are truly inevitable distorting and fundamental. Without the same sense of nostalgic loss, these papers take us on a parallel course to Birkerts's elegies. Although it is the case for these authors that some see much less inevitability, some deeply doubt the distortion, and some roundly dispute the fundamentalist assumptions Birkerts expresses, all note how our immediate interactions in space and time as well as with nature and people are changed. Most, then, of these examinations of digital discourse and culture are careful reflections about the radical and fundamental changes in what Turkle (1997, p. 17) labels the "interface values" of different media. Whatever interface values Birkerts experienced with print are at the heart of his anxious polemics; but, so too, all must realize that the interface values of digital discourses and cultures mediated by ICTs are what each of these authors ask us carefully to reconsider. While not all of them accept the changes with unfettered enthusiasm, each sees there is much to be learned on its own terms in these new digital environments.

Appendix A

http://etd.vt.edu/index.html



Appendix B

http://www.cddc.vt.edu/cyber/docs/whitepapers/digitalpress.html

Policy Recommendations IV

Virginia Tech Cyberschool

"Developing a VT Digital Press for the University"

Len Hatfield and Timothy W. Luke
Coordinators, Cyberschool
August 6, 1997

During the Spring 1997 semester, the Cyberschool faculty discussed the issues surrounding the mandatory requirement in the Graduate School of submitting theses and dissertations electronically for digital archiving and distribution. In addition, the Cyberschool I and II Coordinators--Tim Luke and Len Hatfield--participated in the campus forum on electronics theses and dissertations (ETD), which was staged by the Center for Science and Technology Studies on April 5, 1997. As a result of these discussions, we want to recommend the University establish a new kind of academic publishing operation, a peer-reviewed, web-based digital press, to support Information Age scholarship.

At this juncture, most master's and doctoral candidates are anxious about the ETD process because many print publishers now regard any electronic publishing of graduate research projects as a prior publication. Therefore, they will not accept ETDs for professional review at their print journals, monograph series or book publishing houses. This response adversely affects Virginia Tech's graduate students as academic professionals who want to begin accumulating refereed publications, and as scholarly researchers who wish to circulate their research findings as quickly and widely as possible among their peers. While the decision to impose this mandatory requirement was necessary from the perspective of the Graduate School, this necessity is proving harmful

to graduate students in several of the University's master's and doctoral programs. Adoption of new, flexible rules for releasing ETDs to the larger world at staggered times and with greater or less scope have helped, but these policies only respond to the dictates of print publishing practices, and don't begin building the foundation for the new forms of publishing that are emerging in the digital domain.

Consequently, the Cyberschool faculty believe that the University should leverage its innovative ETD practices in another set of creative moves, namely, establishing a completely digital, web-based press. Eventually encompassing the existing Scholarly Publications Project, this operation could provide fully refereed, rigorously edited, and professionally legitimated publishing outlets for Virginia Tech graduate students as well as the graduates of other institutions in the larger ETD consortium around the nation. This would require a series of periodical publications in several disciplines as well as a sample of book-length studies in any discipline the press chooses to highlight. Existing on-line journals now published at Virginia Tech could be brought under the wing of the digital press, and the University also could begin contracting with various print publications to issue digital web-based versions of their journals.

Implementing these recommendations as soon as possible requires some definite decisions to be made soon. The editorial focus, staffing, and policies of the digital press would need to be resolved in fairly short order. In turn, the technical support capabilities, financial basis, and physical location of the digital press staff also would need to be determined. Once these questions were answered, however, this move should produce many useful benefits for the University. These would include:

1) Scholarly and Scientific Prestige: Creating the first all digital web-based university press in the nation, if not the world, will once again demonstrate the University's leading place in the Information Age. While some university presses are making a few journals and archives available on-line, none have resolved to offer their material entirely in web-based or machine-readable forms. Virginia Tech could set the standards for future forms of scholarly publishing by creating this digital press.

2) Transforming Publication Practices: Providing digital publication outlets on a

permanent basis with internationally respected editors and high production values could help change the academic publishing industry and scholarly career paths. Unless and until some well-known university makes this move, things will remain stuck where they are. Here Virginia Tech could use its leading position in computer-mediated instruction to change how on-line publication is viewed and, in turn, thereby alter how academics publish their work, how society stores scientific information, and how publishers vend their products.

3) Transforming Publication Possibilities: Not only would digital publication help to change faculty assessment practices, but it also offers faculty new genres (such as hypertext) and new media (multi-media combinations of graphics, audio, and sound materials) in which to present their scholarly work. These changes have the potential to fundamentally change the practices of scholarly communication itself across the disciplines. If we hope to affect the general quality of material being published digitally, we must take the lead in this vital area.

4) Economic Development: Building a digital press could be a tremendously productive new industrial initiative for the local University community. Editors, production staff, computer support technicians as well as designers, marketing personnel, and software application experts all will be needed to make a VT Digital Press a working reality. This operation could be located at first in the ACITC (now Torgerson or later at the CRC (Corporate Research Center) as its operations grow in scope and number. These products also could provide a considerable source of revenue to the University or some new closely held corporation responsible for the VT digital press.

5) Recruiting Benefits: Positioning a digital press at the heart of the University's new strategic planning for becoming an international leader in the use of information technology for university instruction, research and administration should greatly assist graduate student and faculty recruitment. As digital web-based publishing comes to dominate many scientific, humanistic, and professional disciplines, Virginia Tech's faculty and students will be the most conversant and familiar with these modes of academic communication. Anyone who wants to be a leader in these forms of academic publishing

and scholarly communication, therefore, would want to begin at Virginia Tech.

These are, of course, only some of the potential benefits of establishing a VT Digital Press. We recognize that this initiative is a major undertaking; still, with the ETD policies of the Graduate School, the University already is taking bold steps in this direction. This move would add to the University's prestige, assist our graduate students in their professional development, change existing markets for academic publication, provide a potential for economic growth, and boost our graduate and faculty recruitment capabilities. We would be happy to discuss this proposal further with anyone, and we hope that the University could begin planning and preparation for a VT Digital Press to be fully up and running by the time the ACITC opens in 1999.

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Chapter 1
The Book Unbound: Reconsidering One-Dimensionality in the Internet Age

Ben Agger

The printing press helped end the middle ages. The Internet is on the verge of ending books, as we have come to know them. By "book" I mean considered reflection on the world that is produced as a readable object. To be sure, computer downloads may count as books, even if they remain only on the screen. But books, to earn that name, must be considered slowly and at a certain distance from everyday life. They must have a spine, which holds them and their arguments together. For a book to have a spine promises distance from the everyday world required to consider its writing carefully and to formulate a rejoinder, the essence of dialogical democracy and community.

The decline of books is paralleled and reinforced by the ascendance of the mobile phone, which "sublates" (negates, preserves, transcends) the laptop computer and traditional telephones. BlackBerries and iPhones allow for, indeed, they compel, compulsive connectivity, combining talking, texting, blogging, and surfing in a portable unit even smaller than a paperback book. People author their lives using phones, which allow typing, but this writing for the most part immerses them in everyday life and does not allow them to gain distance from it. Users do not compose; they chat, spewing forth what Adorno (1973) called the "jargon of authenticity," his early critique of subject-centered philosophies such as existentialism. The unbinding of texts, replaced by multi-tasking phones, represents the triumph of connection over thought, perhaps a natural outcome of postmodern alienation.

The shift from reading bound books while sitting or slouching to reading books on the computer screen—or not reading at all--constitutes an important moment of the shift from modern to postmodern, from Fordism to post-Fordism, from reason to its eclipse. I want to avoid ontological condemnation here; one can stare at the screen, even at the risk of postural pain and problems, and treat pixilated argument in the same way one considers pulp. But in staring at the screen one is tethered to the technology. And one loses the sense of the book as a totality of sense and sentience—held in one's hand, thumbed through, dog-eared, annotated, read and re-read endlessly. I shudder to think of reading Adorno's (1973a) *Negative Dialectics* on the screen.

But those are not the only problems involved in the unbinding of books. Not only does reading change, but writing changes. Given the attentional and postural challenges of reading off the screen, whether the iPhone, laptop or desktop, writing simplifies itself, both in form and content. Text messaging is an example here, as keystrokes are restricted to around 150. Try composing a text containing the word "epistemology" more than once! Younger writers resort to emoticons and the quickspeak of acronyms in order to compress their arguments. This is strange because a literary political economy would seem to promise almost unlimited text in an electronic public sphere.

At issue is not just the restriction of keystrokes but the restriction of attention, which attenuates in a post-textual age.

The history of the book has been well-discussed and continues to be of great interest as we enter a post-textual age. Of particular concern has been the impact of printing, publishing and librarianship on readers and writers, a central feature of modernization as we know it. Scholars, including historians, students of library science, and even social and cultural theorists have written voluminously on these issues. There is even an academic journal, *Book History*, devoted to these matters. Dahl (1958) offers a history of books, while later, more theoretically-inflected treatments, such as Hall's (1996), examine the book as a vital component of culture.

The advent of the Internet seems to change everything, or does it? Turkle (1995) examines identity as people acquire their worlds and meanings from the computer screen, while Luke (1989) and Poster (2001) examine power and domination as these are increasingly screened, pixilated. I (Agger, 1990) have written about literary political economies, tying writing and other cultural issues to Marxist theory. The Frankfurt School first opened these questions when they (e.g., Horkheimer & Adorno, 1972) introduced the concept of the culture industry, a Marxist opening to what later came to be called cultural studies.

The rise and decline of the book contains a fateful dialectic. As global cultural dissemination has been attained in our post-Fordist moment, we can get out the message but we have lost the distance of books from the realities they describe and discuss. Overcoming physical distance seems to have reduced critical distance required to appraise the world rigorously. It is fundamentally different to read a Wikipedia entry than an old-fashioned encyclopedia entry, to read an electronic book than the real thing, to read email or text messages than letters from yesteryear. Near-instantaneity has reduced the time it takes to compose and then read and interpret writing. This fateful foreshortening tracks the rise and decline of the book, which originally liberated Europe from myth and misery. Perhaps it is enough to say that the Enlightenment has gone too far, or, better, that it was short-circuited and diverted—the original argument made by Horkheimer and Adorno (1972) in *Dialectic of Enlightenment*.

My analysis is awash in nostalgia, even for my own earlier literary career, when I read and wrote books that inserted themselves in the ongoing conversations about social and cultural theory. To be sure, I still read and write, but one has the nagging sense that we are writing for a very few and not for thousands and even millions. Doug Kellner asked me recently whether I thought the Internet was the way to go as far as publishing, of books and journals, was concerned.

Part of me values the Internet as nearly frictionless and accessible, a vehicle of cyberdemocracy. But the Nietzchean/Adornoian worrywart in me frets that this will only deepen one-dimensionality, an ability to rise out of the muck and ooze and think the world otherwise. It is easy to conceptualize the Internet as a surrounding,

deboundarying ether in which critique harmlessly gets absorbed, or, alternatively, to view the Internet as edgy and indie, a perfect vehicle for the long march through the institutions.

My neurotic Adornoian temperament is probably justified, given the trajectories of capitalism since the 19th century. An iPodified, laptop capitalism is "totally administering," to borrow the Frankfurt phrase. That is, it contains the tendency of total administration. Weirdos—"difference," in Derridean—slip through the cracks and even occasionally flourish. Non-one-dimensional thought abounds here and there—sometimes in Europe, occasionally in Eugene, Ann Arbor, or Austin.

But the exceptions prove the rule: capitalism unleashes "domination," Marcuse's (1964) one-dimensionality, in order to keep people in line politically and in line at the malls—now, of course, both in line literally and also online, a post-Fordist vehicle of commodity consumption.

Even before the Internet became an ether, in 1989 to be exact, I wrote along these lines in *Fast Capitalism* (Agger, 1989), which tracked the decline of discourse as the end of the book. In a sense, things have gotten worse—my Adornoian phrasings, above. In a sense, they may also have gotten slightly better—my answer to Kellner, who probably shares my ambivalence. Indeed, I and Kellner dislike aspects of the traditional pulp/publishing world, already named the culture industry by Horkheimer and Adorno. Part of one-dimensionality is banality, but banality driven by the relentless logic of the market, which both reflects and reproduces a moronic culture. Although that might sound pejorative and even mandarin (a consistent critique of Adorno's aesthetic theory), by moronic culture"I am using a technical term to describe the reduction of thought and hence culture to clichés, tropes, simple sentences—exactly what we observe as we track the decline of a public intellectual life (see Jacoby, 1987).

Who were the first morons, publishers and writers or readers? In a sense, it is does not matter; these agents are arrayed dialectically. Publishers claim that the market (readership) made them do it, publishing banal, uncritical works. Authors contend that their challenging prose has been domesticated needlessly. Curmudgeonly readers lament that they can find very little worth reading.

Transitions:

- ❊ People read via the Internet, downloading information and entertainment.
- ❊ Bookstores are in decline, and independent booksellers and publishers are failing.

- ❊ People write—blogging, texting, messaging, posting—but many epistles and screeds float off into cyberspace, not matched by accompanying readings.

- ❊ Writing in pulp formats is increasingly formulaic and scripted, parodying the prevailing norms of the market.

- ❊ In academia, people write in order to get published, not to get read. Technical language abounds.

- ❊ The decline of public intellectuals is matched, and hastened, by the decline of public readers curious about the state of the world and passionate about changing it.

- ❊ The Internet affords access and enhances accessibility, where it is not commodified.

- ❊ The post-textual replaces dense and closely argued prose with images that summarize, simplify and stimulate. Much Internet traffic involves the imaging of bodies and sexuality.

- ❊ Publishers, both trade and academic, feel compelled to publish what will sell. Niche books lose their footing.

- ❊ Marketing replaces editorial development as an activity of publishers and journalists who feel the pinch of the Internet and printing on demand.

These transitions cause the rate of intelligence (Jacoby, 1976) to fall, and discourse to decline. This is not to draw a firm boundary around the post-Guttenberg, pre-Internet era, when books prevailed. There was always the tendency, within that era, for culture industries to commodify writing and banalize writing. And the spread of the Internet, since the late 1980s, did not instantly cause publishing houses to shut down and library budgets to shrink. These are boundary crossings, tendencies. Diligent scribes still compose for pulp publication and use the Internet for the dissemination of considered writing, writing at a distance.

But these transitions represent powerful tendencies for the book to come unbound, for publishing to become entertainment, and for the very acts of writing to change—composition becoming twittering, posting, texting. Even the blog, perhaps the more traditional postmodern form of literary craftsmanship, is designed more to be written than to be read. After all, few care about your cat in Topeka or your tumultuous dating life or your views of Obama and Palin.

Celebrants of the Internet (e.g., Negroponte, 1996) talk about digital democracy. To be sure, connectivity could expand the New England town meeting to a global polity. It could also break through the walls of the local library and even the Library of Congress.

Everything would be available, and every voice could be heard. And the opportunity to blog, text, and twitter makes each of us an author.

Although these tendencies exist—I co-edit an electronic journal and rely on the Internet for communication and as a research tool—there are powerful countertendencies, such as *commodification* and *conformity*, identified by Marx and the Frankfurt School as the tendencies of the "logic of capital." Lukács (1971) and the Frankfurt School amplified Marx's 19th century argument in explaining why the socialist revolution that he reasonably expected got side-tracked. Their answers lay within Marx (1970) himself, notably his argument about false consciousness—a systematic belief system that fundamentally misrepresents the world and foreshortens the person's freedom, unnecessarily.

First Lukacs in his concept of reification and then the Frankfurters in their writings about domination and the culture industry argued that false consciousness has been deepened, especially in a post-WWII consumer culture. The sale of commodities necessary for survival are not sufficient to sustain capitalism. Now, capitalism must inculcate "false needs," encouraging people to spend beyond their means using credit on indulgences and entertainments. These false needs are re-defined as necessary, both because one must keep up with the neighbors and because technological prostheses (think of television, the Internet, cell phones, automobiles) are portrayed as inevitable concomitants of "modernity"—what people must have and use in order to be modern or, perhaps, postmodern.

One might define postmodernity as the eclipsing of books, basic needs, Fordist factories, boundaried nation states. The postmodern can be celebrated as 'globalization,' in which the Internet plays a major role, but a Marxist notices that globality is simply the continuation of class struggle by other means. Marx and Lenin already understood international imperialism and colonialism as essential for European and American capitalism. The outsourcing of jobs, commodities, and culture to the Third World perpetuates uneven development, on which capitalism rests.

What is genuinely different about this scenario from when Marx and Lenin were writing is that countries such as China combine economic development with political authoritarianism. Marx thought that industrialization would bring democracy, although a spurious representative kind that would collapse under the weight of inevitable economic crisis and lead to real democracy of the communes and the soviets. China and Russia demonstrate that Marx and Lenin's developmental scenarios were not exhaustive of historical possibilities. These countries combine economic development—consumer capitalism, the Internet, culture industries—with political illiberalism, suggesting that there are alternative models of modernist development, some of which might be termed postmodern. China and Russia might be 'post' in the sense that they outlive Marx's and the Frankfurt School's essentially Hegelian optimism about world-historical Reason as materialized in communism. Habermas (1987) extends this utopian tradition by urging the completion of the project of modernity, not its abandonment. But

capitalist connectivity is not necessarily accompanied by democracy, justice, a universal regime of Reason.

Indeed, what we are seeing, and not only in modernist/authoritarian regimes but also in the parliamentary west, is an admixture of consumer and entertainment capitalism, based on highly portable connectivity, and massive de-politicization and anti-intellectualism. People chatter and stay connected, but about ephemera—precisely the concern of the Frankfurt School in their culture-industry and one-dimensionality arguments, and as amplified by Jacoby, myself, and others who discuss the decline of discourse in a fast, perhaps arguably postmodern capitalism. Habermas (1989) addresses these issues as he discusses the structural transformations of the public sphere in late capitalism.

The tea leaves are difficult to read. The thesis of the eclipse of reason founders on the evidence that this is among the most literary of ages, at least if one simply tallies keystrokes per day per person. People of all generations, such as the young using MySpace and Facebook, produce thousands of words a day as they get and stay connected. Are these words ideas? There is no reason they cannot be. To be sure, they don't usually achieve Adornoian distance in the quickspeak and code of instant messaging and texting. Adorno would not have sanctioned "ticket thinking" such as LMAO or LOL. He wouldn't have endorsed the use of emoticons. Perhaps this is a stodgy point of view in today's fast world, in which the text message replaces the paragraph.

Both things could be true at once: there is a monumental and global dumbing down; but there is also frenetic literary activity as people write—both their 'selves' and in connecting to others. How ought we to read the compulsion to write and reach out? A technological determinist might simply note that the technology is there to be used, and we use it, much as supposedly labor-saving vacuum cleaners after WWII actually increased women's labor. But I think there is something deeper, especially among the young. This busy writing constitutes *prison code*, a tapping on the walls of their cells as young people create a world below the adult radar screen, both in protest and in the building of community (see Agger forthcoming).

To use the pre-post-Fordist Marxist language, these busy scribes—bloggers, texters, twitterers, posters—are alienated and they are responding by writing their alienation. They communicate in code because they don't want parents and their teachers to have access. These are the language games of rebellion, even if Marx and Adorno could have scarcely imagined a proletariat comprising generation X,Y, Zers who constitute a pre-labor force, kept busy by a long school day, homework, and extracurricular activities positioning them to succeed in the adult credentialed world.

The adolescent lumpenproletariat (Agger & Shelton, 2007) is matched by alienated adults who spend much of their waking time online. A postmodern deboundarying also affects the thinning boundary between work and home/family/leisure. Phones that

double as computers allow the sort of fast literary craftsmanship I am talking about. Adults sit side by side in waiting rooms working with their computer/phones. Paid work and unpaid activities bleed into each other as people open multiple windows and bounce back and forth between what, in an earlier modernity, were physically and temporally separate spheres.

I just purchased my first cell phone—a $20 "go" phone that I fill with purchased minutes. My kids urged me into postmodernity, and I taught a course on fast capitalism when I made the buy. I told my children and my students that I'd give it a month in order to see whether my life changed in significant ways!

Perhaps predictably, the phone is already an alienation: I have to keep track of it, and it compels me to answer it and to check messages. It creates work and sucks up time, even as, one must concede, there are certain efficiencies and utilities, such as keeping track of my kids and communicating with my wife. But I waited until I was 56 to do this. I remained pre-postmodern, and I don't think I was missing out on much.

Americans are said to watch four hours of television a day. Perhaps this number will remain constant, but I suspect it could decline, now that people can, in effect, write their lives using rapid information and communication technologies. These tools suck up time, perhaps borrowed from paid work, television, parenting, sleep. Books were never this compelling, except when we found a good read that we couldn't put down. We could always dog-ear the page and come back to it. Indeed, not reading straight through heightened our anticipation of plot development and denouement.

Adorno wanted writing to be dialectical, mirroring the contradictions of the world. Music (Adorno 1973b) of a certain kind (for him, Arnold Schoenberg's compositions) could do the same thing, allowing us to approach 'truth' by remaining distant. His own sentences were models of allusion and indirection. One has to work at them in order to understand the ways in which they track the world.

The unbinding of books is itself a dialectical phenomenon. It cheapens the production of books, and yet it also attenuates writing and attention. Literary life on the screen is thin, even one-dimensional, unless we download, staple and even bind. And even if we do that, we are assuming that writing remains distant, not sausaged into a few hundred keystrokes and littered with computer code and emoticons. Literary life is impoverished in comparison to writing before the Internet, even if "publication" in the broad sense of getting your wares out there is less expensive.

Must books have spines? Must authors have spines? A tentative yes to the first question and an emphatic yes to the second. The globalizing, instantaneizing technologies of cultural production and transmission need to be historicized, viewed in the contexts of the pre- and post-Guttenberg worlds. Setting type changed the world, and now hitting 'send' and 'save' may have even greater impact.

Chapter 1
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Chapter 2
Fluid Notes on Liquid Books

Gary Hall

The following speculations on the future of digital scholarship and open media, and the potential they hold for transforming the geopolitics of knowledge, arise out of my work on a series of performative media projects I am tentatively describing as "media gifts." These projects, which operate at the intersections of art, theory and new media, are *gifts* in the sense they function as part of what has come to be known as the academic gift economy, whereby research is circulated *for free* rather than as intellectual property or market commodities that are bought and sold. They are *performative* in that they are concerned not so much with representing or providing a picture *of* the world as acting *in the world* (Austin, 1962). In other words, my primary focus with these projects is *not* on *studying* the world and categorizing what I have found in order to arrive at an answer to the question "What exists?" and then, say, proclaiming that we have moved from the closed spaces of disciplinary societies to the more spirit or gas-like forces of the societies of control, as Gilles Deleuze (1997) would have it ; or from a modernity characterized by fixed and solid structures to the uncertain, liquid modernity Zygmunt Bauman describes (see Bauman, 2000, 2003, 2005, 2006). Of course, ontological studies of this kind can be extremely important. Nevertheless, different forms of communication have different effectivities and I often wonder about the effectivity of such analyses.

I regard these media gifts more as instances of media and mediation that endeavor to produce the effects they name or things of which they speak, and which are engaged primarily through their enactment or performance.[1] They are a way of practicing an *affirmative* media theory or media philosophy, in which analysis and critique are not abandoned but perhaps take more creative, inventive forms. (Just as I cannot entirely avoid offering a picture of the world with these projects, and nor do I wish to, so many of them contain substantial amounts of analysis and critique.) The different gifts in the series thus each in their own way experiment with the potential new media technologies hold for making affective, singular interventions in the "here" and "now."

Currently, the series contains at least ten media gifts. They include an open access archive[2]; a project exploring new ways of organizing cultures, communities, and even countries[3]; a series of internet television programmes[4]; and an experiment investigating some of the implications of internet piracy through the creation of an actual "pirate' text (see Hall, 2009a). The notes presented here concentrate on one of these gifts: the "liquid book" I am currently writing, editing, and curating with Clare Birchall. Part of the *Culture Machine* Liquid Books series we are editing for Open Humanities Press, this project explores some of the forms and shapes the book can take when it is produced by open, collaborative communities of scholars, researchers and librarians. [5]

The idea for Liquid Books initially came about as a response to a request Clare Birchall and I received from a publisher to produce a follow-up to our print-on-paper edited collection, *New Cultural Studies: Adventures in Theory* (Hall & Birchall, 2006). This follow-up was to consist of a reader gathering together and making easily accessible a number of important texts by some of the theorists discussed in that earlier volume: Giorgio Agamben, Alain Badiou, Jacques Derrida, Gilles Deleuze, Friedrich Kittler, Michael Hardt and Antonio Negri, Slavoj Žižek, and so forth. While we could understand that such a reader might have a certain usefulness, it seemed to us that to turn the idea of "new cultural studies" into a fixed and stable concept or brand would be to rather miss the point of what we and our fellow contributors were trying to achieve with that 2006 book: particularly its commitment to a performative cultural studies, and emphasis on the need for cultural studies to experiment with creating events and new forms of practice, action, and organization.

That is why we have decided to put together what we are calling a liquid book instead.[6] What we are doing is collecting texts by some of the theorists discussed in *New Cultural Studies*, along with others we would include if we *were* to produce a second print-on-paper volume, by writers such as Maurizio Lazzarato, N. Katherine Hayles, Jean-Luc Nancy, and Isabelle Stengers. Rather than publish this new collection as a conventional print-on-paper book, however, we are publishing it online as *New cultural studies: The liquid theory reader*.[7]

There are at least five additional reasons why we wanted to experiment with publishing a book in this way. First, doing so allows us to challenge the physical and conceptual limitations of the traditional edited codex book, not least by including more (and less) than just book chapters and journal articles, as is normally the case with readers. We also have the freedom to include whole books within our liquid book. (The Bible is an illustrious predecessor in this respect.)[8] There is also the possibility of including shorts extracts and samples from books, along with pages, snippets, references, quotations, annotations, tags, links to related material, even podcasts and You Tube clips, as well different versions and drafts of our Liquid Reader.

Second, this experiment in publishing a book online enables us to elude many of the problems scholars are likely to encounter when trying to publish a research-led book with a conventional print-on-paper press. For economic reasons, relatively few academic publishers are particularly interested in research monographs or even edited collections these days, let alone work that appears to be "difficult" or "experimental." For the most part it is accessible textbooks, introductions, course readers, and reference works that academic publishers now want to see in print. Producing a book electronically in this fashion also has the advantage of allowing us to creatively explore some of the limits and possibilities of the general move toward publishing and disseminating academic work online. It is an issue that has become particularly relevant in the light of recent developments that include the introduction of the Research Excellence Framework (REF)

in the United Kingdom,[9] bibliometrics, open access, Google Book Search,[10] and the increasing popularity of hand-held electronic book readers such as Amazon's Kindle and Sony's Reader.

Interestingly, with regard to the latter, electronic book readers are often perceived as being more environmentally friendly than buying lots of different books made out of dead trees that have often had to be physically transported huge distances, because a single item can be (re)used to read a library's worth of titles, all of them moved digitally. Things are not quite as simple as they may initially seem in this respect, however. For instance, it was recently reported in the UK press (Johnson, 2009) that with "more than 1.5 billion people online around the world...the energy footprint of the net is growing by more than 10% each year." It was also claimed that "while the demand for electricity is a primary concern, a secondary result of the explosion of internet use is that the computer industry's carbon debt is increasing drastically... leapfrogging other sectors like the airline industry that are more widely known for their negative environmental impact," One study even went so far as to suggest that "U.S. data centres used 61bn kilowatt hours of energy in 2006... enough to supply the whole of the United Kingdom for two months..." (p. 13). So it remains to be seen just what, if any, green credentials can be claimed for liquid books.

Be that as it may, it looks like the standard print-on-paper reader may be more or less redundant soon, as it is being progressively supplemented (if not entirely replaced) by the more fluid texts online publishing makes possible. Indeed, is something akin to what the music, television, and film industries have been going through for quite some time now likely to happen to scholarly publishing--if it is not doing so already, with academics increasingly making their research available for others to access and read online in a variety of forms and formats, and not just in the print-on-paper codex book or journal? Without doubt, it is going to be interesting to see how long the print-on-paper reader-come-doorstop volume remains with us. As California State Governor Arnold Schwarzenegger has posited with regard to school-age students in America, "Today our kids get their information from the internet downloaded onto their iPods, and in Twitter feeds to their cell phones." All of which has led him to ask: "So why are California's public school students still forced to lug around antiquated, heavy, expensive textbooks?" (cited in Pidd, 2009, p. 7). Certainly, university students are already disinclined to purchase such texts. This is partly due to issues of cost brought on by rising student debt, and partly due to the fact that they are used to getting whatever aspects of culture and information they need for free online, and so do not understand why they should have to pay for heavy hardware objects such as academic textbooks. But this reluctance also has to do with the way in which, as the student population becomes increasingly diverse and drawn from all over the world, devising a fixed and finished print-on-paper book that meets the needs of all its potential readers is extremely difficult. As a consequence, many academics are becoming loath to recommend such readers to their students, or to ask their students to bear the cost of purchasing them, often preferring to put their own cheap, customized collections together instead in the

form of course packs that are then reproduced and distributed internally within their institutions. At the same time, academics are having to think twice about the wisdom of writing and editing such readers for publication themselves, not least because they would be unlikely to count as the kind of original research that could go toward their RAE/REF submissions and research ratings, certainly in the United Kingdom.

Making our liquid book available open access[11] is another way this project is creatively experimenting with new forms of practice and organization. This means *New Cultural Studies: The Liquid Theory Reader* is freely available on the internet, on a worldwide basis, to anyone who wants to read it, including not just other researchers, but also teachers, students, investigative journalists, policy makers, union organizers, NGOs, political activists, protest groups, and the general public. It is thus hopefully playing a role, however small, in breaking down some of the barriers between countries in the so-called developed, developing and undeveloped worlds, and so helping to overcome the Westernization of the research literature. Indeed, at the time of writing the Liquid Books project has over 70 'users' from Brazil, South Africa, Hong Kong, Lebanon, the United Kingdom, Europe, the United States, Canada, Australia, and New Zealand, among other places.

More importantly, publishing a book in this manner allows us to make it available not just as open access but under open editing and gratis, libre content conditions, too.[12] So, like the *Culture Machine* series of books to which it belongs, *The New Cultural Studies Reader* is "liquid" in the sense that not only is it open and free for anyone, *anywhere*, to read; its initial iteration is also open to users on a read/write basis. This means users can continually help compose, add to, annotate, tag, edit, translate, remix, reformat, reinvent, and reuse it, or produce alternative parallel versions of it, however they wish. In this way, the book, along with any subsequent versions, can be produced in an open, collaborative, decentralised, multi-user-generated fashion: not just by its initial "authors," "editors," "creators," or "curators," but by a multiplicity of often anonymous collaborators distributed around the world. In the process, it is hoped that a variety of interesting and challenging questions will be raised: for ideas of the book, academic authorship, the proper name, attribution, publication, citation, accreditation, fair use, quality control, peer-review, copyright, intellectual property, and content creation; and, in the case of *The New Cultural Studies Reader*, for the intellectual formation of cultural studies, too.[13]

Of course, for some this idea of books being authored and edited in a decentralized, distributed fashion may still appear to be too much of an avant-garde fantasy. Yet there has already been a dramatic decentralization of authorship of a kind – to the extent one set of recently published figures claims that, while from 1400 onwards book authorship generally increased by "nearly tenfold in each *century*," nowadays "authorship, including books and new media, is growing nearly tenfold each *year*" (Pelli & Bigelow, 2009, para. 2). By the same token, a publication as mainstream as the *New York Times* has already

experimented with decentralized editing – although admittedly to a more limited degree (philosophically, if not technically) than both *The Liquid Theory Reader* and the *Culture Machine* Liquid Book series is attempting to do. As the chief technology officer for digital operations at the New York Times, Marc Frons, wrote in 2008, they were at that point in the process of developing a 'personalization platform called MyTimes that allows you to select headlines from almost any New York Times section and many external sources as well, and then arrange them on the page any way you like'. According to Frons, the New York Times was even planning to offer 'a way to personalize a small part of the home page… so that you can see headlines from sections that would not ordinarily appear there while leaving the rest of the page intact.'.[14]

The latter experiment in particular has led the software and audiovisual performance artist Amy Alexander to consider the "parallel evolutions of the web and celebrity," and to speculate on some of the possible long term effects of such open, decentralized and distributed editing on the importance and value of "famous" publications such as the *New York Times*. Alexander (2008) asks:

> "As the balance of power continually shifts from the mainstream media to bloggers, will online publications like the *New York Times* cease to exist – or at least diminish in importance – *as units*? Will they instead become primarily producers of individual articles, to be assembled like components into a myriad of online publications? Will we all assemble our own New York Times home pages – or perhaps pages comprised of articles from a number of sources? Or, more likely, will we select customized home pages assembled by our favorite lay-celeb editors – much like we read blogs by our favorite bloggers today? In other words, will today's decentralization of content production become tomorrow's decentralization of editing? TimesPeople, the New York Times' own social networking application, is moving toward that scenario already. Other sites, such as Newsvine,[15] allow the user community to vote their favourite story onto the front page, further decentralizing the editing process. (p. 3)

For Alexander, such a scenario would lead to a dramatic "downsizing of celebrity" – to the point where "in the future, no one will be famous." Interestingly, she includes in this process of downsizing the superstar status of an organ that is often considered to be the U.S. newspaper of record. The *New York Times* is a celebrity publication and "to be featured in the *Times* is still seen by many as an anointment of 'importance,'" Alexander (2008) writes:

> Will that same level of importance be perceived if a *New York Times* story resembles a cross between an Associated Press wire story and an RSS feed... ? By the same token, what value will [be] awarded to the appearance of an article on the front page of a site like Newsvine, where the placement decision is made by an anonymous group of readers with unknown qualifications? The public may not be ready to give up on editors completely. The shift, then, could be away from the most famous content and toward the most famous compilations – those compiled by the most famous compilers, for want of a better term. (p.3)

Alexander is careful to acknowledge that these "compilers may not commend the celebrity of a Matt Drudge" of The Drudge Report fame (p. 3).[16] But then for her we are dealing with a "downsized fame anyway," (p.3) since the unlimited spectrum space of the internet has made it easy for celebrities to proliferate – to the point where, "with so many web celebrities dividing up the public attention span, their level of celebrity must at some point drop below the threshold of 'fame'" (p.2).

An interesting question arises at this point: Could the dramatic downsizing Alexander predicts for celebrity in the future, and for the importance of famous publications such as the *New York Times*, also have implications for that of academic "stars" such as Agamben, Badiou, Kittler, Rancière and Žižek? And, more than that, for the academic author in general? Is one of the possible long-term effects of the rapid growth in predicted authorship,[17] coupled to such open, decentralized and distributed editing, going to be a shift in power and authority here, too: not just from the academic monograph to the collection or reader, as we have seen, but from the academic author to the academic editor, curator, or compiler? And with that, will the importance and value of the famous academic publisher of known and recognized quality be similarly downsized -- to the point where publishing with Harvard or Cambridge University Press, or in journals such as *Nature* or *Diacritics*, will become no more a sign of importance than appearing in the *New York Times* does in Alexander's account?

Or is there perhaps the potential for a change even more profound than that?

It is interesting that the shift in power and authority, for Alexander, is only taking place from author to editor, blogger to compiler. This is because she believes the public may not be ready to give up on editors entirely just yet. So, "instead of favorite bloggers we may have favorite compilers... for both mainstream and independent content" (p. 4). In fact, as far as she is concerned, it may become increasingly difficult to tell mainstream and independent media apart . Her reasoning is that, if all this change does take place, then "mainstream online media will likely need to produce more content to meet the

demands of increasingly narrowcast compilations - making each piece of content less important. Independent compilers and compilations, on the other hand, will become more important" (p.4).

I wonder whether the recent launch in the United Kingdom of what the Daily Mail and General Trust media group's digital division, Associated Northcliffe Digital, is calling its Local People digital news network, indicate that things are indeed moving in the direction Alexander anticipates. The plan is for this network to eventually consist of "50 local websites in areas where the Daily Mail General Trust does not have a dedicated regional paper website, [in order to] provide local communities with an online platform to discuss local issues and news, and network with other people in the same area" (Ramsey, 2009, para.1, 2) In contrast to the websites of most mainstream local newspapers, all the content on this network will be generated by its users and monitored by a community publisher. Intriguingly, Google has also started a site aimed at promoting amateur journalism: The YouTube Reporter's Centre is being billed as "a new resource to help" YouTube's enormous community of citizen journalists "learn more about how to report the news. It features some of the nation's top journalists and news organizations sharing instructional videos with tips and advice for better reporting." [18]

Certainly, it would be a relatively simple matter to argue that Alexander's point about mainstream and independent media becoming increasingly difficult to distinguish from each other is borne out by what has come to be known as the "Twitter revolution" in Iran. The narrative generally constructed is that the Iranian government's move to prevent the country's own journalists from reporting on the protests that took place following the disputed 2009 Presidential election, coupled with the fact that the foreign news agencies had few reporters of their own on the ground, meant that the mainstream Western news media were forced to build up a picture of events using whatever information was available to them, without always being able to check it for accuracy first. Much of this information came from citizen journalists among the Iranian population. They were able to provide eye-witness reports from the front line of the demonstrations using Twitter and videos shot with mobile phone cameras and then posted on YouTube and Facebook. The most well-known of these was that capturing the death of Nedā Āġā Soltān.[19] At the same time, independent online media such as *The Huffington Post* were able to respond rapidly to what was happening in Iran by using such citizen journalists to run live blogs, reporting events "during the riots... within minutes of them happening" (Huffington, cited in Bell, 2009, p. 81). Arianna Huffington, founder of The Huffington Post, has gone so far as to describe the Twitter revolution as a "defining moment for new media…You know that journalism's tectonic plates have shifted when the [U.S.] State Department is asking Twitter to postpone shutting down for scheduled repairs so that the on-the-ground citizen reporting coming out of Iran could continue uninterrupted"' (Huffington, 2009, para.1). While all this has generated concern that the likes of Huffington's site are "lending credibility to potentially false

information," with one tweet apparently reporting a massacre that did not actually take place," (Bell, 2009, p. 81) Huffington herself unsurprisingly denies this. In fact she goes to great pains to point out that *The Huffington Post* "employs a news editor who 'curates' reports as they come in, 'adding value' by filtering and weaving them with wire copy' (see Bell, 2009, p. 81). Yet this only serves to complicate further any attempt to distinguish between mainstream and independent online media, with independent compilers such as *The Huffington Post* – which recently overtook the Washington Post in terms of their respective numbers of online readers - appearing to become more important, in line with Alexander's argument.

Still, while I would to a certain degree be in favor of overturning the hierarchy that currently structures the relationship between mainstream and independent media, especially as far as academic publishing is concerned (see Hall, 2009c), it seems to me that any shift such as that anticipated by Alexander would simply replace one locus of power and authority (the author) with another (the editor or compiler). It would therefore not do much to bring the authority associated with the author into question at all; for the most part it would merely transfer that authority to a different location. Far more interesting, it seems to me, is the potential liquid texts have to raise questions for these alternative sources or rival locations of power and authority, too, so that we can rely on *neither* simply the author *nor* the editor, the blogger *nor* the compiler to provide texts with authority and validity. Rather, we have to take more rigorous and responsible decisions regarding such texts, their meaning, importance, value and quality: not least because the actors that perform these functions as either authors *or* editors are no longer always *clearly identifiable, or even always human*. Instead, when it comes to liquid texts both the author *and* the editor functions are decentred and distributed across a multiplicity of often anonymous actors with unknown qualifications and credentials.

Even more profoundly still, it is not just the identity and authority of the author and editor that such open, decentralized and distributed editing has the potential to bring into question: it is also that of the work itself. For instance, with its use of open editing and gratis, libre content, the *Culture Machine* Liquid Books series – which recently published a second volume, *The Post-Corporate University*, written and curated by Davin Heckman (2009) - can be said to be decentering the author and editor functions by making everyone potential authors/editors. In this respect the Liquid Books project can be positioned as addressing a question raised recently by Geert Lovink (2008): Why are wikis and other online platforms not utilized more to create, develop, and change theory and theoretical concepts, instead of theory - for all its radical interrogation of concepts such as writing, the author, the subject, the human and the text, I might add - continuing to be considered, as it is now, primarily the "terrain of the sole author who contemplates the world, preferably offline, surrounded by a pile of books, a fountain pen, and a notebook" (p. 185)?[20]

Yet in his essay "What Is an Author?", Michel Foucault (1984) warns that any attempt to avoid using the concept of the individualized author to close and fix the meaning of the text risks leading to a limit and a unity being imposed on it in another way: by means of the concept of the "work" (or the personalized edition, in the case of the *New York Times*, I would suggest):

> When undertaking the publication of Nietzsche's works, for example, where should one stop? Surely everything must be published, but what is 'everything'? Everything that Nietzsche published, certainly. And what about the rough drafts for his works? Obviously. The plans for his aphorisms? Yes. The deleted passages and the notes at the bottom of the page? Yes. What if, within a workbook filled with aphorisms, one finds a reference, the notation of a meeting or of an address, or a laundry list: Is it a work, or not? Why not? And so on, ad infinitum. How can one define a work amid the million traces left by someone after his death? A theory of the work does not exist, and the empirical task of those who naively undertake the editing of works often suffers in the absence of such a theory. (p.103-4)

It is a task that has become all the more difficult as far as authors who are still alive and working today are concerned. In that case, in addition to the points Foucault makes regarding books, drafts, notes and so on, prospective editors may also have to make decisions as to whether a writer's emails, web pages, blogs, contributions to social networking sites, SMS messages, RSS feeds, and personal metrics -- to cite just a few of the more obvious and clichéd instances that come to mind -- are to be included among their works, too. Are future editors of Žižek going to have to publish his tweets? And if not, why not? Such problems are only compounded by the fact that, as I have argued elsewhere (Hall, 2008, p. 66), the very web-like structure of the internet often makes it difficult to determine where online works begin or end. All the cutting and pasting, grafting and transplanting, internal and external linking that takes place blurs the boundaries between the text and its surroundings, its material support, but also between other media and cultural texts, techniques, forms and genres, making such boundaries frequently impossible to determine.

We can see here how, if texts in the Liquid Books series are made available under open editing and gratis, libre content conditions, a number of rather substantial questions are opened up for conventional notions of the author. One issue that still remains to be addressed, however, concerns the extent to which the ability of users to annotate, link, tag, remix, reversion, and reinvent such liquid books actually renders untenable any attempt to impose a limit and a unity on them as "works." And what in turn are the potential consequences of such 'liquidity' for those of our ideas that depend on the

concept of the 'work' for their effectivity: those concerning individualized attribution, citation, copyright, intellectual property, fair use, academic success, promotion, and so on?[21]

Arguably, wikis provide a promising space for raising and discussing such questions, by harnessing collective intelligence and "the power of the crowd" – what in an academic context is sometimes labeled "social scholarship."The wiki medium thus has the *potential* to develop different models of cultural, political, and social organization, certainly different than that of neo-liberal global market capitalism; models that offer ways of thinking individuality *and* collectivity, singularity *and* commonality, together.

In another media gifts project, WikiNation, I argue that we can experiment with wikis to work collaboratively on inventing ways of organizing cultures, communities, and even countries--in all their complexity, uncertainty, and multiplicity; ways that do not merely repeat the anti-political reductionism, lack of criticality, and Western liberal humanism that, for me, are a feature of many other accounts of the relation between self and other (see Hall, 2009b)**.** The idea behind such affirmative, collaborative projects is to devise not just what Jacques Derrida refers to as a 'counter-institution' (Derrida, 1995, p. 346). but also a counter-community or counter-country as a way of creating an actual, affective point of potentiality and transformation, with a view to countering, in however minor a fashion, the hyper-power of Western liberal democracy.

What is more, the networked, distributed structure of wikis means that anyone, anywhere, can potentially join in, publish, and participate in them, so long as they are able to access the internet. Projects such as the Liquid Theory Reader, the Liquid Books series, and WikiNation, which all make use of wikis, therefore have the capacity to be extremely pluralistic. We could even enact a multi-locational, multi-polar, multi-medium, multiple-identity book, series, or country.

This last point is especially important with regard to the centre/periphery model of the geopolitics of knowledge. In this model there are just a few nations at the centre of the global academic and publishing networks who are exporting, and in effect 'universalizing', their knowledge. And interestingly enough, this is the case with even the most radical of theoretical works - works which, in their content, explicitly try to undermine such centre/periphery models. Let's take those of Michel Foucault as an example. Foucault wrote his books of philosophy in Paris in the 1960s and 1970s, they were subsequently picked up by the U.S. and U.K. academic publishing networks and translated into English. Foucault's theories of power, governmentally, biopolitics, care of the self, and so forth have then been exported around the world.[22]

Meanwhile, there are a whole host of other nations outside of the centre of the global academic and publishing networks who, while being capable of importinguniversalized knowledge, don't have enough opportunities to publish, export, or even develop their own "universal" knowledge to rival that of Foucault -- or Derrida, Deleuze, Agamben, Butler, Badiou, Rancière, and so on. There are various reasons for this: their language may be a minority one;[23] scholars and students working in those countries often don't have the kind of access to the amount and quality of research literature that's taken for granted by those closer to the centre of the geopolitics of knowledge—literature that needs to be cited and referenced for research to be accepted by international journals and publishers and their peer-reviewers. Nor do they have the kind of local academic or publishing networks – the peer-reviewed journals and presses and so on – that can help them get read and cited and so produce, develop, support, and disseminate their work in the first place. They also often work in institutional settings that don't allow sufficient time for research, and where there's little incentive for undertaking research in both intellectual and material terms, with teaching and administration being the priority. At most, these scholars may get to "export empirical data" that provides local detail that can be used to flesh out the "universal" knowledge of those closer to the centre of the geopolitical knowledge networks (see Zeleza, 1998, p.17; Willinsky, 2006, p.104).

The wiki medium of communication can be of assistance when it comes to avoiding the reproduction of this state of affairs, it seems to me; not simply by enabling us to place more emphasis on the so-called periphery – say, by privileging contributions from outside the centre. Such an approach would risk repeating and maintaining the kind of centre/periphery, self/other relationality of power I have attempted to raise questions for here. Rather, wiki-communication can enable us to produce a multiplicitous academic and publishing network, one with a far more complex, fluid, antagonistic, distributed, and decentred structure, with a variety of singular and plural, human and non-human actants and agents. The *Culture Machine* series of liquid books , of which *New Cultural Studies: The Liquid Theory Reader* is only the first volume, constitutes an attempt to explore the potential for the constitution and emergence of just such a network.

Chapter 2
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Chapter 2
Notes

1. Here "performativity must be understood not as a singular or deliberate 'act,' but, rather, as the reiterative and citational practice by which discourse produces the effects that it names" (Judith Butler, 1993, p. 2).

2. CSeARCH (the cultural studies e-archive). Available at http://www.culturemachine.net/csearch.

3. WikiNation: or, Hyper-Cyprus. Available at http://hyper-cyprus.pbwiki.com/Hyper-Cyprus. See also Hall (2009b).

4. Liquid Theory TV. Available at http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=46728901.

5. *Culture Machine* is a series of experiments in culture and theory. At the time of writing, these experiments include the Liquid Books series (http://liquidbooks.pbworks.com/), the open access archive mentioned above (see note 2), and an open access online journal,.established in 1996.(More details are available at http://www.culturemachine.net.) Open Humanities Press was established in 2006 as the first open-access publishing 'house' explicitly dedicated to critical and cultural theory. (More details are available at http://www.openhumanitiespress.org.)

6. We derived our initial use of the term 'liquid' from Kevin Kelly. He writes about how:

> Once digitized, books can be unravelled into single pages or be reduced further, into snippets of a page. These snippets will be remixed into reordered books and virtual bookshelves. Just as the music audience now juggles and reorders songs into new albums (or playlists', as they are called in iTunes), the universal library will encourage the creation of virtual 'bookshelves' — a collection of texts, some as short as a paragraph, others as long as entire books, that form a library shelf's worth of specialized information. And as with music playlists, once created, these 'bookshelves' will be published and swapped in the public commons… (Kevin Kelly, 2006)

Since embarking on *New Cultural Studies: The Liquid Theory Reader*, we have also become aware of Jonas Andersson's Liquid Culture blog (http://liquidculture.wordpress.com/); Networked: A (networked_book) about (networked_art) (http://networkedbook.org/) and Liquid publications: Scientific publications meet the Web (http://liquidpub.org/).

7. The first volume in the *Culture Machine* Liquid Books series, *The liquid theory reader* (Hall & Birchall, 2009) can be found at: http://liquidbooks.pbworks.com/New+Cultural+Studies:+The+Liquid+Theory+Reader. A slightly different, somewhat briefer version of this description of *The Liquid Theory Reader* was published in Hall (2009a).

8. As Ted Striphas (2009) notes:

> For all practical purposes people today tend to treat books – with the exception of anthologies – as if they were discrete, closed entities. This hasn't always been the case. In the first century of printing in the West, it wasn't uncommon for a single bound volume to contain multiple works. One could hardly consider these books to be closed, much less objective in the sense of being contained, given how the practice of their assembly... provided for a range of textual juxtapositions. (The Bible is perhaps the most famous and enduring example of this mode of presentation.) (p.11)

9. The REF (Research Excellence Framework) is the forthcoming means of assessing and distributing quality-related (QR) funding for research in the United Kingdom. It is thought that in at least in some fields the REF will make more use of quantitative indicators – including bibliometric indicators of research quality – than the system it is due to replace: the RAE (Research Assessment Exercise). For more on REF see http://www.hefce.ac.uk/Research/ref/ [for some reason this link does not work; works if copy/paste, and if you go to the main research page (without the '/ref'. May want to check that when publish online book.]

10. Most of *New cultural studies: Adventures in theory* is already available to read online for free via Google Books. Available at: http://books.google.com/books?id=Xvu0AzxhTrwC&printsec=frontcover&dq=new+cultural+studies

11. A definition of open access taken from Peter Suber's Open Access News blog runs as follows: "Putting peer-reviewed scientific and scholarly literature on the internet. Making it available free of charge and free of most copyright and licensing restrictions. Removing the barriers to serious research" (see sidebar, "The open access movement"). Retrieved from http://www.earlham.edu/~peters/fos/fosblog.html

> It is worth noting in this context the distinction Suber has elsewhere drawn between *gratis* open access and *libre* open access. Gratis open access is where the obstacle of cost, but only the obstacle of cost, has been taken out of the equation, so that access to research published gratis open access is *freely* available (as in 'free beer'). In libre open access, meanwhile, not only has the obstacle of cost been removed, one or more of the barriers concerning the permissions that need to be sought to copy, reproduce or distribute a given text have been removed too. (Peter Suber, 2008.)

12. See Note [11] above. ("A definition of open access taken from…" – not numbering now in case #s change.)

13. This is one of the reasons we wanted a tool for constructing the Liquid Books series wiki that is easy to use and freely available: to encourage the raising of such questions, both as part of the Liquid Books series, and elsewhere; and to provide a means of doing so. The tool we are currently using for the Liquid Books series wiki is PBworks, which is available at http://pbworks.com/. Although PB works is proprietary and is not open source, it has been chosen over other possible alternatives such as MediaWiki for strategic reasons due to its ease of use for non-technically minded or experienced academic authors. For more, see Paul Miers, 2009.

14. Interestingly, Frons (2008) goes to great pains to stress that:

> A completely personalized version of the home page isn't something we have seriously contemplated, at least not yet. There are a couple of reasons for this. First, such a page would probably be daunting for most readers to set up and maintain. Second, and more important, I think most readers who visit the NYTimes.com home page go there because they are interested in what the editors of the New York Times think is newsworthy. There's great value in that. (para. 10)

15. Newsvine is available at http://www.newsvine.com

16. See http://www.drudgereport.com/

17. It should be noted that the figures provided by Pelli and Bigelow (2009) refer to authorship in general, rather than academic authorship specifically. Nevertheless, they predict that at the current rate of increase "everyone will publish in 2013" (para. 6).

18. http://www.youtube.com/user/reporterscenter.

19. See http://video.google.com/videosearch?q=Neda+Agha-Soltan&hl=en-GB&sourceid=gd&rls=DLUK,DLUK:2008-34,DLUK:en-GB&um=1&ie=UTF-8&ei=drJRSrzsEZbUjAfqlPiuBQ&sa=X&oi=video_result_group&ct=title&resnum=4#.

For one of the subtler versions of this "Twitter revolution" narrative, certainly as far as the way these demonstrations are organised, see Hamid Tehrani (2009).

20. What is more, I would suggest that this description of how theory and theoretical concepts are created is as applicable to the latest generation of theorists and philosophers to emerge – Agamben, Latour, Stiegler, including many of the so-called "children of the 68ers" such as Quentin Meillassoux - as it is the golden generation of Althusser, Barthes, Lacan, Derrida, Deleuze, Kristeva and Irigaray. For all that some of these theorists may nowadays be more inclined to write using a computer keyboard and screen than fountain pen or typewriter, their way of creating, developing and disseminating theory and theoretical concepts remains much the same. And this is the case not just with respect to the initial production of their texts and their materiality - the focus on book and print-on-paper articles, or at the very least papercentric texts - but also in their attribution of their texts to sole, individualized authors.

21. In raising such questions, Clare Birchall and I want to perhaps go a little further than many of those who have also experimented with online platforms have done so far. For example, McKenzie Wark experimented with open peer-commentary when writing his *GAM3R 7H30RY* (Version 1.1, 2006. Available at: http://www.futureofthebook.org/gamertheory). Similarly, Ted Striphas's Differences and Repetitions Wiki site for Rhizomatic Writing (http://striphas.wikidot.com/) contains drafts of work in progress he invites others to edit, amend or comment on, with the promise that their contributions will be duly acknowledged. But in both cases these authors – Wark and Striphas respectively – retain authorial control. They very much remain the clearly identifiable authors of these identifiable works, and it is to them that these works are clearly to be attributed. Although this is still the case with the first iteration of the Liquid Theory Reader, *New Cultural Studies: The Liquid Theory Reader (Version 1.0)*, it need not necessarily be so with any of its subsequent iterations. Indeed, that it is not necessarily so is part

of the very idea behind this project. This is not to deny our involvement as authors, editors, curators or creators of this Liquid Book. It is rather to put our role and identities in doubt, as it were; and in so doing provoke the raising of responsible ethical and political questions about the potential consequences of such liquidity for our ideas of the author, editor, curator, creator, and so on...

22. So much so that Foucault recently came top of a list published in the *Times Higher Education* of the most cited authors of books in the humanities. Pierre Bourdieu came second, with Jacques Derrida third. See “Most cited authors...” (2009).

23. In a talk entitled ‘Publishing for a Global Culture’, Ngugi wa Thiong'o (2009) described the way in which some languages – usually those closer to the centres of power in modernity, such as English, French, Spanish, and German – are considered to be of a higher value and order than others, as a form of linguistic feudalism or linguistic Darwinism.

Chapter 3
What Can Technology Teach Us about Texts? (and Texts about Technology?)

Jean-Claude Guédon

Introduction

In history and sociology of technology, one particular article has stood the test of time and remains as a minor classic (see Pinch & Bijker, 1984). I am referring to the constructivist project applied on the one hand to scientific knowledge (the question of "fact") and, on the other hand, to technology (the question of "artefact"). The case study chosen by the authors, Trevor Pinch and Wiebe Bijker (P&B), to illustrate their thesis was the bicycle or, more precisely, that period in the history of the bicycle that preceded the stabilized design still dominant nowadays. It was used to demonstrate points of convergence, but also of differences, between science and technology as apprehended through a constructivist approach. However, from my present perspective, the lasting value of this article lies in the way in which it makes sense of the proliferation of forms associated with the prehistory of the bicycle, roughly between 1860 and 1900. There is a lesson here for an analysis of any technology in any context, and, for this reason, the terms introduced by P&B to analyze the evolution of the bicycle remain useful. They can be easily transposed to text, especially if we approach text as a technological object, as we shall see.

The main point to remember from P&B's study is that a technical object is the result of a complex process of negotiation involving a number of groups of people acting as pressure groups. This political vocabulary is not part of P&B's vocabulary but it captures important elements of their analysis. P&B do rely on "relevant groups" of people, meaning by this sets of individuals that, in one manner or another, press upon the development of a technical artefact. These sets of people vary a great deal in nature. They cohere differently, and, as actors, individuals sport a wide variety of behaviours and roles. They can take the form of a design or marketing department within a company, but they can also include sociological categories such as women, children, families, or sport-oriented individuals. Workers in need of an easy way to go to their working place, as well as workers in need of a vehicle to carry things, also enter the picture. Some of these groups exist by virtue of a certain division of labour within a firm; other groups may reflect the categories used by marketing specialists.

What is important is P&B's analysis that these "relevant groups" maintain some form of discussion between themselves, be it latent or overt, implicit or explicit. For some, for example the engineers or the marketing specialists, the fullness of language is at their disposal. In fact, marketing experts seek to create the vocabulary that will offer the best possible presentation of the technical object they are dealing with, including its very name. Customers, on the other hand, negotiate with far fewer means of expression while evaluating the functions of the artefact under review (as they perceive it) in terms

of problems they want to solve or desires they want to fulfill. In effect their margin of maneuver is circumscribed by the choice of buying or not buying.

Had P&B's analysis been limited to the analysis just outlined, their 1984 article would not be remembered. But they go further. They start by an observation and a methodological point: first, many artefacts go through a stabilization phase characterized by the multiplication of competing firms. A kind of Darwinian situation ensues, where the selection process is decided by the way in which consumers react. However, the very multiplication of ephemeral artefacts is not to be disdained and neglected. This set of forgotten or amusing objects holds important information to understand what ultimately made the stabilized object possible.

The possible meaning of emerging objects sometimes appears particularly clearly in their marketing names: think of “Geared Facile,” “Kangaroo,” “Boneshaker,” “Club-Safety,” as well as other, more mundane names (viz. MacMillan's Bicycle, Lawson's Bicyclette, etc.). Clearly, the names try to respond to various, and even divergent, concerns or desires. P&B's important second point is related to this naming process: A particular object when contemplated from the perspective of a particular social group, takes on a particular meaning. The name (or some technical characteristic) of an artefact points to issues affecting the reception of the object in question. The artefact may offer a solution for a problem, or it may reassure while fulfilling a desire. However, this leads to a proliferation of forms that, to the observer, become as many symptoms of the many issues raised by fragmented social groups. From this perspective, the multiplication of artefacts around a particular technical theme makes a social analyzer of each artefact. Or, at least, they can be read in this way: Artefacts help decipher a society.

The third point relates to a finer reading of the artefact: Each technical object can be approached as being made up of elements that incorporate particular sub-solutions to sub-problems. For example, how do we propel the vehicle? Do we use pedals directly tied to the center of a wheel, or do we use a chain, or connecting rods? Do we make the vehicle more comfortable? And, if so, do we reach this goal with springs in the frame, in the seat, or with inflated tubes (tires) on the wheels? By dissecting – the word is perfectly appropriate here because it irresistibly recalls the work done by the likes of Cuvier in the early 19th century – the technical object, the authors show how to classify various bicycle ancestors within particular lines of development, some leading to the stabilized bicycle, some leading to dead-ends.

The end result of the previous three points looks a little like a genetic line of descent and a Darwinian system of selection. The more an object simultaneously responds to the desires, wishes, and anxieties of people, the larger its potential market will be and the greater its chances to survive. Knowing which line of development ultimately survived provides the historian with the template of a solution, and that is of course the advantage of looking back in time. It also allows the historian to differentiate between lines of development according to their ability to aggregate smaller or larger social groups. He can then work on the reasons for these differences, and that is where

functions and perceptions crisscross in complex and specific ways. The boundary between (functional) reality and perceived reality can be close to invisible. In fact, it is the task of marketeers to make the boundary as invisible as possible.

The "relevant social groups" that intervene in the evolution of a technical object do so from a perspective that includes both wishes (including fantasies) and concerns. In effect, these groups "voice" questions that the technical object "answers." However, the "conversation" is inherently complex. For their part, artefacts speak through surrogates (marketeers), and through functional claims that can be tested. Symmetrically, the "voice" of a social group can be only statistical in nature, and, as pointed out earlier, its "vocabulary" is ultimately limited to the choice of buying or not, once perceived functions have been discussed. For example, is a bicycle, beyond its obvious function as a means of transportation, bought for its comfort, its speed, its ability to carry objects, or its ability to enhance social status?

Sociologists of technology have borrowed the concept of "affordance" from psychologists to capture the perceived (or real, or even false) capacity of an artefact to provide a solution to a given problem. It is this notion of affordance that gives meaning to the mix of functions that a technical object either embodies or sports. Functions, here, are technical functions, of course, but not exclusively; they also include social and psychological functions.[1]

In the case of the bicycle, P&B identify various social groups and their particular concerns or wishes: Young athletic males valued its speed and looks, as well as the daring and skill it required. On the other hand, families seeking to leave the city for pleasant country rides valued comfort and safety. For children, the new object was viewed as a toy, but safety was also important. Women also wanted comfort and safety, but added constraints related to their long dresses and their sense of dignity.

The design that ultimately survived all others, and gave rise to all the modern variations of the bicycle, P&B argue, had to synthesize most of these competing demands. As long as some integrative template could not be envisioned, only partial solutions could exist and these, perforce, were limited to fragmented niche markets. With small markets, no bicycle industry could emerge powerful enough to shape and standardize if not the object, at least its basic template. In short, some sort of latent social consensus had to develop around the affordances of a bicycle. According to P&B, this blind quest led to a series of small innovations, but the element that seems to have clinched the right mix of solutions came with the inflated tire. The tire was first introduced to solve comfort problems, but it turned out that it also improved speed. In fact, in races, bicycles with tires quickly demonstrated their superiority over all other vehicles without tires. As a result, the tire essentially reconciled the two communities that, until then, had remained separate: The young male athletes, families, and children could all find advantages in the solution that involved relatively small wheels, pedals and chains, and tires. Once these characteristics were deemed to be of the essence, so to speak, the conditions for

explosive growth were met, and the bicycle saw its use expand very rapidly in the last decade of the 19th century.

E-book readers

The last ten years have seen many types of e-book readers appear, and it is interesting to question the ways in which they vary from each other, keeping in mind the lessons of the bicycles. Immediately, the evolution of e-book readers appears quite different from that of the bicycle: in the last ten years, they have not changed all that much. The "Rocket e-book reader," for example, although introduced around 2000, would not look out of place next to more recent e-book readers.[2] Of course, more recent innovations such as e-ink[3] mark an important transition, but in terms of shape, weight, and appearances, the device has remained remarkably stable since its inception. Does this mean that a stable template was reached immediately? How can we interpret such a surprising result?

The best way to investigate this question is, following P&B's example, to identify the relevant groups that have already manifested themselves with regard to the device. Not surprisingly, engineers and marketing specialists are present in the case of e-book readers as they were in the case of bicycles. Technical objects are manufactured to be sold by companies and, as a result, the same categories of specialists are involved. . As in the case of the bicycles, they remain in the background, particularly the engineers. Engineers speak through sets of integrated functions within a device. Marketing specialists, as we have seen, steer potential customers into reading particular affordances of the device. They also help identify other possible relevant groups on the side of customers.

At this junction, the plot thickens. Quite strikingly, most advertising around e-books completely avoids the issue of who the users might be. Unlike the case of the bicycle and its advertising aiming at children, racers, women, workers and families, e-book readers seem to be speaking to a totally undifferentiated group of people: readers. From the perspective of these artefacts, a reader is a reader is a reader. At best, we find some passing references to usage location: e-book readers can be taken to the beach (as in the case of the Bebook[4]), to a café, etc. However, the publicity for e-book readers focuses on the object itself, and little else.

What appears over and over again is a particular issue: the legibility of the screen. Of course, most recent e-books screens are based on e-ink technology, , and it is clear that this is an important step in the developmental phase of the e-book readers. This is why I used the word "transition" to characterize it. Most photographs of e-readers emphasize this page-like legibility of the e-ink screen.[5] But the insistence is such that e-book readers seem to claim that legibility is all that reading needs, as if reading were always performed in the same way and always sought the same objectives.

It is difficult to imagine marketing specialists ignoring the characteristics of their potential customers. They are, after all, the essential part of any marketing strategy. Yet,

the rare times when a reader appears as more than a hand or even a headless user, it is merely as a young adult. This is surprising since older people tend to read more and would seem to be an obvious adverttising target. But older people also tend to resist technical change and gadgets, be they real or perceived gadgets. The disconnect between the act of reading and the instrument of reading may be sensed by marketeers as a difficulty best finessed by neglecting the identity of readers.

However interesting the previous hypothesis may be, it can provide only a partial answer to the question of why readers remain such a shadowy category. One detail provides a useful hint in this regard. E-book readers based on e-ink displays (with one rare and expensive exception) do not provide colour. Marketeers generally leave this detail in the background, but whether mentioned directly or indirectly,[6] the absence of colour does not appear all that shocking. I Yet, we live in a world suffused by colours and neglecting colours is a handicap .

Part of this paradoxical situation is related to the technology, of course. E-ink, while clearly superior to most existing displays, does not accommodate colours in a cheap and simple way . Many manufacturers, as a result, take the gamble that a model based on tones of grey will respond to most of the needs and wishes of most people. And there is a reason behind this risk taking :The readers' tolerance for black and white probably rests on a tacit, largely unconscious, comparison with the printed page of typical books. In a novel, an essay, a biography, etc., we are used to dealing with black-and-white words.[7] The divorce between words, colours, and images that Gutenberg unwittingly engineered is simply being carried over to the e-book readers. Moreover, Gutenberg generated other consequences as well: With print, every mode of reading has been funneled, as it were, through a single device: the codex. Devices to help the retrieval of information such as tables of content, indices, titles and subtitles, etc., emerged gradually in the century that followed the initial invention by Gutenberg. Margins to allow the reader to annotate and comment on the text being read also evolved gradually. In short, the printed book grudgingly admitted, so to speak, that there were many ways to read and, rather than evolve in separate forms, it integrated new affordances that allowed for these various modes of reading. However, the device itself kept a unified appearance: a book is a book is a book, and, as such, it appears to behave as if it aimed at undifferentiated readers. E-book readers seem to have done their best to imitate this behaviour.

A legitimate question can be raised now: How can readers be differentiated from each other? What do we know about categories of readers and forms of reading? Interestingly, this question would have found few good answers only a few decades ago. It is only in the last part of the twentieth century that the “history of reading” began to take shape. Studies written by Manguel (e.g., 1977), or edited by Cavallo and Chartier (e.g., 2003), emerged only in the last decade of the 20th century.[8] In Germany, Rolf Engelsing (1974) distinguished between “intensive” and “extensive” reading in studies going back to the early 1970s. Why it took so long is a little puzzling, especially when

taking into consideration that studying, reading for pleasure, examining, and checking for facts are well-known forms of reading that everybody regularly experiences. One possible answer is that, once again, the printed codex is acting as a screen: It mediates all forms of reading. As a result, the various forms of reading may have remained largely hidden by the monotonously regular appearance of codices of all sorts. A dictionary, an encyclopedia, a textbook, a how-to manual, a novel, and a collection of poems all appeared in the form of a codex. Bookstores became places where one found books, not a range of reading instruments. But books are books, and, as a possible consequence, readers are readers.

The long-lasting invisibility of the modes of reading that printed books have helped to maintain invites the hypothesis that e-book readers have been conceived as the direct technical transposition of printed books. Passing a text from ink printed on a paper surface to a screen may strike anyone as a very simple move, and some may be tempted to think that this is not so different from moving a text from a manuscript to a printed page. But this is precisely the point: The move from the manuscript world to the Gutenberg era is so complex that we are still debating its full meaning and importance. The move from the printed word to what lies "beneath" the screen – namely digitization – is bound to be even more complex. Because we are just beginning to enter the digital age, we cannot yet benefit from much hindsight. All we know is that e-book readers, for the last ten years or so, have been desperately attempting to make us believe that they behave just like printed pages, exactly as the first printed documents tried to make themselves pass off as manuscripts. History has a word for this phase of printing history: incunabula. Gregory Crane et al. (2007) remind us that the term applies equally well to our present phase in the deployment of the digital context.

If the previous argument makes sense, it may explain why the passage from the printed book to the digital text is often viewed as a kind of continuum. The e-book reader, in this perspective, appears as a substitute for books, as a better book. From this perspective, the efforts to show that e-book readers are as portable as books; as easy to read, even in full light; as easy to annotate as books are (in some cases) all point to measuring the electronic device against the codex. Within its few ounces, hundreds, perhaps thousands of titles can rest, simply waiting for the moment when the owner of the quasi-magical instrument summons them to the surface of the screen. In fact, the e-book reader presents itself as a super-book, but a book all the same. As in the case of Amazon's Kindle, it can include a dictionary to help you understand better what you read; it lets you mark pages and passages that you can easily retrieve afterwards. It even includes a keyboard to let you write comments related to what you read. With the Kindle, books have acquired infinite margins, and a pencil to write in them.

One nagging question does remain, however: Can the printed codex all by itself, and as a technical artefact, account for the presence of an undifferentiated, generic reader? The answer, of course, is negative. A more complete answer would have to involve the printed book as a commodity and the generic reader as constituting the market for the

printed book. In other words, not only do printed books "funnel" all kinds of reading through the codex, as was pointed out a little earlier, but it also unifies the various categories of readers into a more or less homogeneous group of consumers of reading materials. The source for the "generic reader," the needed symmetrical partner of the generic e-book reader, therefore, is not to difficult to identify: Publishers, book distributors, bookstores and libraries all see the readers as an undifferentiated crowd. From their perspective, the e-book reader (as object) is simply viewed as an artefact that ensures a suitable technical, legal, and economic junction with the generic (human) reader. What remains to be done is maintaining a suitable degree of control over the texts diffused in this manner. And this is indeed what we observe. Various e-book readers place constraints on the ways in which the digital files are distributed and used. Proprietary formats abound, along with digital rights management techniques. Lending the file corresponding to a duly purchased book to someone else is very limited at best, impossible in some cases.[9]. An extreme case emerged in July 2009 when buyers of George Orwell's famous texts, *1984* and *Animal Farm*, suddenly discovered that their files had been remotely erased from their Kindle.[10] In short, e-book readers are also being shaped in such a way as to enforce a control over the licensed documents that can exceed what we have been used to through the sale of artefacts made of printed paper and cardboard covers.

All these remarks converge toward a simple conclusion: The e-book reader, in its present form, is an artefact with actually very few relevant groups associated with it. One might say that is is a "push-technology" rather than a "pull-technology", meaning by this that it is designed to help owners of copyrighted materials maintain, and even extend, their property rights through a suitable device capable of dealing with digital materials. Amazon's Kindle, in particular, is designed to let the impulsive buyer order a book on the fly, thanks to its particular (and particularly constrained) form of connectivity. Coupling a virtual bookstore with a machine capable of reading virtual materials is smart , but, at the same time, it clearly brings out all the limitations of e-book readers: effectively, they reveal themselves to be an extension of the reigning commercial order, that of the Gutenberg era. When the connection between instrument and source is not present, problems arise, similar to what would happen if someone bought a record player at a time when few records existed and the standards around records were not clear. This is in fact the problem faced by the Sony reader, and it may explain why Sony is courting Google to provide materials to the buyers of this particular Japanese gadget.[11]

As a final thought, is it possible to conclude that the e-book reader, especially if coupled with printing-on-demand machines,[12] was designed under the illusion that print could subsume digital objects? The long battle to "kindle" the market does support the notion that we are still at the phase of some particular wish expressed by limited relevant groups. The name itself, the "Kindle," confirms the top-down, designer-led maneuver that stands behind the quest for the perfect e-book reader. However, the same details suggest that we are not yet close to a stabilization point. In fact, the absence of important relevant groups almost surely guarantees that the e-book reader as it has

evolved since the late 1990s will not find itself on the main development line of the stabilized reading machine of tomorrow. The reason for this bit of daring prediction is that the object has been designed with too little attention to the intricacies of the arts of reading, and their great diversity. Moreover, digital documents hold a potential that is much greater than what e-book readers offer. For e-books to emerge on the main evolutionary line of reading machines, a number of important details would have to be added, and these details, if adopted, would fundamentally change the nature of the object itself. To explain this, it will be necessary to look at situations that bring into play other roles and functions of the text. This will also lead us to reconsider the boundaries of the ecology of reading machines.

Reading machines and their ecology

While e-book readers have been doggedly aiming at a somewhat mythical, undifferentiated reader, texts themselves, in the last twenty years, have displayed a wide variety of forms, structures, and appearances. Hypertexts are among the first new forms that separated the digital document from its printed counterpart, even though, somewhat paradoxically, hypertextual structures were quickly and retrospectively identified in the printed world, from Diderot's *Encyclopédie* and its "*renvois*" from article to article, to so-called interactive novels. The World Wide Web, of course, was designed to help people express themselves through this new communication protocol. Even though its inventor, Tim Berners-Lee, has expressed some frustration in observing that the broadcasting/publishing mentality soon took over a set of tools initially developed for communication, sharing and exchanging (see Tim Berners-Lee (1999)), the Web is the site of an enormous variety of documentary experimentation. The more recent explosion of tools such as blogs and wikis has also restored Berners-Lee's initial vision. In fact, the ability to create a wide range of documentary forms endowed with an equally varied range of functions is the fundamental hallmark of the digital age.

This point is important. Print, despite some experiments in layout, has tended to create a unique type of surface on which various modes of reading could be applied. At the same time, print has also strongly contributed to distinguishing between the producer(s) of a text (author, editor, publisher, etc.) and the reader of a text. Once used to the printed codex,[13] the reader, largely automatically, adopts an appropriate mode of reading, the important point here being the automatic, largely unconscious, selection. The creative part, if it exists at all, is all on the side of the writing/publishing mode. Most of the time, reading will simply follow customary approaches: reading for pleasure, reading for study, perhaps with pen in hand, checking, verifying, retrieving, and so on.

On the digital side, things change for two reasons. On the one hand, everything can be represented digitally, not just text. Print long enforced a kind of divorce between text and pictures and it was not overcome until the advent of lithography in the late 18th century. Even then, most books included no or few illustrations, and many of these were on separate pages, tellingly called "hors texte" in French. With digital documents, the situation is completely reversed: sound, images, video can all be encoded with the

zeroes and ones of the computer world. This means that creating a document requires making choices of what to *exclude* because, a priori, every form of expression is available. At the same time, all these digital documents can be read only through machines that translate them for our sense . This means that, wittingly or not, machines act as a kind of filter because of their own technical characteristics. We have seen, for example, that most e-book readers were designed to reconstruct a relationship to a textual surface that is completely informed by the print tradition.

There is more to this. The need to use a machine to translate binary digits into visible and audible patterns is quite important because a new question can now be introduced with regard to digital documents: What kinds of readings can machines implement? The answer is probably near infinity, or, in any case, very large since it corresponds to all the algorithmic forms of reading we can and will invent. At the same time, some of the reading possibilities of a machine correspond to our human modes of reading. For example, we occasionally search for passages in codices to retrieve a specific argument, fact, or reference. The machine does this too, except that it does it in the blink of an eye, and not in the clumsy, human way.

It is time now to return to the beginning of this line of argument: While print neatly separated document producers from document readers (and, in passing, from document consumers, for most of the printed documents fall in the category of commodities), the digital world invites constant reworking and rewriting of all documents. Any individual can quickly position herself somewhere along the production chain that ranges from the initial ideas to the usable text, from author to editor, to publisher to reader. The Wikipedia phenomenon displays this widened range of possibilities in spectacular fashion. It also means that the notion of a final document loses much of its meaning because its finality can only be the result of a consensus, and not the product of a technology that fixes the text. The validity or truth-value of a document is marked by temporary stability. Traditional forms of authority tend to be displaced in favour of authoritative methods that can be widely accessible, thus resulting in the possibility of marrying truth and/or reality with democratic procedures.

There is still more! The “reading” of a document does nothing more than implement a particular algorithmic approach. The consequence of this observation is that, at least for the near future, the forms of readings available to us either through classical means, or through a few algorithmic inventions, can represent but a very small part of the set of all possible forms of readings. The insights already provided by data mining and machine creation of knowledge through the use of large textual corpora indicate that we are entering a very long road, and that most of this journey lies ahead of us, for generations. In effect, the digital world is telling us that we and our machines have only begun to learn how to read.

Given this enormous flexibility of the digital document, it is not very difficult to see that the relative stability of e-book readers in the last ten years is indeed extremely artificial, induced as I surmised earlier, by the desire of owners of literary rights to extend their

privileges and transpose their forms of power into the digital age. Meanwhile, computers and the Web reveal far richer digital documents.

One simple, although possibly surprising, example will illustrate this extraordinary variety of documents that are emerging. Social networks have become all the rage in some quadrants of the Internet, and Second Life stands as one of the more famous instantiations of this particular application of Internet connectivity.[14] What is intriguing in Second Life is that individuals express themselves not only through words, but also through images that are themselves the product of basic, modular, elements, very similar, therefore, to the letters of an alphabet (or the basic part of a Lego construction set). The "Prims" (for "primitives") that people use to conjure up their corporeal appearance (or "avatar"), their "home," and whatever else they care to "build" behave like a basic vocabulary with which to "tell" stories. In Second Life, words are but one way to communicate with others, and, actually, the avatar itself forms a complex document. Deciphering the possible meaning of this avatar requires looking at the entirety of the mode of expression.[15] In effect, Second Life offers a broadened vocabulary with which to write, in particular to project oneself to others. In so doing, Second Lifers tend to repeat what we do in real life through fashion style, etc. Semiotically-inclined thinkers such as Roland Barthes carried out a "reading" of our society that extended well beyond reading traditional literature.[16] However, in Second Life, all these dimensions are produced with the same basic ingredients: zeroes, ones, and a number of suitable algorithms. That extended form of writing covers practically all aspects of human activities and interactions, thus justifying the name of the device: Second Life.

Evidence of digital documents that would appear far closer to our familiar documentary world also exist, of course, but illustrating this point with an example such as Second Life allows conjuring up truly unfamiliar and even disconcerting perspectives. Such experiences will only multiply as we explore the digital world more deeply.

What kinds of reading machines do we have with which to begin exploring this new documentary continent? Beyond the computer and the e-book readers, we find communication tools that increasingly merge with viewing and reading machines, including the capacity to produce images, sounds, videos and texts. This suggests that the true ecology of our reading machines is much broader than the set of e-book readers. Roughly speaking it is comprised of four main categories: smart phones that involve tools such as a keyboard, a camera, etc.; e-book readers; game consoles; and computers. Now, we find ourselves in a situation that, indeed, begins to look like the bicycle world before it stabilized around a solid template. And the question becomes: what are the missing elements that could contribute to making these four groups of objects converge toward a stable template?

Perhaps because computers are themselves quite varied, it is easier to start with this particular set of artefacts. Clearly, computers allow processing documents--the term "word processor" is no longer entirely accurate because modern programmes corresponding to this label include the capacity to manage much more than mere

words: images, sound, and video can now be meshed in one document. We can listen to what we write through voice synthesis. In short, the computer allows us to access documents in a variety of ways, and it also allows us to produce, modify, mix and remix other documents.

However, computers are also communicating machines, a point that was made as early as 1963 by J. C. R. Licklider (1965). . Endowed with a rather unusual capacity to re-conceptualise machines, Licklider, although he was surrounded by primitive computers as big or bigger than large refrigerators, perceived early on that they were communicating devices. Nowadays, thanks to the Internet, thinking of computers as communication tools is familiar, even banal, and will draw but a yawn from polite listeners. Yet, this also means that computers belong in some ways to the same line of development as telephones. Recent developments in mobiles have led to devices that, as computers, are more powerful than desktop models of ten years ago. Meanwhile, the emergence of small netbooks wonderfully adapted to Internet connectivity shows that these small computers can act as very capable phones, even videophones, through programmes such as Skype or Ekiga. The reasons for selecting one device rather than another are not always entirely clear, but they certainly have to do more with fantasized affordances than real ones. The fact that several phone models sport tiny keyboards and small screens reveals the desire to emulate computers; while, coming from the other end of the spectrum, the shrinking of computers underscores the quest for greater portability.

The merging of the two kinds of tools would, of course, unite two different relevant groups and would make the resulting device all that more attractive to a larger crowd. However, there are more fundamental issues to address if some sort of stabilized object is to emerge out of these contradictory and divergent social requests. In the computer world, videogames have come to be among the most important documents “read” by both machines and humans. Not only are the numbers of “gamers” huge, but this digital genre, to use the word in its literary meaning, is giving rise to a fast growing and solid body of critical theory and research. In short, videogames **are** digital documents. However, these games are computation intensive and require powerful Central Processing Units and video cards. They also need full colors and the kind of screen that can react extremely fast to computer-generated graphics . Both the cathode ray tube and the LCD screens are capable of creating the needed displays for videogames, but e-ink is not. It simply is not fast and responsive enough, and color remains very expensive. This creates a particular kind of barrier between e-book readers and computers.

The game scene is dominated by specialized consoles that actually are powerful dedicated computers that have been optimized to “read” game programmes, generally using the television set as the display. They can also be interpreted as the transposition of e-book readers to a different category of documents, that of games. The design of consoles, as in the case of the e-book readers, has been largely dominated by engineers and marketing specialists but they had a much more focused view of their potential

consumers: young males (mainly) searching for the maximum thrills that games can provide.[17] The story lines, therefore, tend to focus on violence and sex as is demonstrated by one of the most popular game series on the market: Grand Theft Auto.[18] They often include the possibility of interacting online and role acting. Unlike e-book readers, they do not benefit from a large stock of existing materials that can be digitized. However, this apparent handicap can also be an advantage: The makers of videogame consoles can create their own materials in terms of the new context, with a good understanding of what is bound to be popular. In other words, they are creating a new kind of publishing industry where the chances of producing best sellers is much higher than in the traditional publishing industry. Most of these new games, if we exclude such first-wave classics as chess, checkers and solitaire, were born digital, and game designers quickly proceeded to invent entirely new interactive and immersive story lines where originality is mixed with conventions in a clever and effective manner. These games are not limited to consoles and many also work on computers. This "portability" of software across platforms ensures a large base of "readers". Finally, in the case of the consoles, the advent of high-definition televisions brings the quality of the displays to the level of computer screens: Users of consoles no longer have to compromise on the quality of the image to benefit from large screens.

The issue of screens, from what has already been said, is emerging as a crucial element. There exist computers with screens similar to e-book readers, such as the One Laptop per Child or OLPC, the brain child of Nicholas Negroponte,[19] and they may give an idea of how computers, videogame consoles, and e-book readers may merge: The OLPC can be read with reflected light, but can also glow in the dark. It is in color, but it does not cost as much as the e-ink screens of the e-book readers.[20] It folds one way to look like a computer, and another way to look like an e-book reader. The only disadvantage is that it uses more battery power than devices based on the e-ink technology, thus limiting the ability to shrink the device, at least for now. Yet, the OLPC and its particular kind of screen may be quite close to playing the role that pneumatics played in the bicycle world: It may help bring together various relevant groups ranging from gamers, computer users, and book readers and bring all of us that much closer to a stable template of the optimal digital reader.

There is no need to pursue this analysis further as the terms of the tacit negotiations between relevant social groups and around these artefacts are becoming clearer. Connectivity, for example, is of the essence, and is found almost everywhere. The ability to manipulate documents is central. Good legibility, small size, and high computing power must be coupled with as great an energy autonomy as possible. The ability to read through both reflected light and emitted light is also crucial. Being able to list these requirements demonstrates not only that some kind of technical template will eventually emerge, but that this moment may not be too far away. In fact, it is probably the proximity of a solution that allows me to bet on a probable outcome.

The stabilized template of digital readers will not only "read" all kinds of documents, but it will also facilitate interacting with these documents, including extending and correcting them, as well as splitting them in parts and mixing them differently. However, the ability to do so also means that property rights have to be solved: If e-book readers have evolved so far as they have, it is because rights holders have been pushing them into various markets as a way to solve rights problems through technology rather than treating rights and technology in parallel.

The stabilized digital reader will also facilitate interactions with other people so that new forms of collaborations, but also debates, can begin to evolve around various sets of documents. To limit ourselves to the world of education and research, the stabilized digital reader will help develop collaboratories[21] and support various modes of distributed problem solving.[22] In parallel, digital documents are revealing ever more clearly that they can easily extend from stable objects (as print was limited to be) to vehicles for various human processes: communication, collaboration, discussion, debate, and so forth.

To these apparently exciting developments, one could legitimately respond by pointing out that this is what scientists have been doing for centuries by publishing articles that refute, correct, or build upon the work of others. The point is well taken, not only because it is relevant and correct, but also because it clearly points to the difference with the digital world. The publishing of printed articles up to now may well reflect (and reflect only) the desire for a different vehicle that would be faster and less burdened by the syncopated pace of batch printing. This vehicle could be as rigorous as the present system of publishing, and perhaps go even further: Instead of having first a product, then an evaluation by peers, then an editing and publishing phase, then a usage phase during which results may or may not enter the main developmental lines of science, scientists could simply contribute to a collaborative (yet distributed) system of knowledge production where all these phases could happen simultaneously and constantly. Of course, questions of attributions and credits will remain important and will require solutions. And the issue of preservation takes on a rather different tonality when the goal is to preserve the history of a deliberative process rather than the materiality of a product. However, and despite these real difficulties, many signs show that we are beginning to move in this direction. The most powerful signal in this regard is the intensity with which the validity of Wikipedia's content has been debated in the last few years.

The future remains opaque, of course, but I have tried to demonstrate that we may know a little more than we thought. Even though the stabilization phase has not yet emerged, we may already understand enough to sketch the requirements that will probably shape the hypothetical template of a future digital reading machine. We may also gain some sense of its probable proximity in time. Finally, we begin to understand better how various families of digital devices relate to one another if viewed as digital readers. This should help focus developmental efforts in useful directions: the display

question is obviously central, but more limited questions such as optimal size and weight of the artefact, optimal energy autonomy, must also be tackled. In the end, what is most needed is the capacity of reading and producing all kinds of digital documents, and the ability to communicate with others around and through these documents.

Conclusion

The point of this paper has been to show that a complex set of technical devices, generally treated as if they had little to do with each other, actually form a loose family or even ecology of artefacts. This "family" can be likened to the equally complex family of disparate objects that preceded the emergence of a stable technical template called the "bicycle." The historical example of the bicycle, in fact, provides interesting analogies with the present. As a result, we have been able to demonstrate that e-book readers form only one particular series of objects within a wider ecology of what I have called here "digital readers." Unlike the bicycle, we do not yet know where we will end up, and this limits our ability to identify clear evolutionary lines of development, but an analysis guided by the development of the bicycle has led us to a much enriched notion of the document, especially when dealing with digital forms of information and communication. Were we to apply to Google the approach to digital documents proposed here, we could quickly demonstrate the limits of Google's gifts to all of us. But this would take us a little bit too far from the main focus of this paper.[23]

This analysis has also allowed us to pinpoint elements in the artefacts considered here that actually help identify why these families of objects remain largely disjointed. Superficially, the result may look like a convergence argument of the kind often encountered in media studies. However, the convergence envisioned here is not the result of latent technological determinism. Rather, the analysis tries to show that a struggle over who controls documents, and to what extent, is playing itself out right now under our very eyes. Whatever the result of this convergence, it will crystallize existing power relations. This struggle is the direct consequence of transitioning to a digital cultural universe that forces revisiting many social and cultural habits. At the same time, it includes efforts to extend classical forms of control and power into the new realm. In other words, the transition to a digital context raises a number of important issues concerning the nature of documents in general, their roles, their mutual relationships and the relationships we establish with them. It also makes them more visible. Finally, we must not forget that, through documents, we also establish ties among ourselves.

The ways in which various companies are designing and positioning their artefacts provide insights into the meaning of digital documents. They also provide insights into the possible future of these artefacts. However, we should not take the unveiling of possible futures as expressions of fates. As individuals embedded in various groups that are highly relevant to various types of documents, we also have a role to play in the design of the stabilized template of digital readers. In other words, we should view the technical evolution of digital readers as a process that still incorporates a certain degree

of openness, and we should try to intervene and influence the outcome wherever and whenever possible.

Through digital readers, we will learn to relate to documents in new, unexpected ways and these are partially dictated by the technology. These relational modes may steer us in directions that do not always correspond to the most hopeful scenarios when we think of the future of knowledge, art and culture. The example of television vividly reminds us that wonderful hopes expressed at the beginning of this powerful technology were largely dashed, ultimately leading us to the present, gigantic wasteland. But television, unlike the new digital media, relied on a broadcasting model that left almost no room for the viewer's expression. With computers and the Internet, the ability to "write" and be "heard" has increased by several orders of magnitude. The ability to restrain and stifle these millions of voices has also greatly decreased. The rules of the communication game, as a result, have shifted considerably.

Through digital readers, we should hope to relate to each other in ways that are both crucial and useful for the texturing of societies, the development of institutions, and the creation of communities. In the past, religions based on some canonical text or texts, educational and research institutions, and the public sphere have all contributed to weave various kinds of social bonds. The advent of the digital documents suggests that new kinds of social organizations are going to emerge, with extraordinary consequences for the meaning of some very familiar and important words such as truth, reality, power, and equality. In short, I have tried to think about the nature of digital documents, tried to find ways to analyze what is going on before the advent of a credible technological stabilization, and, without the benefit of hindsight, tried to see how citizens, even in technological matters, could affect the evolution of their society.

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Second life. http://secondlife.com/

Chapter 3
Notes

1. The term “affordance” was introduced by James J. Gibson (1977, pp. 67-82) in a book derived from a conference held in 1973, which gives a likelier date for the emergence of the term. P&B do not use this word in the 1984 article already cited.

2. There is a short presentation of this gadget at http://www.youtube.com/watch?v=uOz-E4OuHMI (see Stevechippy, 2007).

3. Wikipedia gives a quick, but useful, introduction to e-ink: http://en.wikipedia.org/wiki/E-ink.

4. See BeBook at http://mybebook.com/

5. More recent entries or promises include “rollable” displays (Readius, which apparently combines a “flexible” display based on “plastic electronics” (see http://www.plasticlogic.com/) and an e-ink “front plane,” whatever this may mean. See http://www.readius.com/pocket-ereader/rollable-displays

6. As when e-book readers boast about the number of levels of greys they can display.

7. However, some competitors are offering colour and access to videos as well, for example the Fujitsu Flepia visible at http://www.frontech.fujitsu.com/services/products/paper/flepia/

8. The Cavallo and Chartier volume appeared in Italy in 1995, then in France in 1997.

9. Here is a complaint from a user, P. Inhofer, posted on February 25, 2009: “The Kindle will never get 5 stars from me until Amazon implements the notion of a lending library where I can lend another Kindle user a book; which would have the book [*sic*]disappear from my Kindle and appear on theirs. After x number of days the book would automatically be returned to me and taken off the other person's Kindle. Amazon says they want the device to disappear and content to stand out. I say: Until I can lend a friend a book the Kindle will never quite live up to that standard and will be, in my book, stuck at 4 stars.” http://www.amazon.com/Wireless-Reading-Display-International-Generation/dp/B0015T963C/ref=amb_link_85647731_3?pf_rd_m=ATVPDKIKX0DER&pf_rd_s=gateway-center-column&pf_rd_r=0RAP2NN7T66JNR11SJJT&pf_rd_t=101&pf_rd_p=493724391&pf_rd_i=507846.

10. See, for example “Amazon erases Orwell” (2009) at http://www.cbc.ca/arts/books/story/2009/07/19/kindle-amazon-orwell.html. The Kindle is connected though a commercial network to Amazon headquarters.

11. See Snyder (2009).

12. The Espresso Book Machine is widely presented nowadays as the machine of choice for this purpose. See http://dltj.org/article/espresso-print-on-demand/ for a blogger's perspective on the matter. The official site is at http://www.ondemandbooks.com/

hardware.htm.

13. There is a funny video that purports to show the bewilderment of a medieval monk confronted for the first time by a codex. The scene is completely unrealistic, of course because monks have always dealt with codices, rather than scrolls. Christianity seems to have used codices overwhelmingly, perhaps even exclusively. However, the video succeeds in showing that a number of tacit conventions are embedded in its organization – what do you do when you reach the bottom of a page? Look right. Check if there is another page available. If so, read on. If not, turn the page you just read from right to left and begin reading at the top left corner of the left page. This works only if the codex contains a text written from left to right, unlike Arabic or Hebrew. See http://www.youtube.com/watch?v=xFAWR6hzZek.

14. See http://secondlife.com/

15. On Second Life in general, see Tom Boellstorff (2008).

16. See in particular Roland Barthes, *Mythologies* (1970).

17. For a useful study of games in this context, see Roger Caillois (2001).

18. Wikipedia provides a very full description of the history and controversies surrounding this particular series. See http://en.wikipedia.org/wiki/Grand_Theft_Auto.

19. See One laptop per child at http://laptop.org/en/laptop/index.shtml. It was just announced (October 16, 2009) that all primary students in Uruguay are now receiving an OLPC.

20. See Rothamn (2008), for example, at http://www.teleread.org/2008/01/05/why-i-favor-mary-lous-olpc-screen-tech-over-e-ink-at-least-for-my-purposes/

21. The word "collaboratory" was introduced by William Wulfs in 1988 in an annex to an unpublished report written by J. lederberg and K. Uncapher, "Towards a national collaboratory: Report of an invitational workshop at the Rockefeller University." Washington, D.C.: National Science Foundation, Directorate for Computer and Information Science.. Wulfs' document is analyzed in the thesis by Joanne Wining (1999; see http://www.intertwining.org/dissertation).

22. See the recent "Polymath" project drawn from mathematics (Gowers & Nielsen, 2009).

23. See my "Is Google Good For You? Mass Digitization and its Discontents" forthcoming as part of the proceedings of a conference held in early 2009 at Oxford University. See also "Who Will Digitize the World's Books?" by Jean-Claude Guédon and Boudewijn Walraven, with a response by Robert Darnton in the *New York Review of Books*, vol. 55 No 13,(August 14, 2008). In the same line of thought, Nicholas Carr, the author of *The Big Switch: Rewiring the World From Edison To Google*, quotes a Google engineer as saying: "We are not scanning all those books to be read by people …. We are scanning them to be read by [our] AI." See http://www.openbookalliance.org/what-experts-are-

saying-about-the-settlement/.

Chapter 4
Open Works, Open Cultures, and Open Learning Systems

Michael A. Peters

Concepts and Metaphors of Openness

The idea of openness as a political, social, and psychological metaphor has been part of a set of enduring narratives in the West since the time before the flourishing of modern democracy, scientific communication, and the rise of the knowledge economy. Principally these narratives have been about the nature of freedom, the primacy of rights to self-expression, the constitution of the public sphere or the commons, and the intimate link between openness and creativity. The core philosophical idea concerns *openness* to experience and interpretation such that a work, language, and culture consider as a semiotic system permit multiple meanings and interpretations with an accent on the response, imagination, and activity of the reader, learner, or user. The classic work that philosophically develops this central idea is the *Philosophical Investigations* by Ludwig Wittgenstein (1953) who draws a close relationship between language as a set of open overlapping speech activities or discourses he calls "language games" and a "form of life" (or culture). Wittgenstein of the *Investigations* demonstrated that there was no such thing as a logical syntax or meta-logical language considered as a closed system of rules that acts as a hard and fast grammar for any natural language. The 'language games' conception seems to deny the very possibility of a logical calculus for language such that there are no necessary and sufficient conditions (or logical rules) for use of a word. In Wittgenstein's account of rule-following we see a view of openness to language and to the text that permits multiple interpretations and the active construction of meanings. This emphasis on the openness of language, of the text and, indeed, of 'openness to the other' as aspect of subjectivity, which rests on the values of multiplicity and pluralism, is in part a reaction by Wittgenstein against the logical empiricist understandings of logico-linguistic rules that allegedly allow for only pure and single meanings unambiguously correlated with words that depict the world.

Wittgenstein's *Tractatus (1922)* addressed the central problems of philosophy concerning the relations between the world, thought, and language. He presents a solution that is grounded in logic and in the nature of representation such that thought or proposition picture or represent the world by virtue of shared logical form. In the *Investigations* Wittgenstein shifts his emphasis from logic to ordinary language, which works to appreciate the openness of language and the language-user while disabusing us of the fallaciousness of traditional approaches to the question of language, truth, and meaning. He begins this new philosophy by asserting that the meaning of a word is its *use* in the language, and he demonstrates that there are multiple uses that are part of the activity of language games that comprise a culture or "form of life." In a famous passage in the *Investigations* (para. 65-69) Wittgenstein argues there is no feature

common to all games that constitute the basis for calling them "games": They are tied together through a set of *family resemblances* that unite them. In philosophical terms this constitutes at one and the same time the openness of both language and culture. Others following him have appealed to Wittgenstein's concept of openness to protect the nature of language, thought, and art.

Morris Weitz (1956) in his famous essay "The role of theory in aesthetics," for instance, appeals to Wittgenstein to claim that art is an *open* concept in that it is possible to extend its meaning in unpredictable and completely novel ways in order to apply the concept to new entities or activities that were not included in the original concept—thus no necessary and sufficient conditions for something to count as art can be provided. (A closed system in this instance is one for which both necessary and sufficient conditions can be stated). Following Wittgenstein, he says we should ask not "What is art?," but "How is the concept of "art" used?" Weitz (1956) notes also that sub-concepts of art like "novel," "painting," "tragedy," "comedy," and "opera" are likewise open, suggesting that "A concept is open if its conditions of application are amenable or corrigible, i.e., if a situation or case can be imagined or secured which would call for some sort of decision on our part to cover this, or to close the concept or invent a new one to deal with the new case and its property" (p. 31). He asks is Dos Passos' *U.S.A.,* Virginia Woolf's *To the Lighthouse*, or Joyce's *Finnegan's Wake* a novel? These works require an extension of the concept to cover the new case and thus the decision turns on our decision to enlarge the conditions for applying the concept. As he puts it:

> 'Art', itself, is an open concept. New conditions (cases) have constantly arisen and will undoubtedly constantly arise; new art forms, new movements will emerge, which will demand decisions on the part of those interested, usually professional critics, as to whether the concept will be extended or not...the very expansive, adventurous character of art, its ever-changing changes and novel creations, makes it logically impossible to ensure any defining properties. (p. 32)

The multiplicity and radical openness that Wittgenstein finds in language and thought, then, seems to intimate a pluralistic world. This openness seems to apply also to other forms of expression such as music as well as to culture and human nature. The emphasis on radical openness distinguishes the later Wittgenstein as someone who overcomes the postmodern condition and provides a constructive and positive response to disintegration of culture, language, and the self (see Peters & Marshall, 1999; Peters, Burbules & Smeyers, 2008). He is also a philosopher who understands the emerging nature of information systems and networks (Blair, 2006) and anticipates the Internet as a system platform for language, communication, art, and self-expression (Pichler & Hrachovec, 2008).[1] Even Wittgenstein's own compositions were radically open to interpretation encouraged by the 'hypertext' nature of his writings (Pichler, 2002). Others have followed in his footsteps or arrived at the value of multiplicity of meanings

and the plurality of interpretation somewhat differently but drawing on similar sources and motivations.

Open Works: Three Forms of Openness

In 1962 Umberto Eco, the Italian novelist and semiotician, published his *Opera aperta* (*The Open Work*)[2] which while belonging to his pre-semiotic writings nevertheless utilizes the underlying notion of a linguistic system to discuss the development and values of open works where openness stands for multiplicity of meaning, freedom of reader, and the plurality of interpretation. As David Robey makes clear in his Introduction to the Harvard release of the modern classic:

> *Opera aperta* in particular is still a significant work, both on account of its enduring historical usefulness of its concept of 'openness', and because of the striking way in which it anticipates two of the major themes of contemporary literary theory from the mid-sixties onwards: the insistence on the element of multiplicity, plurality, polysemy in art, and the emphasis on the role of the reader, on literary interpretation and response as an interactive process between reader and text. (p. viii)

In "The Poetics of the Open Work" Eco begins by noting that a number of contemporary avant-garde pieces of music—Karlheinz Stockhausen's *Klavierstück XI*, Berio's *Sequenza I* for solo flute, Henri Pousseur's *Scambi*, and Pierre Boulez's third *Piano Sonata*—differ from classical works by leaving considerable autonomy to the performer in that way (s)he chooses to play the work. He traces the idea of openness in the work of art from its beginnings in Symbolist poetry, focused on Mallarmé and the modernist literature of the early part of the twentieth century exemplified by James Joyce. Citing Henri Pousseur, he defines the "open" work as one that "produces in the interpreter acts of conscious freedom, putting him at the centre of a net of inexhaustible relations among which he inserts his own form" (p. 4). Eco's openness is a response to the aesthetics of Benedetto Croce, who was a product of Italian fascism, and strongly emphasized the idea of pure meaning and authorial intent.

Eco distinguishes between three forms of openness in the work of art in terms of interpretation, semantic content, and the *works in movement*. While all works of art are capable of bearing a number of interpretations, the open work is one in which there are no established codes for their interpretation. The openness of Modernist literature, such as Symbolist poetry, is distinguished from medieval openness by the absence of fixed interpretative registers. Medieval openness, following Dante, is fixed by the registers of the literal, the allegorical, the moral and the anagogical which serve as the codes by which writings were interpreted. By contrast, Modernist literature has no such pre-established codes and what marks Modern literature is the artist's or author's awareness of the "field of possibilities" of interpretation based on the openness that is implicit in all artworks and especially evident examples of in the poetry of Verlaine and Mallarmé, and the novels of Kafka. For these works and others like them there is no single interpretative key to the symbolism and various theoretical orientations drawing on

theological, existential, clinical and psychoanalytical schema cannot exhaust all the possibilities of his works. Openness is an interpretive freedom: "Every reception of art if both an interpretation and performance of it, because in every reception the work takes on a fresh perspective for itself"

The second form of openness refers to level of the semantic content that Eco applies to serial music comparing it to the constant punning in *Finnegan's Wake*, where numerous etymological roots are combined in such a way that a single word can set up a reverberation of meanings full of allusions and opening the field the meaning to other interpretations. Eco describes the works of Henri Pousseur and the musical symbolism of an "inexhaustible network of relationships."

The *work in movement* is the third kind of openness to which eco refers exemplified in Mallarmé's works that are intentionally unfinished, left determinant and undetermined, or, in other words, left 'open'. The open work therefore requires the reader to 'make' the composition with the composer; it requires the active participation of the reader in interpreting the work which is an act of co-creation.

Science and mathematics too has its openness that depicts possibilities of reality, "many worlds" in physics (Wheeler), "indeterminacy" in particle physics (Heisenberg), "incompleteness" in mathematics (Gödel), "relativity" of space-time (Einstein). Contemporary openness leads to the construction of universes or worlds that are open to interpretation and depends upon the observer, the reader, the user. Thus openness is a fundamental aspect of observation, perception and measurement dependent on one's interactivity with the environment (Peters, 2006; 2009)

Open Cultures

As many scholars and commentators have suggested since the "change merchants" of the 1970s —Marshall McLuhan, Peter Drucker and Alvin Toffler--first raised the issue we are in the middle of a long term cultural evolutionary shift based on the digitization and the logic of open systems that has the capacity to profoundly changed all aspects of our daily lives—work, home, school—and existing systems of culture and economy. A wide range of scholars from different disciplines and new media organizations have speculated on the nature of the shift: Richard Stallman established the Free Software Movement and the GNU project[3]; Yochai Benkler (2006), the Yale law professor, has commented on the wealth of networks and the way that the mode of social production transforms freedom and markets; Larry Lessig (2004, 2007), also a law professor, has written convincingly on code, copyright and the creative commons[4] and launched the Free Culture Movement designed to the promote the freedom to distribute and modify creative works through the new social media (see Behling, 2006)[5]; Students for Free Culture[6], launched in 2004, "is a diverse, non-partisan group of students and young people who are working to get their peers involved in the free culture movement"; Michel Bauwens (2005) has written about the political economy of peer production and established the P-2-P Foundation[7]; Creative Commons[8] was founded in 2001 by experts in cyberlaw and intellectual property; Wikipedia[9] the world's largest and open-content

encyclopaedia was established in 2001 by Jimmy Wales, an American Internet entrepreneur, whose blog is subtitled *Free Knowledge for Free Minds*.[10]

One influential definition suggests:

> Social and technological advances make it possible for a growing part of humanity to *access, create, modify, publish and distribute* various kinds of works - artworks, scientific and educational materials, software, articles - in short: *anything that can be represented in digital form*. Many communities have formed to exercise those new possibilities and create a wealth of collectively re-usable works.

By *freedom* they mean:

- the **freedom to use** the work and enjoy the benefits of using it
- the **freedom to study** the work and to apply knowledge acquired from it
- the **freedom to make and redistribute copies**, in whole or in part, of the information or expression
- the **freedom to make changes and improvements**, and to distribute derivative works[11]

This is how the Open Cultures Working Group-- an open group of artists, researchers and cultural activists--describe the situation in their Vienna Document subtitled *Xnational Net Culture and "The Need to Know" of Information Societies*[12]*:*

> Information technologies are setting the global stage for economic and cultural change. More than ever, involvement in shaping the future calls for a wide understanding and reflection on the ecology and politics of information cultures. So called globalization not only signifies a worldwide network of exchange but new forms of hierarchies and fragmentation, producing deep transformations in both physical spaces and immaterial information domains... global communication technologies still hold a significant potential for empowerment, cultural expression and transnational collaboration. To fully realize the potential of life in global information societies we need to acknowledge the plurality of agents in the information landscape and the heterogeneity of collaborative cultural practice. The exploration of alternative futures is linked to a living cultural commons and social practice based on networks of open exchange and communication. (para. 1)

Every aspect of culture and economy is becoming transformed through the process of digitization that creates new systems of archives, representation and reproduction technologies that portend Web 3.0 and Web 4.0 where all production, material and

immaterial, is digitally designed and coordinated through distributed information systems. As Felix Staler (2004) remarks

> Information can be infinitely copied, easily distributed, and endlessly transformed. Contrary to analog culture, other people's work is not just referenced, but directly incorporated through copying and pasting, remixing, and other standard digital procedures.

Digitization transforms all aspects of cultural production and consumption favouring the networked peer community over the individual author and blurring the distinction between artists and their audiences. These new digital logics alter the logic of the organization of knowledge, education and culture spawning new technologies as a condition of the openness of the system. Now the production of texts, sounds and images are open to new rounds of experimentation and development providing what Staler calls "a new grammar of digital culture" and transforming the processes of creativity which are no longer controlled by traditional knowledge institutions and organizations but rather permitted by enabling platforms and infrastructures that encourage large-scale participation and challenge old hierarchies.

The shift to networked media cultures based on the ethics of participation, sharing and collaboration, involving a volunteer, peer-to-peer gift economy has its early beginnings in the right to freedom of speech that depended upon the flow and exchange of ideas essential to political democracy, including the notion of a "free press", the market and the academy. Perhaps, even more fundamentally free speech is a significant personal, psychological and educational good that promotes self expression and creativity and also the autonomy and development of the self necessary for representation in a linguistic and political sense and the formation of identity. Each of these traditional justifications of free speech and their public communication firmly relate questions of self-governance to questions of democratic government, the search of truth and personal autonomy.

Yet the modern discussion of free speech from Milton's *Aeropagetica* and John Stuart Mill's *On Liberty* have also drawn attention to *limiting* conditions to emphasize that freedom is not an independent value but in liberal society exists in a tight network of rights and constraints that limit it in various ways (van Mill, 2002). As Momigliano (2003) comments:

> The modern notion of freedom of speech is assumed to include the right of speech in the governing bodies and the right to petition them, the right to relate and publish debates of these bodies, freedom of public meeting, freedom of correspondence, of teaching, of worship, of publishing newspapers and books. Correspondingly, abuse of freedom of speech includes libel, slander, obscenity, blasphemy, sedition.

Openness has emerged as a global logic based on free and open source software constituting a generalized response to knowledge capitalism and the attempt of the new mega-information utilities such as Google, Microsoft, and Amazon.com to control

knowledge assets through the process of large-scale digitization, of information often in the public domain, the deployment of digital rights management regimes (May, 2008) and strong government lobbying to enforce intellectual property law in the international context.

Two long term trends are worth mentioning in this context. First, the Internet and open technologies, defined as open source, open APIs, and open data formats, are in the process of formation developing from the Web as linked computers, to the Web as linked pages and linked *things* (the so-called semantic web).[13] In this respect "open cloud computing" is a recent development that signals the next stage of the Internet.

> The key characteristics of the cloud are the ability to scale and provision computing power dynamically in a cost efficient way and the ability of the consumer (end user, organization or IT staff) to make the most of that power without having to manage the underlying complexity of the technology. The cloud architecture itself can be private (hosted within an organization's firewall) or public (hosted on the Internet). These characteristics lead to a set of core value propositions [including Scalability on Demand, Streamlining the Data Center, Improving Business Processes, and Minimizing Startup Costs] (p.2).[14]

Second, the Internet is a dynamic changing open ecosystem that progressively changes its nature towards greater computing power, interactivity, inclusiveness, mobility, scale, and peer governance. In this regard and as the overall system develops it begins to approximate the complexity of the architectures of natural ecosystems. The more it develops, one might be led to hypothesize, the greater the likelihood of not merely emulating Earth as a global ecosystem but becoming an integrated organic whole. Open cultures become the necessary condition for the systems as a whole, for the design of open progressive technological improvements and their political, epistemic and ontological foundations.

Intellectual Property and the Global Logic of Openness

The rediscovery of openness in the information society, as Chris May (2006) notes is the end of a period when intellectual property seemed to be the dominant paradigm for understanding how knowledge and information might fit into the contemporary information society. He usefully charts the ways in which the emerging realm of openness is challenging the global regime of intellectual property and the extension of intellectual property into areas previously unavailable for commodification, including claims over aspects of the "public domain" and "knowledge commons." The state as the guarantor of intellectual property finds itself writing, articulating and enforcing intellectual property laws that attempts to mediate interests of capital and different publics that structure the new media ecologies. In this context openness increasingly stands against forms of individualized knowledge property in the global digital economy (May, 2008). Indeed, the strong argument is that openness challenges the traditional notion of property and its application to the world of ideas. May suggests that openness

can act as a countervailing force to balance the expansion of property rights under informational capitalism in an ongoing dialectical relationship. He writes:

> Openness is the contemporary manifestation of an historical tendency within the political economy of intellectual property for resistance to emerge when the privileges and rights claimed by owners inflict onerous and unacceptable costs (and duties) on non-owners.

The shape of culture as a digital artefact, the formation of a deep ecology of human communication, and the emergence of a new social mode of (peer-to-peer) production, depends on the outcome of this ongoing struggle for openness and the assertion of its logics of global dispersal, distribution, and decentralization. This struggle is many-sided and takes many different forms not only against multinational knowledge capitalism and its expansion of claims to intellectual property into new public and cultural domains but also involves struggles against the surveillance panoptical power of the State and the corporation that threatens to create all-encompassing citizen and customer databases that rest on information-sharing, search algorithms and the compilation of consumer characteristics and behaviours.

Viral Modernity?

A viral modernity challenges and disrupts the openness of a free distribution model as well as distributed knowledge, media and learning systems. The celebration of hacker culture of the 1980s was based on the heroization of the disruption of computer security and the main activists and enthusiasts such as Steve Jobs, Steve Wizniak, and Richard Stallman focused on cracking software leading to the development of the free software movement. As Tony Sampson (2004) indicates the virus flourishes because of the computer's capacity for information sharing and the computer is unable to distinguish between a virus and a program. The alterability of information allows the virus to modify and change information, providing conditions for self-replicability. In these circumstances

> viral technologies can hold info-space hostage to the uncertain undercurrents of information itself. As such, despite mercantile efforts to capture the spirit of *openness*, the info-space finds itself frequently in a state far-from-equilibrium. It is open to often-unmanageable viral fluctuations, which produce levels of spontaneity, uncertainty and emergent order. So while corporations look to capture the perpetual, flexible and friction-free income streams from centralised information flows, viral code acts as an anarchic, acentred Deleuzian rhizome. It thrives on the openness of info-space, producing a paradoxical counterpoint to a corporatised information society and its attempt to steer the info-machine.

This situation leads Fred Cohen to advocate the benevolent virus and friendly contagion as a foundation of the viral ecosystem instead of the corporate response to securitize and privatize all open systems through sophisticated encryption.

Digital Selves, Open Selves

The numerical representation of identity that is involved as an aspect of new digital media in forms of reading and writing the self through these media has a sinister downside through the application of new information technologies to security and identity issues with the linking of government and corporate databases. Biometrics is responsible for the shift from identity politics to I.D. policies considered in relation to the question of security, verification, and authentication. The Identity Cards Bill introduced in the British Parliament in the 2004-5 session provided for the Secretary of State to establish and maintain a national register to record "registrable facts" about individuals (over 16 years) in the UK in the *public interest*, which is defined in terms of national security, prevention or detection of crime, enforcement of immigration controls, prevention of unauthorized employment, and for securing the efficient and effective provision of public services. "Registrable facts' pertain to 'identity' (name, previous names, date of birth—and death, gender, physical identifying characteristics but *not* ethnicity), residence and history of residence, "numbers allocated to him for identification purposes and about the documents to which they relate" (passports, driver's license, work permits, etc.; p.), information from the register provided to any persons, and information recorded by individual request. I.D. cards will store 49 different types of information.[15] In terms of the Bill each individual is required to allow fingerprints other biometric information, signature, and photograph, to be taken with penalties for not complying. This information is recorded on a renewable I.D. card for which the individual is responsible. Information on individuals may be provided for purposes of verification on consent. Public services may be conditional on identity checks, although it will be unlawful to require an individual to produce an I.D. card except for specified purposes, e.g., of public authorities, uses connected to crime prevention and detection, including anti-terrorism. In certain cases information may be used without the individual's consent. National Identity Scheme Commissioner will be responsible for ruining the scheme and make annual reports. Various offences are stated in relation to giving false information, unauthorized disclosure of information, tampering with the register, false use etc.

The House of Lords Select Committee Report[16] published on 17 March 2005 had a brief to consider the constitutional implications of the Identity Cards Bill concluded that "it adjusts the fundamental relationship between the individual and the State." It is worth quoting the report on the significance of what the Bill proposes:

> Our own concerns are not founded on the [EU] Convention [of Human Rights], but rather on the fact that the Bill seeks to create an extensive scheme for enabling more information about the lives and characteristics of the entire adult population to be recorded in a single

> database than has ever been considered necessary or attempted previously in the United Kingdom, or indeed in other western countries. Such a scheme may have the benefits that are claimed for it, but the existence of this extensive new database in the hands of the State makes abuse of privacy possible. (p.3, Introduction, point 4)

The Report expressed the primary concern to ensure an adequate legal and constitutional infrastructure for the maintenance of a National Identity Register, with appropriate separation and limitation of powers. In particular, while recognizing the Bill as enabling legislation, the report expressed concern about the concentration of power and responsibility for the national register in the hands of the Secretary of State, calling for an independent registrar with a duty to report directly to Parliament.

The identity cards bill was passed by MPs by a small majority in late June 2005, after the failure of the first bill which is known as the Identity Cards Act 2006. While it is aimed at preventing illegal immigration and working, as part of anti-terrorist measures and to prevent identity and benefit fraud, there are critical issues around altering the relationship between the individual and the state including the loss of privacy, the potential for harassment of ethnic minorities and its "function-creep", not to mention fears of the surveillance society. In the U.S. the Defence, Homeland Security, Interior and Veterans Affairs departments and NASA are all planning to implement smart-card programs that complies with the Federal Information Processing Standard 201, which the Commerce Department made final recently (www.gcn.com), the first phase of which the first phase includes setting up identity-proofing, registration and issuance processes, to have been developed by October, 2005. The Real I.D. Act was introduced in 2005 to protect against terrorist entry and improve security for drivers' licenses and personal identification cards.[17]

These concerns are not at all removed from the politics of space and new science of networks, or, indeed, from education as I.D. cards are now mandatory in many U.S. schools that have set up their own security systems. Pitted against the postmodern view that considers identity to be both dynamic and multiple, a discursive construction reflecting an on-going and open-ended process of forming multiple identifications in the face of globalization and media cultures is the *mathematicization of identity* for state, educational and business purposes—the nexus where biometrics meets smart card technology and the ultimate basis for applications in telecommunications (GSM mobile phones, DirecTV), financial services (electronic purses, bank cards, online payment systems), transportation, travel and healthcare (insurance cards) industries, computer/ internet user authentication and non-repudiation, retailer loyalty programs, physical access, resort cards, mass transit, electronic toll, product tracking, and also national ID, drivers license, and passports.

The other side of the state and corporate digital reproduction of identity is a tendency that emphasizes the relation between openness and creativity as part of a networked group. The "open self" is self-organizing and is formed at the interstices of a series of

membership of online communities that shaped spontaneous self-concept and self-image.

Openness to experience is one of the five major traits that has shaped personality theory since its early development by L.L. Thurstone in the 1930s and is strongly correlated with both creativity and divergent thinking (McCrae, 1987). Sometime referred to as the "big five" personality traits or "the five factor model" trait theory emerged as a descriptive, data-driven model of personality based on openness, conscientiousness, extraversion, agreeableness, and neuroticism. Openness is associated with creativity and the appreciation of art, emotionality, curiosity, self- expression and originality. Meta-analysis reviewing research that examines the relationships between each of the five-factor model personality dimensions and each of the 10 personality disorder diagnostic categories of the Diagnostic and Statistical Manual of Mental Disorders, (4th edt DSM-IV) reveal strongly positive (with neuroticism) and negative associations (with the other factors) (Saulsman & Page, 2004). One of the limitations of personality theory is its focus on the individual and in the age of networks this centeredness might seem somewhat misplaced. There are close links between open content, open science and open collaboration that makes collaborative creativity sustainable.

Openness to experience is probably the single most significant variable in explaining creativity and there is some evidence for the relationship between brain chemistry and creative cognition as measured with divergent thinking (Jung et al, 2009). Openness also can be defined in terms of the number, frequency, and quality of links within a network. Indeed, the mutual reinforcement of openness and creativity gels with Daniel Pink's (2005) contention that right-brainers will rule the future. According to Pink, we are in the transition from an "Information Age" that valued knowledge workers to a "Conceptual Age" that values creativity and right-brain-directed aptitudes such as design, story, symphony, empathy, play, and meaning.

Open Learning Systems

If the e-book has failed at least up until the introduction of the new e-book readers such as Amazon's Kindle DX (2009) and Sony's Reader then it was because e-books in the main became simple digitized versions of books. The new generation of e-book readers sought to overcome these problems and to focus on advantages of hypertext, mobility and mobile data connection, adjustable font size, highlighting and annotation, text-to-speech facility, readability based on electronic ink. Amazon's Kindle DX released June 10 features a 9.7 inch display, improved pixel resolution, built-in stereo speakers, 4 GB storage capacity, holding approximately 3500 non-illustrated e-books, extended battery and support for PDF files (http://www.amazon.com/gp/product/B0015TCML0). Amazon announced partnerships with three major textbook publishers representing 60% of the market and Amazon will test the Kindle DX with five universities this year. Kindle titles now represent 35% of book sales within Amazon. The company now offers 275,000 books in Kindle format and received a huge sales demand when it launched Kindle 2

earlier this year. (See the live launch at http://www.techcrunch.com/2009/05/06/the-big-kindle-revealed-liveblog/). Amazon's Kindle DX is one of a range of e-readers available including i-Rex's iLiaid, Sony's Librie and Song Reader, mobile java devices such as Wattpad, Bookeen's Cybooks Gen3, Polymer Vision's Readius foldable eBook, COOL-ER by Coolreader, eSlick by Foxit Software, Ganaxa GeR2, and Jinke's Hanlin V3 eReade.[18] Plastic Logic, a spin-off company from Cambridge University's Cavendish's Laboratory, is a flexible A-4-size and robust plastic electronic display the thickness of a credit-card that is the core element of a soon to be released eBook reader.

The e-book reader has come a long way since Michael Hart launched Gutenberg Project in 1971 and the first digital books were offered in 1993. The e-book has arrived yet it still suffers disadvantages: the e-book still requires an electronic device and electric power; it is more fragile than the paperback and more prone to damage, loss and theft; there is arguable a loss of book aesthetics; the full range of printable material is not available; and due to digital rights management and protection e-readers are not easily shared.

One of the fundamental issues concerns digital rights and various technical attempts to prevent users from sharing or transferring ownership. Often ebook purchase agreements prevent copying, restrict usage and printing, and limit the right to distribution thus privatizing information or knowledge.

The first expanded books began with The Voyager Company in 1991. Founded in 1985 Voyager developed interactive laserdiscs pioneering home video collections of classic films. In the early 1990s Voyager sponsored a conference on digital books that attracted multimedia and hypertext experts who helped to shape the first expanded books adding a search method, and the capacity to change font size as well as other navigation features (drop-down menus), and margins for annotations and marginalia. The first three expanded books were released in 1992: *The Hitchhikers Guide to the Galaxy*; *The Complete Annotated Alice*; and *Jurassic Park.* In 1992 Voyager came out with the Expanded Books Toolkit, which allowed authors to create their own Expanded Books.[19]

Other experiments have taken place after Voyager was sold. Perhaps the most long lived is Sophie, a project of the Institute for the Future of the Book.[20]

> In 1996 a group of Voyager employees formed Night Kitchen with the intent of creating an authoring/reading environment that would extend the Expanded Books Toolkit concept to include rich media. The result TK3 never officially came to market, but teachers in high schools and colleges used it in their classrooms and with their students created some remarkable projects.
>
> The Mellon Foundation approached some of the TK3 team and asked them to build a new multimedia authoring program which would be open-source and would extend TK3 by enabling time-based events (e.g.

> a timed, narrated slide show or embedding links at specific points in video clips). That became Sophie (para. 2-3).[21]

Bob Stein the co-founder of Voyager is the founder and a director of The Institute for the Future of the Book which has carried through the experiment of the expanded book with Sophie. The Institute's mission is stated as: "The printed page is giving way to the networked screen. The Institute for the Future of the Book seeks to chronicle this shift, and impact its development in a positive direction." It goes on to make the following claims:

> **The Book**
>
> For the past five hundred years, humans have used print — the book and its various page-based cousins — to move ideas across time and space. Radio, cinema and television emerged in the last century and now, with the advent of computers, we are combining media to forge new forms of expression. For now, we use the word "book" broadly, even metaphorically, to talk about what has come before — and what might come next.
>
> **The Work and the Network**
>
> One major consequence of the shift to digital is the addition of graphical, audio, and video elements to the written word. More profound, however, is the book's reinvention in a networked environment. Unlike the printed book, the networked book is not bound by time or space. It is an evolving entity within an ecology of readers, authors and texts. Unlike the printed book, the networked book is never finished: it is always a work in progress.
>
> As such, the Institute is deeply concerned with the surrounding forces that will shape the network environment and the conditions of culture: network neutrality, copyright and privacy. We believe that a free, neutral network, a progressive intellectual property system, and robust safeguards for privacy are essential conditions for an enlightened digital age.
>
> **Tools**
>
> For discourse to thrive in the digital age, tools are needed that allow ordinary, non-technical people to assemble complex, elegant and durable electronic documents without having to master overly complicated applications or seek the help of programmers. The Institute is dedicated to building such tools. We also conduct experiments with existing tools and technologies, exploring their potential and testing their limits.

Humanism & Technology

Although we are excited about the potential of digital technologies and the internet to amplify human potential, we believe it is crucial to consider their social and political consequences, both today and in the long term.

New Practices

Academic institutes arose in the age of print, which informed the structure and rhythm of their work. The Institute for the Future of the Book was born in the digital era, and so we seek to conduct our work in ways appropriate to the emerging modes of communication and rhythms of the networked world. Freed from the traditional print publishing cycles and hierarchies of authority, the Institute values theory and practice equally, conducting its activities as much as possible in the open and in real time.

The blurb for The Future of Learning Institutions in a Digital Age[22] indicates

> *Learning is always embedded in cultural environments. Learners carry their cultural commitments with them. The most effective learning strategies pay keen attention to these conditions, shaping strategies to draw on the mobilizing possibilities of learning cultures and environments. Cultural conditions have shifted in the wake of new digital technologies and the possibilities they have unleashed. These cultural shifts pose significant challenges for learning. It is time to reconsider the nature of learning institutions--what they look like, how they operate, and how they can be transformed and supported in new distributed configurations. We offer here protocols for networked learning and institutional emergence in the age of digital culture.*

In terms of the concept and metaphors of openness, and their understanding by reference to Wittgenstein and Eco, we need to understand that learners, like readers, interpreters and users require the freedom to play and to actively construct the world of meaning. Much of the literature on e-learning has focused issues of institutional architecture, development and technology management (e.g., D'Antoni, 2006) rather than on understanding the resources of the learner.

Open Learning Systems as interactive web environment need to be designed as a contemporary digital solution of school text book specifically to solve five problems:

1. the problem of the excess of information and the selection of content;

2. the problem of the validation of information and development of appropriate standards of recognition of sources;

3. the problem of the diversity of forms of new media that include traditional print media but also digital photographs artefacts, websites, and embedded videos (YouTube);

4. the problem of the development of user-content creation by teachers and students (co-production of knowledge) within State curriculum frameworks that outline topics, definitions, concepts, principles, content areas, and questions;

5. the problem of attention with the traditional school textbook, i.e., attractiveness of the text is "sad" compared with the students' experience of modern media that is interactive, dynamic, multimedia, and current (continuously updated) attention economy

Already OpenCourseWare (OCW) has been adopted by prominent institutions like MIT and now the consortium associated with OCW,[23] a "free and open digital publication of high quality educational materials, organized as courses" embraces institutions from over 30 countries and serves as the mission for various institutions and national development programs (Barrett et al, 2009; Vijay, 2009).

"Open education" must move beyond the technical and organizational questions associated with OER and OCW to theorize and develop these as aspects of a wider political and philosophical movement (Peters & Britez, 2008; Peters & Roberts, 2009). The Cape Town Open Education Declaration[24] suggests:

> We are on the cusp of a global revolution in teaching and learning. Educators worldwide are developing a vast pool of educational resources on the Internet, open and free for all to use. These educators are creating a world where each and every person on earth can access and contribute to the sum of all human knowledge. They are also planting the seeds of a new pedagogy where educators and learners create, shape and evolve knowledge together, deepening their skills and understanding as they go.
>
> This emerging open education movement combines the established tradition of sharing good ideas with fellow educators and the collaborative, interactive culture of the Internet. It is built on the belief that everyone should have the freedom to use, customize, improve and redistribute educational resources without constraint. Educators, learners and others who share this belief are gathering together as part of a worldwide effort to make education both more accessible and more effective. (para. 1-2)

If we are to understand the promise and potential of open education it needs to be theorized as part of the movement of personalization and as an emerging political economy of social production.[25]

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Chapter 4
Notes

1. See in particular the work of Kristof Nyiri (1996a, 1996b, 2000), which examined the problem of machine consciousness, post-literacy, and the new unity of science.

2. Portions of Eco's 1962 book (trans., 1989) are also available online (see References).

3. (replace with shortened version? See Comment 11) See the GNU site http://www.gnu.org/gnu/initial-announcement.html; a 2006 lecture by Stallman entitled 'The Free Software Movement and the Future of Freedom'[source for this?]; and Aaron Renn's (1998) "Free", "Open Source", and Philosophies of Software Ownership at http://www.urbanophile.com/arenn/hacking/fsvos.html

4. See Lessig's 2006 bestseller *Free Culture* http://www.free-culture.cc/freeculture.pdf

5. But see also Pasquinelli's (2008).

6. See the website http://freeculture.org/

7. See the foundation at http://p2pfoundation.net/The_Foundation_for_P2P_Alternatives and the associated blog at http://blog.p2pfoundation.net/.

8. See http://creativecommons.org/.

9. See http://www.wikipedia.org/.

10. See http://blog.jimmywales.com/

11. See http://freedomdefined.org/Definition

12. See http://world-information.org/wio/readme/992003309/1134396702

13. See Kevin Kelly's presentation on TED on the Internet next 5,000 days at http://www.ted.com/talks/kevin_kelly_on_the_next_5_000_days_of_the_web.html

14. See The Open Cloud Manifesto at http://gevaperry.typepad.com/Open%20Cloud%20Manifesto%20v1.0.9.pdf and open cloud computing at http://gevaperry.typepad.com/

15. For the full list see the BBC website at http://news.bbc.co.uk/1/hi/uk_politics/4630045.stm

16. See "What data," http://www.publications.parliament.uk/pa/ld200405/ldselect/ldconst/82/82.pdf

17. See http://www.epic.org/privacy/id_cards/real_id_act.pdf

18. See http://en.wikipedia.org/wiki/List_of_e-book_readers for the full list.

19. See the entry on expanded books in Wikipedia http://en.wikipedia.org/wiki/

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20. (http://www.futureofthebook.org/sophie/about/). See also Nunberg (1996).

21. For demonstrations of Sophie see http://www.futureofthebook.org/sophie/download/demo_books/. For a useful history of multimedia see "When Mulitimedia was Black and White" (2005).

22. See http://www.futureofthebook.org/HASTAC/learningreport/about/

23. See http://www.ocwconsortium.org/home.html

24. See http://www.capetowndeclaration.org/read-the-declaration ; see also the 2009 Open Education Conference at http://openedconference.org/

25. See Peters (2009) and the paper and video "'Openness' and 'open education' in the global digital economy: An emerging paradigm of social production" (Peters, 2008).

Chapter 5
Textscapes and Landscapes: A Settler Poet Goes On-Line

Brian Opie

William Golder (1810-1876) is credited with being the first British poet to publish a collection of his poetry in New Zealand, *The New Zealand Minstrelsy* (1852).[1] He arrived in Wellington in 1840 at the very beginning of organised British settlement[2] and spent the rest of his life contributing to the formation of the emergent nation through his labour in land clearance, running a school, engagement in intellectual and political affairs, and the publishing of four volumes of poetry. His purpose in writing and publishing his poetry was three-fold: (a) to contribute to the creation of a literature that would assist in forming the new nation of New Zealand; (b) to provide relief from the discouraging and exhausting work of settlement, especially land clearance; (c) and to leave a record which would commemorate the early settlers and remind those benefiting from their labour in the future of the debt they owed to the pioneers.

In respect of conventional estimates of literary value, creating a scholarly edition of Golder's poetry in a time and for a society in which his writings have disappeared from public awareness would seem to be more an exercise in cultural archaeology than the recovery and canonisation of a lost literary forebear. The small amount of critical reading that Golder's poetry has attracted has decontextualised his poetry in the sense that professional readers of his work have typically read it in relation to other concerns than his, for example, identifying the members of a truly "New Zealand" literary canon (one of whom he apparently was not, even though contributing to the formation of a national literature was an avowed purpose) or demonstrating conventionally paternalistic colonial attitudes to Maori (which he apparently did, despite his careful historicizing of the account he offered in his 1867 epic poem "The New Zealand Survey." See Opie, 2005; also Belich, 1996, where Golder's poetry is enrolled in the category "crusader poetry.")

Recovering Golder's poetry for a nation and in a world order that he imagined to the extent that his culture enabled him to envisage the future--but for a nation ignorant (except among his descendants) of his poetry and, among those familiar with nineteenth century colonial literature, typically dismissive of it--raised a variety of significant questions about both the justification for an edition of his poetry and the form it should take. Who could be his twenty-first century readers, and how could an edition of his poetry make contact with them? The answers to both questions were clearly to be found through the web.

A Digital Edition

The purpose of my e-edition of Golder's publications (Opie, 2004) is to make his work accessible to anyone (but particularly New Zealanders) with interests in cultural origins, and to assist in the revision of current thinking about the constituents of pakeha culture.[3] Perhaps the most general motive now for recovering the past is biographical

and genealogical, a process of enquiry in a country with a colonial history like New Zealand that links individuals, families, histories, cultures, territories, and nations as a result of European imperialism and colonisation and the tracks individuals followed or made through that dispersal of population. For Golder, in this respect the most immediate contexts of interest are his own descendants in New Zealand and Scotland. But that interest is contained within, and significantly informed by, the wide-ranging enquiry into the implications of the post-colonial settlement and the renegotiation of relations between indigenous and settler cultures in post-colonial nations (including the ancient nations of the United Kingdom). And then there is the unpredictable readership for a web document, virtual travellers arriving at an only partly anticipated textual destination as the result of a web search; the outcome of such serendipitous landings is, like much textual encounter, unforeseeable for both the creator and the reader, but integral to the vitality of intellectual and cultural exchange.

The usual purpose of a scholarly edition of a poet's works is to establish the authoritative text of a writer deemed to be of canonical literary significance. It is probably the case that the majority of e-editions of originally print-published writers are of writers of high cultural standing.[4] Golder does not meet these criteria. It is most unlikely that a print-based edition of the collected works of an invisible New Zealand nineteenth-century working class settler poet, especially an edition aiming to meet the criteria of scholarly authority, could ever find a print publisher. Publishing through the medium of the web offered itself as a possible alternative, but the case for a web-based edition had to find grounds to release funding, including the question of models for a scholarly e-edition. Needless to say, funding issues have remained a key factor and constraint in the development of the edition.[5]

A key element in the argument I wanted the edition to make was that his work, 150 years after his first New Zealand publication, provides a powerful lens through which to perceive better the integral components of pakeha culture, making it relevant to pakeha revisioning of their cultural origins and identity in the post-colonial frame of renegotiation of relations between settler and indigenous peoples.[6] But as I read further into his work, another equally strong motive came to assert itself: that his work and life should be commemorated by the nation he had helped to inaugurate, as he had wished, by bringing it back to the nation's mind through republication.

A digital, web-accessible publication provided the medium by which these aims could be realised, and "the nation" could be addressed. As my early contact with Golder's descendants demonstrated, the question of who might access the edition and for what purposes could be answered as diversely as personal interests and the accidents of web searching that could lead people to the site. In one respect, the audience could be global; in another, it might be very local, to the Hutt Valley north of Wellington where Golder lived out his 36 years in New Zealand and where some of his descendants are still located.

The other critical factor was the establishment at Victoria University of Wellington of the New Zealand Electronic Text Centre. Initially attached to the School of English, Film and Theatre and now part of the University Library, the NZETC's first Director, Elizabeth Styron, shaped its development according to the model provided by her prior experience in the Electronic Text Center at the University of Virginia at Charlottesville. The New Zealand Government was engaged at the same time in intensive ICT policy and planning work; digital heritage was becoming a significant issue; and the National Library of New Zealand was developing policies and practices for digital access to collections and new rules for the legal deposit of digitally-born documents. Out of this complex of factors, the NZETC has developed strongly as the principal site for New Zealand digital heritage, constructed as an emergent digital library of early New Zealand publications. As an e-edition Golder's texts were initially published by the NZETC as a discrete website. The second stage of the edition's development has been completed, and it is now fully integrated with the rest of the texts in the NZETC repository. This full incorporation opens up further possibilities for the re-interpretation of Golder's poetry and the period in which it was created as a consequence of the texts that readers' searches will bring into contact.

The Question of the Corpus

In one respect, the corpus is easily determined. It is constituted by the four volumes of poetry Golder published in New Zealand, which were never reprinted. But placing those volumes on the web with the aim of encouraging access to them raises many questions about the purpose and contexts of interpretation of an edition. The obvious print models are the authoritative edition of an author's works, and a collection of critical essays on those works. An immediate question was: If the tangible print text was itself critical in the authoritative representation and interpretation of an author's works, how is that authority communicated when the text is virtual? Enquiry into the historical development and the social and cultural import of information and communications technologies, and, more specifically, discussion of hypertext for the teaching and composition of literature; the coming of the web as a publishing medium; the emergent form and structure of the digital library; and theorising of the new category of electronic literature–these have all played a part in the evolution of this edition.

Many strands of analysis and discipline are woven into the meanings attached to the term *digital text* or *e-text*, reflecting the way in which networked computing has made possible new ways of creating texts and new kinds of relation between texts, writers, and readers; and how it has challenged the values associated with the physically discrete texts of print technology: "A conventional book creates the illusion that at the moment of its being read a single author addresses a single reader. In electronic networks no single author addresses any single reader, or, if one does, their exchange emerges from and immediately re-enters a broader context of multiple speakers and listeners. There is a polyphony of voices, and the authority of each of them is continually qualified by their mutually commenting on one another" (Gaggi, 1998, p. 111). It is clear that the traditional scholarly edition in print is designed to render the author's "voice" as

distinctively as possible from the other "voices" that are represented in such an edition, including those of the editor, critics, contemporaries and so on who are located in subordinate positions in the organisation of the components of the edition. In other words, the material form of the print text is not accidental to its contents but is integral to the creation of meaning.

N. Katherine Hayles (2008) extends this view by arguing in her recent studies of electronic literature that a new conceptualisation of "text" is needed for electronic literature to be adequately theorised (Hayles, 2008, pp.1-42). Observing that traditional thinking has tended to distinguish an immaterial content from its specific material instantiations, Hayles (2005) posits "a notion of 'text' that is not dematerialised and that does depend on the substrate in which it is instantiated [by focussing on] the entwining of physicality with informational structure" (p. 102). At the heart of this approach lies a conception of the desktop computer as a "material-semiotic object" (Hayles, 2002, p.15), a writing machine able to write using all the sign systems developed in separate media forms over time. This characterisation is based on a definition of materiality that is not specific to a particular medium: "*The materialism of an embodied text is the interaction of its physical characteristics with its signifying strategies.* Centered in the artifact, this notion of materiality extends beyond the individual object, for its physical characteristics are the result of the social, cultural, and technological processes that brought it into being" (Hayles, 2005, p. 103). The material form of Golder's texts fully exemplifies Hayles's conception of the way in which a text is marked by its context of origin: the use of a very few fonts and in a very small font size with narrow margins is a function of the high cost of paper and the limited capacity for printing in the early period of the colony; the small number of copies printed by subscription and sold primarily in the region of Wellington through Golder's efforts underlines the obstacles facing the development of New Zealand publishing and the absence of the category New Zealand literature (Griffith, Harvey, & Maslen, 1997).[7] Golder's decision to publish his fourth volume by teaching himself how to print it on his own press and then binding it himself has many similarities with the challenges facing creators of e-lit (see Coover, 1999; and Hayles, 2002, pp. 44-45). The physical characteristics of the electronic edition in which Golder is being re-published challenge its aim to commemorate Golder because of 'the fluid nature of digital media' and the ongoing costs of maintaining network-accessible texts (a problem presciently represented in the figure of Lise in Gibson's (2000) story "The Winter Market." See Hayles, 2008, 39-42).

Forming the e-edition

As I have already noted, development of the NZETC's role and its approach to representing digital text has changed the initial conception of the Golder e-edition as a bounded text, in so far as Golder's poetry could be 'internally' linked to other texts digitised for the edition, but it would be clearly the focus of the edition website as a consequence of its design. Its primary purpose was to provide an authoritative text of the poetry based on archival quality scans of the original books as whole objects, with the poetry being marked up and word searchable. In this respect, the edition would

conserve the dominant characteristic of scholarly print editions by trying to ensure that Golder's works were immediately perceived to be the objects of most importance.

However, Golder's report of a conversation in the Preface to his second volume strongly suggests to me that presenting his poetry decontextualised will not facilitate the new interpretations that I have come to believe the poetry can support and from which it could gain new cultural value. Introducing his explanation why he took the native pigeon as the occasion for a satire on colonisation, he wrote:

> It so happened one day, when assisting at the building of the Hutt stockade, I was working along with a person who, like myself, was a little acquainted with the "Muse;" during a little conversation, I asked him why he did not compose something on New Zealand; when, with a strong affirmation, he declared he saw nothing in the place worth writing about. I thought differently, but said nothing, as I was at that time amusing myself in my leisure evening's hours, by writing my songs, already published. (Golder, 1854, preface)

Most material in print that would support Golder's view that there was something 'in the place worth writing about' would have to be acquired at a distance from the moment of reading in the edition and, in the case of early British settlement in the Wellington region, would be accessible in only a few libraries in New Zealand. An aim of the e-edition, then, was that it would provide immediate access to texts and to other materials representing places, events and activities to which Golder refers in his poetry. By placing them "in" the edition (only a link away from the poetry) the ability to read poem and context together is immediate and the possibilities for interpretation are much enlarged. As my conception of the site developed, and my awareness of the rich resources of material grew, the range of these other materials expanded. Significant groupings of materials associated with people whose activities and interests closely intersect with Golder's - specifically the naturalist William Swainson, the geologist James Coutts Crawford, and the printer William Lyon – have made it possible for other authorial "voices" to occupy the same textual space as Golder's and have moved the edition in the direction of Gaggi's "polyphony of voices" (p. 111). Specifically, the edition includes examples of the following contemporary media: drawings, engravings, paintings, photographs, maps, print music, audio, news reports, books, pamphlets, a journal, a diary, song, and government reports.

Remediation Now

To digitise a print text and re-present it on a computer screen is not just a different instantiation of the same text, but it is a process of translation for which Hayles (2002) adopts the term used by Bolter and Grusin, "remediation, the cycling of different media through one another" (p. 5). As she writes, "To change the material artifact is to transform the context and circumstances for interacting with the words, which inevitably

changes the meaning of the words as well" (p. 23-24). For Golder as an e-text, the most important differences are the ways in which information (that is, semiotic materials) can be structured and combined digitally and texts in different media can be brought into close association in what Gaggi (1998) describes as "a horizonless conceptual space" (p. 111). In this space, small t *texts* are nodes in a network or capital T *Text* and relations between texts and readers are constituted as much or more by the characteristics of the network as they are by the writer's intention to create and communicate meaning and the formal structuring and categorising of a particular text. In virtuality, Golder's texts engage with and are engaged by others in ways that no one can predict or determine, and words on screen are doubly dissociated from their temporal and media origins. Because this conceptual space is encountered through the computer screen as a visual domain, the term *gallery* was used for the collection of images, complementing the collections of poems that are represented by the publication titles and tables of contents. A better term for the edition as a whole is *exhibition*, a term which refers to an array of objects in a culturally defined space of encounter, in which many possible relations can be established between them in addition to those provided by the curators and the catalogue. Other metaphors with civic and cultural institutional resonance are the *street* or, more inclusively, the *city*, material-semiotic spaces populated with diverse texts in mobile relations with each other and their flaneur readers (like, but with a different emphasis to, the term 'digital environment'[8] with its biological and ecological connotations).

Remediation Then

The concept of remediation does not only apply to the shift from print to digital. As Hayles (2002) argues, it also highlights aspects of print texts that have been previously overlooked: "By and large literary critics have been content to see literature as immaterial verbal constructions, relegating to the specialized fields of bibliography, manuscript culture, and book production the rigorous study of the materiality of literary artifacts" (p. 19). Golder's publications present themselves as conventional examples of nineteenth-century printed poetry, and one of his core aesthetic principles, the traditional concept of a poet's 'clothing' ideas in words,[9] seems to underpin that conventionality. Immediately, of course, to place fashion and poetry together is to emphasise the display function of the medium, even if black characters regularly disposed on the white space of the page are like only the most ascetic forms of dress. But following this line of thought opens up another possibility for interpreting Golder's poetry, if the references he makes in his writing to other media are taken not just as currently available metaphors for communication but are 'material metaphors' in the sense that they identify crucial and distinctive components in Golder's poetic practice and his conception of the role of poetry. I have argued elsewhere for the importance of music and early photography in his thinking about the representational purpose of, and criteria for interpreting, poetry (Opie, 2006a, pp. 278-280; and 2006b). Other examples of remediation would be the analogy between poetic description and engraving or the presentation of news in print, and the poem as a communicational vehicle, whether as a

letter, a telescope, a panorama or a telegraph message. I would argue generally of these media analogies that Golder's poetic practice is already performing some of their distinctive characteristics, and his invocation of them is not a belated response to their invention but an act of recognition on his part that his poetic work is mediating thought in similar ways. Of particular importance is his emphasis on the poetic representation of the real, which places him in the frame of scientific and industrial formations of knowledge, a frame not usually applied by his literary critical readers.

Interpreting Golder's Poetry

Producing this electronic edition has provided an opportunity to consider how the poetic corpus and its various immediate contexts in the early settlement of New Zealand could be engaged productively with each other; it has also raised questions about the role and presentation of scholarly interpretation. My aim in bringing mostly out-of-print or never before published materials together in this digital collection or exhibition is to estrange reading and therefore to encourage the perception of relations that can differently inform interpretation. In other words, to provide for resourceful reading in several senses: reading that goes beyond current accounts of nineteenth-century settler poetry; reading that can be fully intratextual because all of Golder's publications and some of his reading are immediately accessible; and intertextual reading which challenges assumptions by giving immediate access to diverse but related contemporary textual resources that are not self-interpreting nor explicitly related to Golder's writing.

Critical to the facilitation of these reading practices is the site design,[10] or textscape. The e-edition was conceived at first as a corpus internally integrated by its page design and links between specific textual components. The parts of the edition were identified on the Home page, with the four volumes of poetry being the focal point of the page. Rhetorically, the presentation of each page was designed to emphasise the priority of the poetry, and the difference rather than equivalence of the various media objects a reader might encounter in juxtaposition to one another. The texts were linked as whole units, with a poem as the immediate point of reference. Each page is potentially related to five kinds of text: pictorial, print, music, editorial, and interpretation (this aspect of the site remains a work in progress; most work has been done on the first collection, *The New Zealand Minstrelsy*). Of particular importance are the page images of the original books, presented together with the transcribed and marked up text of the poems, so that the material qualities of the original print artifact are not forgotten.

This new version represents a major change in the way the edition is presented, because its textual objects have become components like all the others in the NZETC's digital library. The main change is the additional way that links are established between textual objects, using topic maps. Golder's poetry has been mapped, using some 50 topics, and the other materials digitised for the edition are being treated similarly. The benefit is the wider interpretive possibilities incident upon the ways the texts constituting the library of New Zealand heritage materials can interact through topic map searches. A problem is the potential for the complete dispersal of the oeuvre into its contexts, so that "Golder"

as the sign of a specific set of orientations, inheritances, and commitments in the colonisation of New Zealand and the creation of its literature may not be grasped by any reader of a poem brought to the screen by a topic search. Each page related to the Golder corpus has been designed to maintain the concept of an edition as the collection and presentation of a single author's corpus of writing, however much that writing is marked by its representativeness as by the singularity of its author.

The Embodied Text

What claims do I want to make for this e-text, especially in relation to Hayles's conception of the "embodied text"(Hayles, 2002, p. 103)? Firstly, as a scholarly edition, it aims to provide an authoritative version of Golder's poetry. In one respect, that is easy since only one edition was ever published of each volume. In another, care is required to ensure that the transcription of the digitised text is accurate, and the mark-up delivers to the screen the arrangement of the poetry as it appears on the page. One major difference with most scholarly print editions is that the image of the digitised text is available together with its transcription, so that the silent effect on reading and interpretation of the transcription and re-presentation of text on a computer screen can be disrupted by the material specificity of its virtual original and more (if not quite all) of it can be appreciated. That specificity is important because it immediately places in front of a reader a representation of local colonial publishing that can be sharply contrasted with the "look" of the authoritative and technically sophisticated form of a scholarly print edition.

Another important difference is in the assumption about how a poem might be experienced. Many of Golder's lyrics have a traditional Scottish tune title placed under the poem's title. What does the presence of that sign signify for the conception and experience of the poem? There are at least four intended versions of the poem: one performed by silent reading (the most abstract or general, the written and printed poem); another performed by reading aloud (by which the text is literally embodied and voice and accent mark the reader's social and cultural origins)[11]; and others sung, with or without instrumental accompaniment. An e-text makes it possible (as would a CD or an audio tape included with a book) not only to provide the traditional music in print but also performed versions of the poems. It is at the least ironical that the one poem that was intended to be sung, "The Effects of Good Government, or the Happy Change," but for which the music is missing, does not name a traditional tune; instead, the name for the tune is "Original" (Golder, 1852, p. 29).

Secondly, cultural contexts. Scholarly editions in print bring the cultural context of a work into the edition in various ways, including printing music and other documents, like maps, legal documents concerning the author, extracts from related texts, other illustrative material, and so on, acknowledging that interpretation is an intertextual as well as an intratextual process. An electronic edition does not so much do anything simply new in this respect (except for the multimedia capability of digital networks) as

provide such a qualitatively and quantitatively enriched set of mediated contexts in relation to which the texts that are the object of the edition can be read.

Thirdly, accessibility. Golder funded his publishing by subscription and his books circulated primarily in the Wellington region where they were printed and sold. It is likely that copies were sent to some local Scottish poets from his region, and perhaps family members still living in Scotland. But the small numbers and the lack of reprints mitigated against a principal purpose which he sought for his poetry, to assist in the formation of a shared sense of identity among the diverse groups resident in New Zealand. Golder conceived of a national literature both as a literature constituting a nation by encouraging a collective imagining of an idea of that nation and as a literature generally accessible to the citizens of a nation (see Opie, 2006b). By contrast to the very limited circulation possible for his books, the web provides a globally accessible medium (for the information rich, anyway) by means of which his poetry can be accessed as a result of motivated or serendipitous searching. The question he sought to answer, What idea of the new nation of "New Zealand" is being realised in the work of settlement?, is still in question, providing yet another context in which to read his work. His democratic conception of poetry and its role in building a shared culture could be realised in only a limited way as a result of the media available to him.

Fourthly, commentary and interpretation. One contextual dimension of the edition is provided by the inclusion of my work of scholarly interpretation. Rather than provide the definitive context in which Golder's poetry is to be read, this critical work contributes a further dimension to the conversation set up by the ways in which the textual objects address each other and the reader. Because the reading of this work, like the poetry or any other text included in the edition, does not need to occur in isolation from any other text, but can be interwoven with others topically or thematically, the argumentative development characteristic of the genre of the academic article is only one of the ways in which this dimension of the edition can contribute to a reader's interpretive activity.

Textspace and Landscape

Of special interest in the relation between Golder's poetry and its electronic manifestation is the space of representation. The process of settlement as we encounter it through Golder's poetry is one of transformation, the application of energy and force to nature to bring the land into conformity with human purposes. Framed by a progressive philosophy founded in science, technology, and religion, both the land and the sign are worked to express and advance a cultural conception of a national future. The ordered arrangement of words on the page contrasts with the disordered state of nature (and society) and anticipates the incorporation of the land, like the sign, into an ordered and productive structure of meaning. It is not that bringing the sign into order is easier than bringing nature into order, but that accomplishing the latter is foreshadowed by the former. Also, the conception of order applying here is not one of fixed and static forms, but it is dynamic, open to future possibility, lyric variety, and epic historical

processes marking out the local and universal parameters of purposeful and improving change.

Golder's poems are, then, texts which engage the physical specifics (savage wilderness, unsocialised nature, unremitting labour) of a stage in the development of New Zealand as both a landmass and a nation, states of mind in which desires and memories intersect with this present actuality, and a cultural conception of the future form of nature and nation. The engagement is accomplished in the textspace of the poem, but progressively actualised by enormous physical effort in the landscape into which the land of New Zealand is converted.

What the textspace of the digital edition permits is a version of the effect Golder evokes in the opening lines of "Thoughts on the Wairarapa" when the space able to be traversed by "the roving eye" changes from enclosed to extensive:

> How vast the prospect Wairarapa yields
> Of great extensive plains! Unlike the Hutt
> Or other valleys, pleasant though they be,
> Coop'd up in narrow space by lofty hills,
> Like prison walls, which limit much the range
> Of vision, and a baleful influence shed
> Upon the intellect, as bowing down
> The soul that would aspire, and cramping much
> Its energies with sad decrepitude.
> But here—oh! what a change!—we seem set free
> From close confinement. Here the roving eye
> Delights t' expatiate with full stretch of power;
> The soul exults with inward ecstacy,
> As if it bounded with elastic force
> From earth to heaven—so much overjoy'd!
> It feels a freedom tongue can scarce express
> Contemplating the wide surrounding scene (Golder, 1854, p. 96.)

I have no doubt that, if the means had been available, Golder would have published depictions of the kind I have gathered from contemporary sources for the e-edition, because he would have valued the greater 'reality effect' they would have introduced into the conceptual space of the printed page, while not for one moment suggesting that they could substitute for the poem. For Golder, the purpose of poetry is to make a difference in the real world, even if that difference is seemingly private, in the modification of feeling or the affirmation of a loving relationship. The work of the poem, like the e-edition, is to mediate between the domains of culture and nature, and of the present, past and future, while marking the presence and effect of human perception and embodied thought in nature.

"A Bushranging," available on the NZETC site,[12] provides one example of how the digital textscape offers the means to "expatiate" in response to a poem. Images that relate to elements of Golder's (1852) poem, but which are not presented as the specific scenes Golder had in view or in mind when composing his poem, emphasise in their differences of medium and view that they are both representative instances standing for the complexity and variety of the actuality of New Zealand, but also signifiers that, accumulated, come to constitute the meaning(s) of the land and nation, "New Zealand." To sing the song, especially if one is Scots, is momentarily to intersect two actual places and societies remote from one another, and to bring into the foreground the diverse states of mind and feeling that accompany the recognition of both separation and new opportunity; to attend to the music of nature in the song of the tui is to be simply present in the new place. To read the traditional lyric against Golder's poem is to experience in some degree the effect of the translation of culture from 'home' to a place where a new home is to be made. Placing the energy of the speaker's confidence in the future against the picture of Maori described by the speaker as "wild sons of nature" (Golder, 1852, 10.) and by the picture associated with the more dominant natural sign of New Zealand, the tree fern or ponga, opens out on to the future history of relations between the indigenous people and the settlers.

The textspace of the screen is occupied by symbolic objects distributed across it, whether a poem, a thumbnail image, signposted links, and the apparatus of the navigation bar. Reading and interpretation are the result of what Derrida (1992) describes as "an experience [that] is a traversal, something that *traverses* and travels toward a destination for which it finds the appropriate passage" (p. 16) – but not the inevitable or only passage to a pre-determined meaning. In another context, discussing the question of "The Book to Come," he refers to "*the tension between gathering and dispersion"* as characterising "the new space of writing and reading in electronic writing, travelling at top speed from one spot on the globe to another, and linking together, beyond frontiers and copyrights, not only citizens of the world on the universal network of a potential *universitas*, but also any reader as a writer, potential or virtual or whatever" (Derrida, 2005, pp. 13, 15). The digital textspace generates this tension, which is productive of new possibilities for the interpretation of Golder's writing as it is of many other potential "passages" opened up singly or in combination by any of the textual objects that a reader may encounter in and through it (see Derrida, 1992, 16; and 2005, pp. 13, 15).

"this work consisted in much of experiment"

It is *The Philosophy of Love* (Golder, 1871) that most directly demonstrates the importance of Hayles's observations about the need to keep the materiality of the text in the foreground during interpretation of it (see Hayles, 2002). Golder does not so much apologise for the poor quality of the book's printing as use that fact as another instance of the work required to bring about the future, and therefore makes of it a material metaphor of the process of nation-building that emphasises the complex kinds of new learning required of anyone who would seek to shape the future, and the unavoidable

participation in such social and cultural processes of media technologies: "As regards this book, both the *printing* and the *binding* have been done by the *Author* himself, in each case, as an *amateur*. As the printing of *this* work consisted in much of experiment; I would crave the indulgence of friends: but having made considerable improvements in the *press*, I hope in future to shew a better *typography*" (Golder, 1872, Prospective).

His account provides a proper context of evaluation of the Golder e-edition. As a work-in-progress, carried out in the shadow of major, exemplary digitising projects, the Golder e-edition is happily allegorical of the situation of the poet whose work and life it commemorates. Golder's last printed words demonstrate that he had lost none of the conviction that energised his physical labours and his writing. At the end of *The Philosophy of Love*, his own work in every respect, he looks forward to further publication: "The next work, if *Providence* will allow, I intend bringing before the *public*, will be of a different description of *philosophy*, viz. The Philosophy of Thought, a *Poem*, in two *Cantos:* with a variety of other *poems* and *lyrics* of an interesting kind; the result of *solitary hours* in times gone by, before I constructed my *amateur press*" (Golder, 1871). This statement nonetheless implies that his pursuit of technical and practical mastery of print technology absorbed much or all of the time that he previously put into writing poetry.

Just as Golder saw his work as a step towards something greater, perfecting the work through more experience, improved technical performance, and understanding of the medium through which he sought to communicate his vision of New Zealand to present and future citizens of the new nation, so e-Golder has much further to go before its goal of an edition capable of facilitating the best understanding possible of this founder settler can be achieved. In the meantime, I trust that achieving what for him would be an unimaginable form of textual and cultural engagement with the remnants of his world and the preoccupations of ours would provide Golder with much of the satisfaction that the constraints of early colonial publishing could not supply.

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Chapter 5
Notes

1. This is a revised version of a paper first presented at the symposium, *Resourceful Reading: The New Empiricism, eResearch and Australian Literary Culture*, held at the University of Sydney from December 4-5, 2008.

2. On the Wakefields and the New Zealand Company, see Temple (2002).

3. "Pakeha" was the term generally adopted by the indigenous people of New Zealand to refer to European settlers. While not universally accepted, it is now commonly used by the descendants of the settlers to mean "New Zealander of English or European origin." See for example Phillips (1996) and King (1999).

4. For a discussion of issues raised by electronic editions of print texts see Hayles (2005, pp. 97-103).

5. Much of the funding has come from small research grants from Victoria University of Wellington, and one major grant from the University Research Fund, for which I am very grateful. However, a persistent difficulty in advancing the concept of a web-based edition as a research project has been the tendency of committees to treat the application as for a publication subvention rather than as humanities e-research.

6. For a powerful critical lens focussed on these issues, and especially on the issue of forgetting, see Evans (2007).

7. Griffith, Harvey, and Maslen's 1997 book was the first to be digitised by the NZETC and provided a remarkable example of the ability of web-accessible texts to reach a much wider spectrum of potential readers.

8. Hayles typically employs biological metaphors, like ecology and environment, consistent with her emphasis on the emergent nature of text; I am attracted to the application of her concept of the computer as a "material-semiotic machine" to the city as the most fully equivalent location for the experience of reading electronic text. See for example Michel de Certeau's (1984) "Walking in the City." The term *semiosphere* is consequently also relevant for thinking about the "space" containing cities as material-semiotic machines which is generated and sustained by texts in all media and languages. Yuri M. Lotman (1990), defines "the intellectual world in which humanity and human society are enfolded and which is in constant interaction with the individual intellectual world of human beings" as "the semiosphere, that synchronic semiotic space which fills the borders of culture" (p. 3). Later he writes that "the semiosphere, the space of culture, is not something that acts according to mapped out and pre-calculated plans. It seethes like the sun, centres of activity boil up in different places, in the depths and on the surface, irradiating relatively peaceful areas with its immense energy. But unlike that of the sun, the energy of the semiosphere is the energy of information, the energy of Thought" (p. 150).

9. For example, nature "a language speaks . . .though in human words unclad" (Golder, 1845, p. 2).

10. Both Hayles' *Writing Machines* (2002) and *Electronic Literature* (2008) provide stimulating

models for thinking about the on-going interrelation between print and electronic text. An earlier and powerful example of materialising media theory and practice in print form, which I could only admire, is Taylor and Saarinen (1994).

11. Golder gave a public reading over two nights of *The philosophy of love*. A reviewer described Golder and his manner of reading as follows: "We found him a hard-featured individual, certainly not in his first youth, with grizzled locks and beard, unkempt and unshorn. Still we thought many a rough casket encloses a valuable gem; but when he opened his mouth to speak, his horrible mispronunciations and his harsh accent dispelled in a moment all thoughts of love, romance or poetry" ("The philosophy of love" [Review], 1869).

12. http://www.nzetc.org/projects/golder/GolMin/poemGolMin002.html

Chapter 6
Reweaving the World:
The Web as Digital Discourse and Culture

Timothy W. Luke

The ten year anniversary of the Center for Digital Discourse and Culture (CDDC) is a suitable opportunity to reconsider how the Web is reweaving culture, economy, and society in today's global/national/local communities through global computer networks. These critical reflections are important if we are to grasp completely how today's wired and wireless reticulations of discursive power and knowledge express their effects at a local, national, or global level in digitally-mediated social relations. Plainly, no study of today's economy and society can ignore how individuals engage in collective activities via digital discourses and online cultures. This discussion reconsiders some of the initial steps that brought about these modes of production, organization, and communication.

At the same time, one must note that this ten year anniversary for the CDDC also coincides with thirty years anniversary of the publication in French of Jean-Francois Lyotard's remarkable *The Postmodern Condition: A Report on Knowledge*, as well as the twenty-fifth anniversary of its English translation (Lyotard, 1979). Thinking now about the CDDC, in turn, allows one to ask how the conditions of postmodernization Lyotard addressed in his "report on knowledge" have become ones in which "knowledge" is "on report" 24x7 for users and non-users alike. Although Lyotard did not envision in detail all of the changes that have unfolded in the past three decades, there still is something to gain from revisiting his speculations about the conditioning of economies and societies with reportable knowledges that sustain their continuous postmodernization.

Recent global trends toward digitalization of discourse and culture reflect how, as O'Hara and Hall (2008) suggest, "the Web influences the world, and the world influences the Web." As a space of, for, and about continuous human interactions through linked documents, archived images, stored data, intricate graphics, and audio files, the Web has exploded over the past decade from less than 2 billion easily accessed and searchable pages in 2000 to scores of billions of such pages in 2010 along with hundreds of billions of other documents in the "dark," "deep," or "denied" Web. Yet, each of these myriad files is to some degree a marker of discourse and culture undergoing digitalization.

During the past four decades, the information and communication technologies (ICTs) that Lyotard (1979) started to report upon have, in fact, remediated in fits and starts the social interactions of cultural, economic, and political community, which are unfolding increasingly online through the Internet on the Web (Abbate, 1999; De Kerckhove, 1998; Deibert, 1997). Even though the Internet was only a decade old in 1979, its promise for the thorough infiltration of everyday life was becoming apparent in the data that had been banked up to that time. Most importantly, entire domains of human agency--whether individual or collective--and many realms of social structure--working at all

scales of aggregation—were "opened" to be restructured in digital terms (Negroponte, 1995).

First, the Web's computer-mediated communications are rearranging who engages with whom, where, when, and how; and, second, this increasingly ubiquitous computing regime reconfigures the "fast capitalism" (Agger, 1989) underpinning its embedded practices for individuals and groups. Converting culture to code and digitizing discourse reformats the experiences of built environments, political jurisdictions, economic exchanges, material artifacts, and cultural meanings for those with access as well as those denied use. Instead of arranging a meeting with another in a week face-to-face at the office, one attracts personal contacts with 24x7, all-enabled others on Facebook, in MySpace, with Second Life, or through YouTube. Ironically, these ties between users are believed to define a more advanced sense of freedom, but it only can be attained on the operational terms of dominating embedded intelligence in the technics driving digital command, control, and communication (Heim, 1998). These shifts are also what has become, in turn, to subject of "Web science" (Shadbolt & Berners-Lee, 2008), which might well become a richer epistemic frame for grasping information-based postmodernation.

Cyberspace spins up from linking documents to data to digits. Yet, it morphs into much more than the mere measurable affects of links, hits, downloads or data flows on the Web. Instead, respatializations of agency and structure occur, which shift human activities to a new plane of embedded immanence on bitstreams. As Hayles exclaims, this plane of thought and action has some of its own metanational rules of postmodern embodiment, extraterritorial engagement, and hyperreal enlightenment (Hayles, 1999). Because so much can change on the Web, including existing F2F rules of cultural, economic, and political action, Hayles has touted how those so enabled are becoming new posthuman beings with their own special forms of digital culture. Yet, while it is true in part that some are developing along the interfaces of bits and bytes with flesh and blood, many continue to endure life chained only to cogs and wheels as well as stuck to their muscle and bone.

For some free digital agents, the prospect of living more with–or, soon perhaps, living mostly inside–intelligent machines, illuminated by Hayles' "light of flickering signifiers," seems to have an awesome promise. For these collective clienteles of digital beings served in cyberspace, Hayles suggests humans have never been "in control" of the emergent technified chaotic processes constituting any of the mash-ups of Nature and Society that comprise their environments and technologies, whether they are offline or online. No self stands alone. No group of organisms can be differentiated entirely from its environment. No system works without many other coexistent, if not codependent, systems. Hence, no agency operates beyond the structure of/for its articulation.

These facts always were true but now, Hayles believes, Web-based society is still even more distinct: "emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a

body screen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject's manifest destiny to dominate and control nature" (1999, p. 288). Amid these chaotic complexities, it is clear that digital discourse and culture are the nexus that transforms or contains the performativity of the ICTs' integrated systems. The industrial "system of objects" (Baudrillard, 1996) increasingly must reset, relaunch, and reformat itself with the digitized "objects of systems." Discursivity is concursivity in network environments, as the channel and code, signal and sign, carrier and content interpolate as unified hybrid assemblages (Luke, 2001).

The Web, and the ICTs supporting it, also is a communicative, complementary, collaborative, and concurrency engine. Even if its machinic qualities occlude its associative properties, ICTs as "discursive formations" entail their "concursive formations" in the production, consumption, reproduction, circulation, and accumulation of bits. This concursivity tracks what unfolds spatially together in the machinic formations, common traditions, linked networks, cooperative institutions, or combined effects of digitalization. To concur is to run together, to meet, to converge, to coincide. When combining in action--sometimes by accident, sometime by design, sometimes by habit--concursivity is quite apparent.

In a world remade by ICTs, however, concursivity cannot be ignored. Concursivity iterates as countervailing parallel processes of practices alongside the booming/buzzing (con)fusion of action and interpretation that shapes discursive understanding and behavior. Like studies of discursivity, any examination of concursivity must focus upon the paradoxes of structure and agency. The basis of cybernetic concursivity, like digital discursivity, can be traced to the embedded intelligence, order, and work represented by the Web as a large sociotechnical system, global market, and transnational culture (Luke, 1994).

Set against this seemingly inhuman horizon, as Lyotard (1984) notes, no single self really amounts to much; but at the same time,

> No self is an island; each exists in a fabric of relations that is now more complex and mobile than ever before. Young and old, man or woman, rich or poor, a person is always located at "nodal points" of specific communication circuits, however, tiny these may be. (p. 15)

The discursive and concursive clusters of Web-based social formations, as a result, occupy intriguing nether zones between fleeting communication and fixed organization with flickering recognition of codes and permanent memory of systems for agents.

Drawing first from the Latin verb meaning "to do" or "to act," as the *Oxford English Dictionary* suggests, agency is essentially the implied faculty of either being an agent or of agents acting. Agency also can be an actively working formation or specific operation for action. The Enlightenment notion of rational autonomous human agency picked up

these notions about embodied agency for the bourgeoisie and proletariat after the eclipse of aristocratic barons and churchly priests. They are held to be more true today for the Web's digital *demos*, because this cybernetic construct fulfills the rich mythos of modernity first propagated by bourgeois revolutions billowing up out of global markets. Many voices speaking across the Web also reaffirm this concursive sense of agency in their celebrations of being digital, even though very few people have the knowledge, freedom, or resources to be working actively or doing most operations as this sort of digital agent. Nevertheless, such concursive constructions of collective and individual agency are the ones most often twinned with machinic democratization in discussions of digital agents creating structures for cybernetic culture (Luke, 2001).

Such coaligned technologies of production for self and society fuse in the ICTs sustaining virtual environments; they do make the Web, and the Web then does remake them. Although it is cast as a space of freedom, the Web also is promoting capitalist exchange's ideal outcome: "the ultimate realization of the private individual as a productive force. The system of needs must wring liberty and pleasure from him as so many functional elements of the reproduction of the system of production and the relations of power that sanction it" (Baudrillard, 1981, p. 85). The liberatory mythos of digitalization, however, occludes the disciplinary realities of Web-based living: All action is trackable, measurable, and forever available as reified information. Face-to-face behaviors of bodies with other bodies occur; but now, in addition, one's existence on the networks of networks that function beside, behind, or beneath human behaviors are constantly conforming to the dictates of elaborate "e-structures" for "e-haviors" as the Web evolves concursively as a *sui generis* metanational quiddity of/for/by agents. Clearly, there is a very different "landscape of events" emerging out of these conditions (Virilio, 2000).

In digital discourse, each agent serves as "a post through which various kinds of messages pass," and, as such, "no one, not even the least privileged among us, is ever entirely powerless over the messages that traverse and position him [*sic*] at the post of sender, addressee, or referent" (Lyotard, 1984, p. 15). Digital discourse and culture create possibilities for new language games, and these moves sustain larger systems of Web-based digital economic and social relations. Certainly, as Lyotard suggests, these interactions are not the entirety of social relations, but they foster a concursive and discursive basis "to socialize" with new opportunities to combat collective entropy, create novel associations, increase overall performativity, and exemplify the promise of connectivity.

Emancipation is now embraced as machine-mediated reification, digitally-displayed direction, and code-carried control. Fictions of social origins are displaced by facts of continuous connectivity, creating roles and scripts for the language games of a culture in which those with access to ICTs already are the referents, senders, and addressees of more complex cultural interplays beyond those of simply F2F engagement. Even if an open source environment is one in which source opening only deepens and broadens the reification of reality, there is a modicum of new social complexification occurring.

The Web is not simply a cheaper means for the bilateral/multilateral transmission of messages within existing material society. Instead its functionalities spin up new material modes of being immaterially sociable for contemporary society. From Second Life to Facebook to MySpace to YouTube, applications translate multiple modes of messaging into "society" itself as their new clustered affinity and agonistic gaming generate fresh conventional understandings of other and self through digital acts and artifacts (Kelly, 1997). Elementary components of communicative denotation and connotation become moves and countermoves in digitally-driven performative, evaluative, prescriptive, and directive interactions. The social struggles of such YouTubed, MySpaced, Facebooked, or Second Lived communities are not without rules, as Lyotard (1984) suggests, "but the rules allow and encourage the greatest possible flexibility of utterance" (p. 17). Tracking these traces of digital discursivity down in today's concursive circuits of cybernetic culture is the end and the means needed for Web science (Berner-Lee, Hall, Hendler, Shadbolt, & Weitzner, 2006).

Therefore, netiquette, cyberculture, and connectivity coalign in the concursive circuits of information machines along with the discursive details for rules of use, software licensure limits, and ordinary sociolinguistic rules that code jurisdictive boundaries of Web-centered communities (Luke, 2001). Increasingly, digital discursivity, social informatics, and Web science all indicate "the constraints for statements to be declared admissible within its bounds. The constraints function to filter discursive potentials, interrupting possible connections in communicative networks: these are things that should not be said. They also privilege certain classes of statements (sometimes only one) whose predominance characterizes the discourse of the particular institution: there are things that should be said, and there are ways of saying them" (Lyotard, 1984, p. 17).

From the apparent compression of time and space on the Web, once unforeseen opportunities for time-filling and space-transcending social interaction are unfolding on the world's informatic networks (Luke, 1996). On one level, Lyotard's abject predictions about "the computerization of society" appear to be coming true in this new informatic environment inasmuch as the Web has been colonized by B2B, B2C, and C2C exchange. In this mode, it is "the 'dream' instrument for controlling and regulating the market system, extended to include knowledge itself and governed exclusively by the performativity principle" (Lyotard, 1984, p. 67). Still, every such attempt to exert crude disciplinary control will spark sophisticated contradisciplinary resistances. On another level, then, the Web increasingly enables ICT users "discussing metaprescriptives by supplying them with information they usually lack for making knowledgeable decisions" (Lyotard, 1984, p. 67). Once knowledge-based decisions are made, power's metaprescriptive reach grows in strength and scope.

Of course, decisive new revolutions are being made globally, nationally and locally more possible on ICT networks, like the Web, as Beck maintains, "*under the cloak of normality*" (1992, p. 186) due to the daily working of informatic global assemblages of discursivity and concursivity, such as HTML, Linix, Microsoft, or IBM. "In contemporary

discussions," as Beck (1992) suggests, "the 'alternative society' is no longer expected to come from parliamentary debates on new laws, but rather from the application of microelectronics, genetic technology, and information media" (p. 223). However, "the alternative society" itself becomes reified as digital discourse and culture morph into one product and a key producer of such revolutions, which arrive now as new machinic versions rather than fresh organic variations of agency.

Without a world state to guide global society, companies and individuals have, in turn, the best possible conditions for realizing more economic growth, namely, "a globally *disorganized* capitalism....For there is no hegemonic power and no international regime either economic or political" (Beck, 2000, p. 13). Therefore, each corporation becomes an expansionist proponent of transformational strategies for consumption by turning its own goods and services into an integral part of the market's production, an implicit sign of its clients' accumulation activities, and a marker, if only complicitly and for now, of its consumers' and suppliers' complete submission to unchecked circulation. The discourse of markets sparks the concourse of exchange that leverages off this knowledge on report, reportage, and reporting.

With no definitive hegemonic statal force at work in world society, this ceaseless search online for performance and profit appears as the essence of today's political conditions (Dertouzos, 1997; Ohmae, 1990) in more borderless, interlinked, and strategic terms. As Lyotard claims, each and every relentless pursuit of capitalist restructuring "continues to take place without leading to the realization of any of these dreams of emancipation" (Lyotard, 1984, p. 39). With less trust in any narratives of truth, enlightenment, or progress, Lyotard argues the social forces of science, technology, and big business compel most individuals and groups to enter transnational flows of information by embracing digital discursive values. The Web, then, functions via digital discourse and cybernetic concourse as a marvelously liberatory space; yet, it is always essentially "a polymorphous disciplinary mechanism" (Foucault, 1980, p. 106).

The constructs of both culture and exchange fall almost entirely under the sway of "another language game, in which the goal is no longer truth, but performativity--that is, the best possible input/output equation" (Lyotard, 1984,p. 46). On another level, in keeping with Jameson (1991), these remediations of performative community are fabricating "a new social system beyond classical capitalism," as they proliferate in "the world space of multinational capital"(pp. 59, 54). A new cosmopolis is already building in the telecratic, autarchic, and cybernetic order of the Web's omnipolitanized concursivity.

Markets do not float over the world in nebulous clouds of commodification; their exchanges are instead where cloud computing billows up as the demand and the supply in-between spaces of supply above/outside/ahead and the sites of needs below/inside/behind. Hence, the informatic domains where many different corporate, entrepreneurial, professional, and technical strategies come into play, are working through corporate-controlled technics and actively generating the in-between-nesses of

digital life that Hayles, Negroponte, or Virilio deify as the intensified social relations of flickering signifiers. Yet, all of these expanded economic interconnections and increased culture crossings also reify each moment of life itself. Whether it is Google Earth physical coordinates or Alexanet metrics, all is searchable.

On the operational horizons defined by flexible accumulation, Lyotard's visions of globalizing performativity capture a strong sense of what anchors the New World Order of the "Empire" (Hardt & Negri, 2000). A permanent revolution tied to performativity and its dogged attainment by transnational, as well as local, firms rests at the heart of what Web science enables, studies, and valorizes. The traditional spatial barriers and time buffers built into human societies now are continuously squeezed by technics' rapid decision-times and fast product-cycles in transnational-to-local circuits of production and consumption. At this historical juncture, 24x7 "system operations" is what the users of digital discourse are about: "the State and/or company must abandon the idealist and humanist narratives of legitimation in order to justify the new goal: in the discourse of today's financial backers of research, the only credible goal is power. Scientists, technicians, and instruments are purchased not to find truth, but to augment power" (Lyotard, 1984, p. 46). Accordingly, the most basic logistics for living in any built environment of today's world off-line all respond concursively to the Web's discursive agendas of market-mediated culture from on-line worlds.

It may well be unwanted from above and resisted by below, but digital life arrives and accumulates in-between as flows of Web-sustained utility. Media themselves increase interconnections for common memorable meanings, and singular shared places are shaped from pixels, bits, or sound waves as well stored for continuous recall and reuse. Flowing through every city and town, the reifications of exchange behind new digital discursive and cultural formations blink on and off globally and locally as a new world order (Luke, 1994). As Virilio (2000) notes,

> . . . in fact, there now exists a media nebula whose reality goes well beyond the frontiers of the ghettos, the limits of metropolitan agglomerations. The megalopolis is not Mexico City or Cairo or Calcutta, with their tens of millions of inhabitants, but this sudden temporal convergence that unites actors and televiewers from the remotest regions, the most disparate nations, the moment a significant event occurs here or there. (p. 69)

Transformational change can strike from above to serve those way ahead or far outside. It also can be felt, however, as another side of transnational flows as those below, inside, and behind converge in the shared space of informationalized global in-betweenness (Luke, 1995) as system users in Web-mediated events. Knowledge is always "on report." To think about "the Internet and politics" is perhaps now too late in a world rewoven by the Web: The Net is always already politics, economy, and culture for all the agents and structures now operating as objects of/for/by this system of systems. And, no Web

science will be worth conducting until this foundational reality is acknowledged in all of its theories, practices, and methods.

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Chapter 7
Electronic Theses and Dissertations: Progress, Issues, and Prospects

Edward A. Fox, Gail McMillan, Venkat Srinivasan

Introduction

ETDs form an important component of global scholarship (Fox, 1997) and research output. Many universities around the world require, accept, or at least encourage students to submit their theses and dissertations electronically. The Networked Digital Library of Theses and Dissertations (NDLTD, 2009b), which promotes ETD activities worldwide, now has over 779,000 ETDs accessible through its Union Catalog, run by Online Computer Library Center (OCLC). Other NDLTD partners provide powerful tools for searching, browsing, and visualization (Scirus/NDLTD, 2009; VTLS, 2009).

The global move toward ETDs is a "win-win" situation. Everyone saves money and receives benefits. New opportunities and possibilities abound: open access (Fox, McMillan, Suleman, Gonçalves & Luo, 2004; Fox, 2005; Fox, Yang, & Kim, 2006); better preparation for the up-and-coming community of young researchers (Fox, Hall, & Kipp, 1997); increased visibility of individual as well as university research (Fox et al., 1996); and broader collaboration inside and among universities (and other interested institutions) (Fox, Hall, Kipp, Eaton, et al., 1997). Students are improving their skills and universities are improving their infrastructures to work with online information, applying key library and information science concepts, and advancing scholarship.

While ETDs can result from the works of students at all levels (bachelors, masters, doctoral), most emphasis has been on graduate students (Eaton, Fox, & McMillan, 1997). Those who engage in research and prepare a thesis or dissertation should be empowered to propose and report on other investigations using the modern tools of scholars living in the Information Age (Fox, Hall & Kipp, 1997).

Since its inception, ETD activities have been tied in with efforts to apply technological developments to enhance education. Some efforts have related to curricular development (Fox, Yang, Wildemuth, & Pomerantz, 2006; Yang, Oh, Pomerantz, Wildemuth, & Fox, 2007). Others have been connected with work to make reports and educational resources available online (Fox 1998b; Fox, 1999a; Fox, 2002).

History

The move toward ETDs began with discussions in a 1987 workshop in Ann Arbor, Michigan, led by Nick Altair of University Microfilms International (UMI), who was involved in the Electronic Manuscript Project. The idea of marking up dissertations according to an Standard Generalized Markup Language Document Type Definition (SGML DTD) was pursued by Virginia Tech working with SoftQuad, and led to perhaps the first ETD in 1988. Extending Virginia Tech's demonstration effort was initially funded

by Gary Hooper of the Research Division. But making ETDs common practice had to wait for improved technology support, among other things.

By 1992, before the release of the first version of PDF and Adobe's Acrobat tool in 1993, a Virginia Tech team composed of John Eaton (Graduate School), Edward Fox (Computer Science, Computing Center), and Gail McMillan (University Libraries) began discussions about ETDs with Adobe and worked with a pre-release version of their software. The Coalition for Networked Information (CNI) launched a discovery project guided by the Council of Graduate Schools, UMI, and Virginia Tech to explore ETDs. Ten universities in the United States and Canada sent representatives from their graduate programs, libraries, and computing/IT groups to an October 11, 1992, Design Meeting in Washington, D.C. This group agreed that working toward ETDs would be a reasonable initiative, so discussions continued at sessions of the CNI 1993 Spring Meeting held the following March in San Francisco. At the July 1993 meeting of the Monticello Electronic Library Project in Atlanta, participants from the southeastern United States also discussed the role of ETDs in education and libraries.

Subsequently, the Virginia Tech library drafted a workflow description, developed and tested ETD submission scripts, and prepared a demonstration website in 1995. Following the faculty's recommendation from the Degree Requirements, Standards, Criteria, and Academic Policies Committee in 1996, graduate students were given the option to submit their theses and dissertations online. The library added incentives by waiving the Archiving Fee (previously the Binding Fee) for all who would submit ETDs in 1996. On January 1, 1997, ETDs became a requirement at Virginia Tech; West Virginia University followed in 1998 with its own requirement.

ETD initiatives have benefited from several funding sources. When the Southeastern University Research Association (SURA) sold SURAnet, some of the funds went to support a 1996-1997 project led by Eaton, Fox, and McMillan to launch ETD activities throughout the southeastern United States (SURA 1997). Then the US Department of Education funded a 1996-1999 project led by these investigators to extend ETD efforts more broadly (Fox et al., 1996; Kipp, Fox, McMillan, & Eaton, 1999). The resulting National Digital Library of Theses and Dissertations (Fox et al., 1996) quickly expanded into an international initiative, and was renamed the Networked Digital Library of Theses and Dissertations (Fox, Eaton, et al., 1997).

An ongoing series of ETD conferences have helped to disseminate ideas and best practices. In 1998, 20 participants in a Memphis, Tennessee meeting constituted the first ETD symposium (MECCA, 1998). Virginia Tech hosted the second ETD symposium in 1999, including 70 participants. Annual conferences (http://www.ndltd.org/community/conferences) have subsequently been held throughout the United States and, since 2003, at international venues. The 2010 conference will be at the University of Texas at Austin, while the 2011 conference is planned for Cape Town, South Africa (http://scholar.lib.vt.edu/theses/NDLTD/conferences.html).

In addition to the spread of ETD activities in the United States, there was early interest internationally (Fox et al., 1997). In 1997, Fred Friend in the United Kingdom helped lead a thesis online group, while a team at Humboldt University in Berlin began building consensus toward supporting German ETD initiatives. Interest grew elsewhere as well, so the United Nations Educational, Scientific and Cultural Organization (UNESCO) convened a workshop in Paris on September 27-28, 1999, and then launched a multi-year initiative to assist with ETD activities. Much of the funding went to aid activities in Latin America, Africa, and Eastern Europe, and included support for travel to attend the International ETD Symposia, such as the 2003 meeting in Berlin. Several groups, ultimately coordinated by a team that chose Joseph Moxley as editor, leveraged UNESCO support to create an online ETD Guide, available in multiple languages. An updated version is available both from a site at Virginia Tech (*Guide*, 2008), and through WikiBooks (Moxley et al., 2008). Though the *Guide* moved, with some updates incorporated, to the wiki format in 2007, it is getting its first substantial rewrite in 2009 led by Canadians Sharon Reeves and Max Read.

Many presentations have been given around the world to help introduce the ETD concept. Some of the early talks include those in Hong Kong (Fox, 1998c), Japan (Fox, 1999b), Korea (Fox, 2000a), Mexico (Fox, 1998a), Poland (Fox, 2000b), Russia (Fox, 1998b), Spain (Canos, Fox, Gonçalves, & France, 2000), Switzerland (McMillan, 1998), and Taiwan (Fox, 1999c). The members of the NDLTD Board of Directors have been particularly active in promoting ETD initiatives and disseminating information and best practices around the globe. In August 2009 the representation of countries on the Board of 27 included Australia, Brazil, Canada, China, Denmark, Germany, India, South Africa, Sweden, the United Kingdom, and the United States. The NDLTD membership (http://www.ndltd.org/about/members/ndltd-members) includes other countries as well, including Latvia, Lithuania, Malaysia, Mexico, Spain, Switzerland, West Indies, and Zimbabwe. Regional conferences and consortia have been highly effective in facilitating broad involvement from academia, such as the Australasian Digital Theses Program (ADTP), which involves over 40 universities.

Universities

The cornerstone of ETD activities is the university. Any institution where students participate in research engages those students in preparing documents to describe their research. This both ensures that they learn how to write in a way that effectively describes their work, and helps disseminate their findings. Since students prepare practically all such documents electronically, and since the Internet and World-Wide Web provide universal support for document dissemination, it is clear that electronic theses and dissertations are invariably being created. Since universities are obliged to collect theses and dissertations, and in many cases have rules for archiving those documents, and since carrying out these processes is less expensive when done

electronically, moving to ETDs is an obvious solution. At a time when universities face serious budgetary challenges, such a change is, indeed, warranted (Fox et al., 2002).

One side benefit of this approach is that if students create born-digital works, there is no cost to the university. On the other hand, if someone has to scan a paper document or digitize a video or audio file, there is the additional expense of digitizing, after the original costs to print, bind, and shelve the paper document. Yet, Virginia Tech and other institutions, in the interest of supporting research, are scanning old theses and dissertations, developing an electronic back-file so that eventually all of its theses and dissertations will be available electronically. Clearly, if the ultimate aim is to have a complete collection of ETDs, the sooner a university requires ETD submission the lower the total cost will be.

Training and Educating Graduate Students

Increasingly students arrive at university with digital skills, i.e., skills required to use new technologies for personal, professional, and organizational advancement. Many universities also offer their students face-to-face and online assistance to help them develop skills with word processing, scholarly communication, use of the Internet and WWW, and processing of multimedia content, with additional library instruction in information literacy. ETDs provide graduate students with incentives to develop these skills. As future professionals, publication is often expected or required, and ETDs provide experience preparing a work for publication. These publications are increasingly electronic, and ETDs provide students with experience preparing and submitting works electronically.

Training programs for ETD authors can be very short, minimally leading students to the resources that document the requirement, guidelines, and examples from their committee, department, and graduate school. Others include short courses, even online tutorials, for various commercial software products that help students prepare their works as well as others that help them keep track of their reference works and format their citations properly (e.g., EndNote).

Another important lesson that often accompanies ETD training is about intellectual property. Students frequently seek guidance about using copyrighted texts, tables, charts, illustrations, surveys, etc., (DLA, 2009a) and how to cite them correctly (McMillan, 2009). In addition, ETD education needs to help graduate students understand when copyright begins, and about their rights as creators of new works.

Training is more often lacking in preparing documents that are preservation and reader friendly. For example, students need to be reminded to link only to resources that are stable and likely to persist for the long term, such as from government and educational institutions, and to carefully consider the durability of links to personal and commercial websites. File names, file sizes, and file types also should be carefully considered for reader-friendliness as well as preservation readiness. Universities are beginning to recommend that students use PDF/A—the international standard for archival files (DLA,

2009a) available in Adobe Acrobat 5 and later, rather than the generic PDF in order to limit potential problems with links to external resources.

Preservation of ETDs

The most tenuous and highly emotional service libraries provide within ETD initiatives is archiving and preservation. Partially because not enough time has elapsed to prove that digital documents can live for decades in publicly accessible digital libraries and institutional repositories, the uncertainty of online archives causes great unease to many. Few universities have the history with ETDs that Virginia Tech (required since 1997) and West Virginia University (required since 1998) do. ETD initiatives include a variety of activities but often long-term custodianship is neglected.

Though there is not a one-size-fits-all solution, the NDLTD is collaborating with the MetaArchive Cooperative to establish a distributed preservation network, which uses modified Lots of Copies Keeps Stuff Safe (LOCKSS) software from Stanford University. The security of the MetaArchive method lies in both its cooperative nature and its being a dark archive (i.e., with contents limited to specific partners in the preservation archive and not accessible for searching or browsing) so that it can host all ETDs no matter their level of public accessibility.

LOCKSS is an open source preservation system for libraries that makes use of an innovative peer-to-peer system of distributed content caches. It operates within the Open Archival Information System (OAIS) framework and functions well with off-the-shelf equipment and open source software. In the ETD arena, the LOCKSS software architecture ingests the digital works and stores them across the Cooperative's secure server nodes. The ETD Preservation Network is a private, dark archive so it is accessible only by designated partners' servers. If any server node fails, it can be restored from any of the other server nodes.

Prior to the MetaArchive Cooperative, universities did not respond to the call for formal ETD preservation strategies nor were the previous LOCKSS-based preservation prototypes formally implemented (McMillan, 2003; McMillan, 2004; McMillan, Jannik, & McDonald, 2005). However, two popular digital preservation workshops at the ETD conferences held in Scotland (McMillan & Halbert, 2008) and Pittsburgh (McMillan, Halbert, & Donovan, 2009) led to the initiation of the ETD Preservation Network (MetaArchive, 2009). The work of the MetaArchive Cooperative also has led to recommended best-practices for preservation-readiness for both new ETD initiatives and remediation guidance for existing ETD collections (Halbert & McMillan, 2009; Halbert, McMillan, & Skinner, 2009).

Library Instruction and Information Science Curriculum

It is important that ETD authors appreciate the full cycle of information from creation to dissemination and preservation (*DL4U*, 1999) and how their use of word processing software, for example, will directly affect the long-term access to and preservation of their ETDs and other digital works. The next generation of scholars, if involved in ETD

activities, would be better prepared having some knowledge and skills from the fields of library and information science (LIS). Key parts of LIS that relate to ETDs have been identified and described in curricular modules (Fox, Yang, Wildemuth, & Pomerantz, 2006; Yang et al., 2007). For earlier ETD activities that specifically address a LIS audience, see Fox (1998e).

For example, recently developed curricula addresses digital preservation, including methods to ensure that there are a sufficient number of copies distributed geographically to avoid catastrophic loss because of events at a single site. Fortunately, demonstrations of this approach, such as the LOCKSS project (Santhanagopalan, McMillan, & Fox, 2006), have developed into full scale ETD preservation initiatives such as the MetaArchive Cooperative's ETD Network (MetaArchive, 2009), discussed above.

Graduate students need to master the tools of ETD creation, not only so they can adequately convey their research, but also so their ETDs will be broadly accessible now and for the long term (McMillan, 1999). For example, digital library curriculum helps students see their role in promoting the full cycle of information from creation to dissemination and preservation (*DL4U*, 1999). Library instruction as well as Library and Information Science courses help graduate students appreciate how their works, created with word processing software, will directly effect their long-term preservation and access.

Digital Libraries and Institutional Repositories

Historically, publishers (as aggregators and distributors) and academic libraries (as managers and preservers) have served complementary roles: disseminating and preserving the intellectual output of their faculty, students, and staff. Academic institutions with established technological infrastructure are increasingly interested in capturing, preserving, and disseminating the primary research of their communities as it documents the institution's intellectual legacy. Whether it is called a digital library or an institutional repository, universities are beginning to archive and provide open access to a broad range of scholarly output. But the available materials are heavily dominated by ETDs, largely because graduate students are much more amenable to these efforts than are faculty.

Table 1 shows the most popular repository software used by institutions with ETDs according to a 2008 survey (DLA, 2008; McMillan, 2008).

Table 1. Survey Results of Repository Software in Use in 2008

Repository Software	Used by Reporting Institutions
DSpace	20%
ETD-db	10%
Eprints	2%
Fedora	2%
In-house Solution	22%
Other	44%

Open Access

As universities and libraries face budgetary challenges, they turn more and more toward open access mechanisms such as the above. Considering the imbalance in access to scholarly information resources around the globe, and the fact that open access resources can be available worldwide, there is particular interest from developing nations.

It is relatively simple for a university to provide open access to its ETDs. Usually the university libraries host the ETDs and support the full information cycle including prolonged open access. Many universities have broad digital library efforts, or specialized institutional repositories (often using systems like EPrints, DSpace, or Fedora). ETDs are among the most common works one can find in a university institutional repository. Support is sometimes centralized for sustainability purposes; thus, EThOS (www.ethos.ac.uk/), the United Kingdom's repository program for ETDs, is now managed by the British Library after being thoroughly vetted for education and research by the UK's Joint Information Systems Committee.

An important effect of open access is the increased availability of scholarly works. A paper thesis or dissertation, after being processed following a successful defense and review by a faculty committee, rarely has more than 10 accesses, while ETDs typically have hundreds or thousands of downloads if made openly accessible (DLA, 2009b). If there are goals of widely disseminating research results, of promoting interest in the work of students, and of increasing the visibility of university research, open access can lead to dramatic benefits.

An oft-voiced concern is whether access to ETDs should be restricted. Many specifics should be considered in this regard:

1. Requiring ETD submission, and having a university archive the works, will have no harmful effect on the student authors.

2. Typically, students will own the copyright to their ETDs.

3. If a student plans to file a patent related to their ETD, they should do that within a year.

4. If a university wants to provide access to ETDs, it can do so in many different ways. Getting authorization follows naturally if copyright is transferred. But that is not necessary; it suffices for the student to agree that the university, alone or through agents, may store and disseminate the work (i.e., to agree to a non-exclusive license).

5. Providing access can be done for a whole work, or for parts of the work; there are many mechanisms to allow such control.

6. Most publishers consider ETDs to be a different genre (Fox, McMillan, & Eaton, 1999). There have been several surveys of publishers' attitudes towards ETDs (Dalton, 2000; Seamans, 2001; McMillan, 2001; Holt, 2002). Rarely will a publisher allow an ETD without substantial improvement to appear in book or article form, and often publishers will consider the popularity of an ETD to be a convincing argument to invest in editorial assistance leading to a quality commercial product.

7. Providing access can be delayed (e.g., embargoed) when issues arise because of patent or publication plans, but usually 1-3 years is the most that is needed. After that point, there rarely is any serious need to continue to restrict or withhold access.

Related to open access is the Open Archives Initiative (OAI) and its support of metadata access, explained in the next section.

Metadata and the Open Archives Initiative

Supporting access to books is a traditional role of a library catalog. These bibliographic records describing books and other works also can be known as metadata descriptions in the context of the World-Wide Web. The metadata standard known as the Dublin Core (DCMI, 2009) has been extended to specifically address access to ETDs on the Web through application of ETD-MS, a standard developed by the NDTLD (http://www.ndltd.org/standards/metadata/). See Table 2 for details on what additions to the Dublin Core are deemed most important, so as to precisely describe ETDs.

Table 2. ETD-specific and Dublin Core Metadata Elements

	ETD-MS	Dublin Core
1.	title	title
	title.alternative	
2.	creator	creator
3.	subject	subject
4.	description	description
	description.abstract	
	description.note	
	description.release	
5.	publisher	publisher
6.	contributor	contributor
	contributor.role	
7.	date	date
8.	type	type
9.	format	format
10.	identifier	identifier
11.	language	language
12.	coverage	coverage
13.	rights	rights
14.	thesis.degree	[n.a.]
	thesis.degree.name	
	thesis.degree.level	
	thesis.degree.discipline	
	thesis.degree.grantor	
15.		Relation
16.		Source

A collection of metadata records for an ETD collection can be shared automatically and without any additional resources when universities use software like ETD-db, which incorporates ETD-MS and in 2001 was updated to support OAI-PMH (see below). Open access to ETD metadata is common practice and rarely leads to concerns like those that may relate to the ETD itself.

The Open Archives Initiative (http://www.openarchives.org/), originating from a Santa Fe meeting in 1999, easily supports the worldwide move toward ETDs (Suleman & Fox, 2002). OAI-PMH, the Open Archives Initiative Protocol for Metadata Harvesting, allows

automatic harvesting of ETD metadata records, and making them available at various sites (e.g., regional collections), as well as at a central global site like the NDLTD Union Catalog (NDLTD, 2009c), originally run by Virginia Tech but long ago taken over as a support service provided by OCLC.

NDLTD Union Catalog

One major access point for ETDs from around the world is the NDLTD Union Catalog where ETDs are linked to their home institutions as a result of their metadata. See Figure 1 for a sample record selected from the Union Catalog.

Figure 1. Sample Metadata Entry for a Dissertation in the NDLTD Union Catalog

identifier	oai:VTETD:etd-05042009-152934
datestamp	6/2/2009
All	VTETD
dc:title	Max-Plus Algebra
dc:creator	Farlow, Kasie Geralyn
dc:subject	Mathematics
dc:description	In max-plus algebra we work with the max-plus semi-ring which is the set R_{max}=[-infinity,infinity) together with operations "a+b"=max(a,b) and "ab"= a +b.Â The additive and multiplicative identities are taken to be epsilon=-infinity and e=0 respectively. Max-plus algebra is one of many idempotent semi-rings which have been considered in various fields of mathematics. Max-plus algebra is becoming more popular not only because its operations are associative, commutative and distributive as in conventional algebra but because it takes systems that are non-linear in conventional algebra and makes them linear. Â Max-plus algebra also arises as the algebra of asymptotic growth rates of functions in conventional algebra which will play a significant role in several aspects of this thesis. This thesis is a survey of max-plus algebra that will concentrate on max-plus linear algebra results. We will then consider from a max-plus perspective several results by Wentzell and Freidlin for finite state Markov chains with an asymptotic dependence.
dc:contributor	Martin Day
dc:contributor	Peter Haskell
dc:contributor	Robert Wheeler
dc:publisher	VT
dc:date	5/26/2009
dc:type	text
dc:format	application/pdf
dc:identifier	http://scholar.lib.vt.edu/theses/available/etd-05042009-152934/
dc:source	http://scholar.lib.vt.edu/theses/available/etd-05042009-152934/
dc:language	en
dc:rights	unrestricted
dc:rights	I hereby certify that, if appropriate, I have obtained and attached hereto a written permission statement from the owner(s) of each third party copyrighted matter to be included in my thesis, dissertation, or project report, allowing distribution as specified below. I certify that the version I submitted is the same as that approved by my advisory committee. I hereby grant to Virginia Tech or its agents the non-exclusive license to archive and make accessible, under the conditions specified below, my thesis, dissertation, or project report in whole or in part in all forms of media, now or hereafter known. I retain all other ownership rights to the copyright of the thesis, dissertation or project report. I also retain the right to use in future works (such as articles or books) all or part of this thesis, dissertation, or project report.

Contributors to the Union Catalog are universities from around the world (see Figure 2). Currently, the Union Catalog has metadata descriptions for 779,197 ETDs from various universities. The statistics that we present below, though, are only for 478,617 ETDs for various reasons (like missing or noisy metadata). The ETDs accessible through the Union Catalog are in multiple languages shown in the illustration of languages areas in Figure 3.

Figure 2. Metadata Reveals Worldwide Distribution of ETDs in the NDLTD Union Catalog (for 478,167 ETDs)

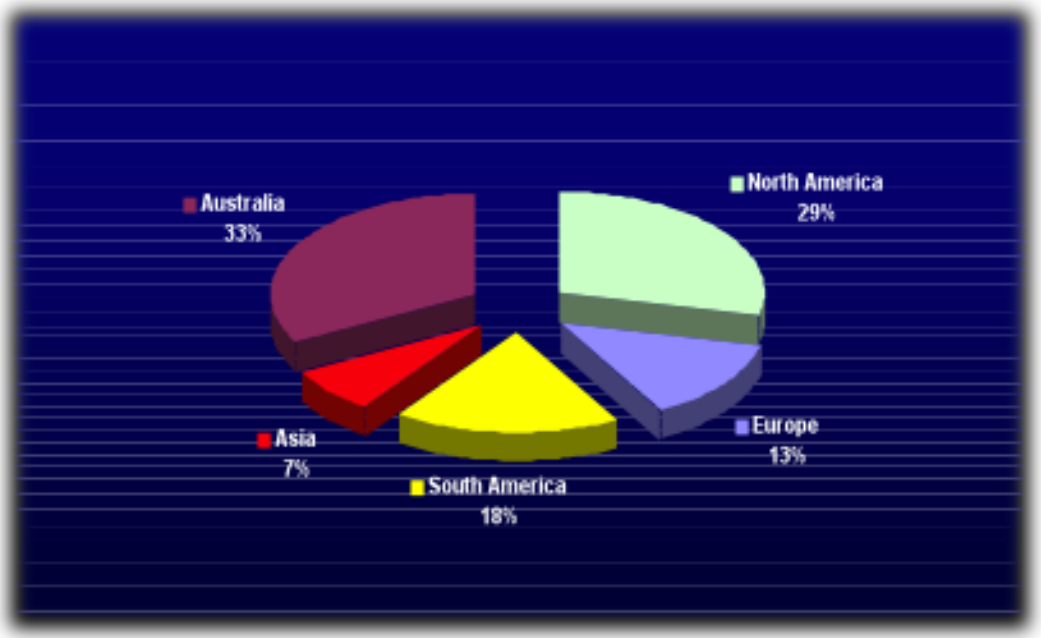
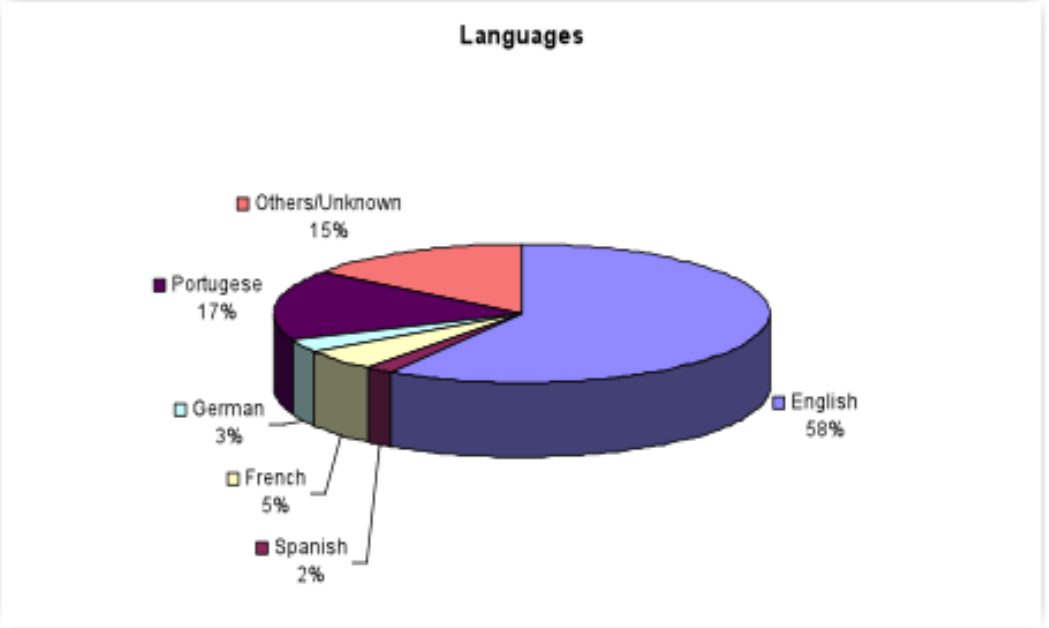
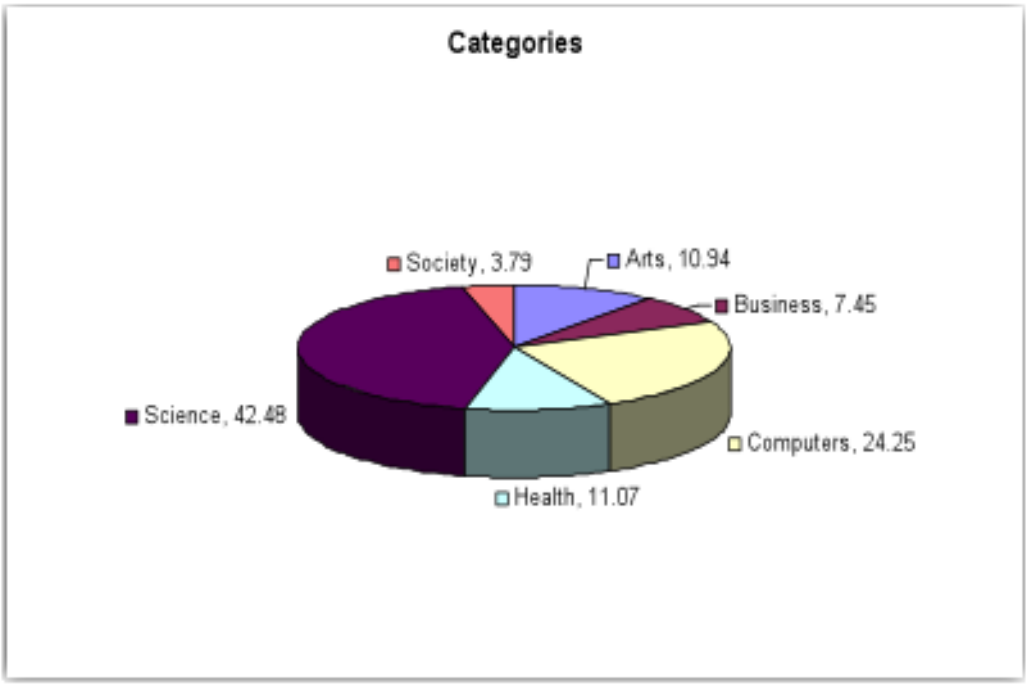


Figure 3. Languages of the ETDs in the NDLTD Union Catalog (for 478,167 ETDs)



Techniques have been developed for identifying the principal topic of many ETDs in the NDTLD Union Catalog. The details of these techniques are available in recent publications (Srinivasan & Fox, 2009a; Srinivasan & Fox, 2009b). Figure 4 illustrates the major categories, based on the Open Directory Project (ODP, 2009), also known as Mozilla Directory, under which the English language ETDs

Figure 4. Topical Areas of English language ETDs in the NDLTD Union Catalog (total 478,167 ETDs)



Additional Services Based on ETD Metadata

Building upon the NDLTD Union Catalog, there are various services freely available to the global community. OCLC provides Search & Retrieve URL Service / Search & Retrieve Web Service (OCLC, 2009). VTLS, Inc. provides browsing, searching, and visualizing services based on the metadata in the Union Catalog (Suleman et al., 2001a; Suleman et al., 2001b; VTLS, 2009). Scirus provides browsing and searching support utilizing metadata as well as full-text ETDs.

Software to support submission and collection management began with ETD-db, developed for open access by the Digital Library and Archives at Virginia Tech. Many ETD initiatives have been started by adapting this freely available software (http://scholar.lib.vt.edu/ETD-db/) and it supports various ongoing initiatives such as those at Georgia Tech, which also uses DSpace for its ETD repository; University of Pittsburgh; and internationally at the University of the Free State. Enhancements are in the works (Volpe, McMillan, & Fox, 2008).

Virginia Tech has engaged in a number of research studies aimed at providing extended support to those interested in ETDs (Gonçalves, Zhou, & Fox, 2002). Some work relates to improved classification (Koller & Sahami, 1997; Sebastiani & Ricerche, 2002;

Srinivasan & Fox, 2009a; Srinivasan & Fox, 2009b; ODP, 2009). Filtering is another important service (Zhang, Gonçalves, & Fox, 2003). Analyzing trends in topic shift and the rise and fall of groups interested in specialty areas is another goal (Kim, Yang, & Fox, 2006). Document summarization (such as into one or more concept maps) and support of cross-language discovery and retrieval also is of interest (Richardson, Fox, & Woods, 2005; Richardson & Fox, 2007; Richardson, Srinivasan, & Fox, 2008).

Quality control is, of course, important for a large distributed enterprise. As a suitable ecology emerges, measurement can be critical (Fox, 1998d). A toolkit to measure the quality with regard to a variety of measures related to digital libraries (Moreira, Gonçalves, Leander, & Fox, 2007) has been applied to help point out weaknesses (such as missing metadata fields) in various ETD metadata collections.

Summary and Conclusion

ETDs are an important component of scholarship and research. Many collections are freely accessible directly from the institutions that host them. However, over 779,000 ETDs also are available through the notable efforts of organizations like the NDLTD. The NDTLD began in the 1990s to foster ETD initiatives, and to facilitate their dissemination. Its membership comprises many universities from around the world, and it is the largest service of its kind.

Work toward global support for ETDs has progressed well since the first discussions in 1987. For more information about ETD activities up through 2003, please see the edited collection by Fox, Feizbadi, Moxley, and Weisser (2004). Many goals and activities fit into our future vision (Fox, 2000c). We will continue to build upon an effective foundation coordinated by NDLTD (NDLTD, 2009b) and documented through its web site (NDLTD, 2009a).

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Chapter 8
From gunny sacks to mattress vine: notes on Douglas Engelbart, Tim O'Reilly, and the natural world

Sue Thomas

As a small boy growing up in the Pacific Northwest in the 1930s, Douglas Engelbart loved to play by the creek near his home. He would draw threads from old gunny sacks, re-twist them in multiple strands, then knot together the resulting rope into a swing to carry him back and forth across the running water below.[1]

Thirty years later when he invented the hyperlink, a twist of code swinging data from one point to another, his intention remained much the same. The hyperlink, he says, is all about addressability – "being able to find any given object in another document and just go there" (D. Engelbart, personal communication, February 11, 2009). In 2004 he told Wired journalist Ken Jordan (2008), "I had long thought that you would want to link to a document someone else had written. But I also realized that you might want to link directly to something deep in a particular file. Maybe you would want to go straight to a single word inside a paragraph or someday link from one email to another."

They were discussing The Demo, that much-celebrated event that took place on December 9, 1968, at a session of the Fall Joint Computer Conference held at the Convention Center in San Francisco and attended by about 1,000 computer professionals. This was the public debut of the computer mouse. But the mouse was only one of many innovations demonstrated that day, including hypertext, object addressing and dynamic file linking, as well as shared-screen collaboration involving two persons at different sites communicating over a network with audio and video interface (see Engelbart, 1968). Engelbart and his team from the Stanford Research Institute presented a 90-minute live public demonstration. This demonstration proved to be, as one attendee, Steven Levy, later wrote:

> The mother of all demonstrations.... The audience stared into the maw of cyberspace. Engelbart, with a no-hands mike, talked them through it, a calming voice from Mission Control.... The coup de grace came when control of the system was passed, like some digital football, to the Augmentation team at the Stanford Research Institute, 40 miles down the peninsula. Amazingly, nothing went wrong. Not only was the future explained, it was there, as Engelbart piloted through cyberspace at hyperspeed. (Levy quoted in Naughton, 2008)

As The Demo was taking place, Tim O'Reilly (now CEO of the technology company O'Reilly Media) was fourteen years old and growing up just a few miles away across the city of San Francisco. His parents had moved the family to the United States from Killarney, Ireland, when he was barely a few weeks old, but on several occasions they

had returned to visit relatives and his recollections of those trips are still with him: “I have wonderful memories of my grandmother's backyard, of crawling through a tunnel that went through stinging nettles into the brambly back, where there were gooseberries” (T. O’Reilly, personal communication, March 10, 2009). At home in San Francisco he continued his vegetal explorations in the back lot of OK Chevrolet, a used car company at the intersection of 17th and Taraval. “There was a huge overhang of this weedy thing called mattress vine,[2] which hung down about 20 feet. You could literally climb it, and we dug little caves in it.” He enjoyed it so much that he now cultivates mattress vine on his own land. “I’ve actually found some of this stuff, which is generally regarded as an invasive weed, and I've planted it on my property for my kids and grandchildren where they can climb up it.” He still sometimes scales it himself too.

The two biographical snippets above represent iconic intuitive moments in the conceptualization of information technologies. In *Metaphors We Live By,* Lakoff and Johnson (1980) explain that “the essence of metaphor is understanding and experiencing one kind of thing in terms of another” (p. 5), and the history of computers and the internet provides many examples of this via numerous metaphors linking hardware and software with features of human bodies and the natural world. Institute for the Future researcher Alex Pang (n.d.) reflects upon it as he writes:

> Cyberspace is a "metaphor we live by," born two decades ago at the intersection of computers, networks, ideas, and experience. It has reflected our experiences with information technology, and also shaped the way we think about new technologies and the challenges they present. It had been a vivid and useful metaphor for decades; but in a rapidly-emerging world of mobile, always-on information devices (and eventually cybernetic implants, prosthetics, and swarm intelligence), the rules that define the relationship between information, places, and daily life are going to be rewritten.

The term “cyberspace” was coined by William Gibson in his 1982 short story "Burning Chrome" and later popularized in his debut novel, *Neuromancer* (1984). The novel, with its emphasis on the connections between online culture and the urban environment has had a profound influence on the popular imagination, but an examination of the language used by those who designed the internet and those who now inhabit it contradicts Gibson’s emphasis on the urban. The language and concepts adopted by many internet users exhibit their strong sense of the online world as a natural landscape, and rather than imagining themselves in a slick inner-city environment they often display an affinity with notions of exploration, homesteading and cultivation. They make frequent references to the body, as if virtuality has prompted them to remember, rather than forget, their earthly existence.

Indeed, since their earliest beginnings computers and cyberspace have been saturated with images of the natural world: fields, webs, streams, rivers, trails, paths, torrents, and islands. Then the flora: apples, apricots, trees, roots, branches, and fauna - spiders, viruses, worms, pythons, lynxes, gophers, not forgetting the ubiquitous bug and mouse. Preliminary research for my book *Nature and cyberspace: The wild surmise* (Thomas, forthcoming 2012) has revealed interpretations of the internet as an ocean, a solar system, a jungle, a desert, a swamp, an archipelago, a subterranean world, an estuary or, to quote novelist Bruce Sterling a "bubbling primal soup full of worms and viruses." (B. Sterling, personal communication, 2006).

This psychogeography of online culture operates on a deeply subjective level and is often only uncovered by subtle investigation. Moreover, the way we conceive of the internet has itself evolved alongside the technology, which is why the experiences of Engelbart and O'Reilly are so interesting.

Different times demand different kinds of people. Douglas Engelbart was something of an individualist, driven by a vision of computer-augmented intelligence and in need of a highly competent group of engineers and programmers to help him get there. But, as Lee Felsenstein, co-founder of the Homebrew Computer Club would later say, "Programmers live their lives in the dark" (personal communication, February 10, 2009) and communication between them is not always straightforward. Because of this, in 1967 Engelbart engaged the part-time services of transpersonal psychologist Jim Fadiman for the crucial year in the run-up to the Demo. Fadiman had two responsibilities. First, he was to meet privately with Engelbart and listen to him explain his thinking. Although Fadiman had no scientific knowledge at all he used his skills in interpersonal behaviour to guide Engelbart towards recognition of when he was on the right track towards an important insight, and when he was moving away from it. Second, Fadiman was to sit in on team meetings and observe the group as Engelbart explained what he needed them to do, then intervene if he perceived a problem. This was not always an easy responsibility. "I would say, 'Doug, I know one hundred thousand per cent that nobody understood what you just said'" (J. Fadiman, personal communication, February 13, 2009). Fadiman describes the group as the first community ever linked together by a computer: "One might say the web naturally evolved from Doug's thinking because they had the web right there inside the room." Team relationships were often tense and communication could be difficult.

> They were not only developing a language with which to work, but they were using that language to develop the language. This is a group of 20 people, most of them brilliant social isolates, all working on the same mainframe. And if any single one of the monitors crashed, everybody crashed, so everyone was dependent on everyone else, and everyone else was accidentally destroying everyone else's work all the time. (J. Fadiman, personal communication, February 13, 2009)

Yet ironically and despite all the difficulties, this hothouse of what Fadiman calls "supersmart people" who could barely communicate with each other, managed to invent a set of indispensable tools which would revolutionise the way we communicate and connect today. Their fumbling in the interpersonal dark of programming produced some of the most vital and necessary components of both the internet and the web.

Three decades later, Tim O'Reilly would survey the result of that conception and ponder upon what it had become. From the birth of the hyperlink in a lab in an institute in the heart of Menlo Park, California, a complex interwoven ecology has arisen and spread around the world connecting languages, cultures and, above all, people. The landscape has gone from a single swing across a creek on a gunny sack rope to a wild mass of tangled undergrowth, a tangle not just of links but of the people connected by the links. In some cases, such as open source programming, progress was crucially dependent upon a sustainable collaborative environment. It seemed that the trick to nourishing and managing it all lay in appropriate methods of cultivation. Speaking at a conference in Toronto in April 2000, O'Reilly said:

> The growth of open source is more akin to the development of a rich humus. Topsoil grows at a rate of an inch every 100 years. You can grow fabulous plants quickly in that soil, but the soil itself is a product of slow time.

And

> What's more, we learn the importance of recycling, of putting nutrients back into the soil. A key part of open source is not just what big flowers you grow, but how much rots and is plowed back in to enrich the next generation. One of the big differences between open source and commercial software is the extent to which code is recycled -- and that doesn't just mean "code reuse" -- it means that ideas, freely shared, form the compost from which other ideas can grow. It means that failed projects are as important to the open source ecology as those that succeed. (O'Reilly, 2000)

Born thirty years after Douglas Engelbart and with a temperament shaped by the 1960s, Tim O'Reilly operates in a highly social milieu very different from the Augmented Intelligence Lab. As an active blogger and Twitterer, as well as being the mind behind a wide range of O'Reilly conferences on diverse subjects and of course the company itself, he is not a lone inventor struggling to communicate a solitary and obscure vision to a small group of cloistered supersmart people, but one of a number of poly-intellectual minds in the technology community. Unlike Engelbart, Tim O'Reilly did not invent either software or hardware, but he seems to have an almost instinctive understanding of the complex ecology of function and design which had evolved from those first hyperlinks. The web had become a hugely complex network encompassing the entire planet and

involving trillions of connections. It was no longer simply a case of swinging from one point to the next, but of navigating around a fast-growing dataworld.

In the early part of the second millennium, the internet had begun to seem as if it would overwhelm us. The dot com boom had exploded. Governments had shown themselves unable to legislate much if any protection from the anarchy of the web and it was clear that standard business practices could not maintain control of its unruly and unpredictable ecosystem, a failure that left many technology investors disappointed and out-of-pocket. By 2003/4 it seemed as if the only group benefitting from the World Wide Web were the ordinary users busily cutting out the middle-men and sharing music for free, driving companies like e-Bay and Amazon with their recommendations and inhabiting enormous communities of interest that generated large amounts of social capital but very little, if any, actual money; blogging everywhere about everything, and generally wagging the long tail of both non-profit and commercial worlds. It was a jungle out there. A mattress vine kind of jungle, perhaps?

At any rate, it appears that the first person to take the necessary perceptual leap towards understanding the chaos was Tim O'Reilly. Could the reason lie in the conceptual framework developed during his childhood pursuits of scrambling through his grandmother's brambly back garden in Killarney, and later through the mattress vine at OK Chevrolet? Our conceptions of physical space begin in very early childhood and metaphors, expressed or not, contribute to the way in which we understand it. According to Lakoff and Johnson (1980), "Since much of our social reality is understood in metaphorical terms, and since our conception of the physical world is partly metaphorical, metaphor plays a very significant role in determining what is real for us" (p. 146). So although our logical selves may not see what happens in cyberspace as 'real', the way we receive it subconsciously can lead us to interact with it as if it were 'real.' Indeed,

> Many of our activities are metaphorical in nature. The metaphorical concepts that characterize those activities structure our present reality. New metaphors have the power to create a new reality. This can begin to happen when we start to comprehend our experience in terms of a metaphor, and it becomes a deeper reality when we begin to act in terms of it. (p. 146)

In O'Reilly's case, a childhood fascination with negotiating complex botanical environments may have facilitated the conceptual shift he made in understanding how the internet had evolved from a very small collection of hyperlinks to a seemingly boundless ecology of many millions of connections. Furthermore, he grasped what that would mean for everyone who used it.

In October 2003, after several years of what John Battelle called "the nuclear winter" of the 2000-2002 dot com crash, O'Reilly Media invited their friends to camp out for the weekend at the company's extensive property in the small town of Sebastopol, fifty

miles north of the Golden Gate Bridge. According to Sara Winge, VP of the O'Reilly Radar group, the idea came about because the company had set for itself the explicit goal "to inject hope into the industry" (personal communication, March 18, 2009). Inspired by the belief that "if you get really interesting people together they will do interesting stuff" they planned an immersive weekend event based on the principles of Open Space Technology.[3] The campus was built on the grounds of an old orchard and a large number of fruiting trees still remained. Some of the guests camped out under the apple boughs or on a nearby lawn, whilst others pitched tents or crawled into sleeping bags in company buildings. "It was not so much about being outdoors as about the spirit of the camp," says Winge.

A year later, in October 2004 at the Hotel Nikko in San Francisco, O'Reilly Media held the first Web 2.0 conference and sparked off a new surge of confidence in Silicon Valley. The Valley had been in the doldrums for several years but the concept of Web 2.0 gave them a new way to think about the sprawling invasive weed of the World Wide Web. In 2005 Tim O'Reilly published a lengthy essay explaining the concept of Web 2.0. He began with a planetary metaphor:

> Like many important concepts, Web 2.0 doesn't have a hard boundary, but rather, a gravitational core. You can visualize Web 2.0 as a set of principles and practices that tie together a veritable solar system of sites that demonstrate some or all of those principles, at a varying distance from that core.

This was closely followed by a comparison with the brain in which, although the origins of the internet are not mentioned, Douglas Engelbart's handful of links can clearly be recognised as the originating synapses of a global brain:

> Hyperlinking is the foundation of the web. As users add new content, and new sites, it is bound in to the structure of the web by other users discovering the content and linking to it. Much as synapses form in the brain, with associations becoming stronger through repetition or intensity, the web of connections grows organically as an output of the collective activity of all web users.

Today, Engelbart's greatest frustration rests in his belief that this organic growth was stunted in the 1970s by a market-led drive for computers to become quick and simple to use, a move that he thinks led to a dumbing-down at the crucial moment when their potential was about to take off. Criticising Apple Macintosh's emphasis on making computer use easy, he says "If you say 'easy to learn and natural to use' then it sort of almost means that you're not thinking any more. It got to be a mantra back in the early seventies and I just hated it" (D. Engelbart, personal communication, February 11, 2009). In his study of the Sixties counterculture and the personal computer industry, *What the Dormouse Said*, John Markoff reports, "Engelbart's view was that if people were willing to spend three years learning how to speak a language and ten years

learning mathematics and years learning how to read, they should be willing to spend six months to learn how to use a computer" (p. 245). In other words, it takes time and patience to learn how to unravel gunny sacks and transform them into swings.

Tim O'Reilly's approach is similarly experiential, but in his view the key learning is being done not by the user, but by the web itself. In 2009, O'Reilly and co-author John Battelle (n.d.) drew upon the notion of the network as a baby learning about its environment:

> Imagine the Web (broadly defined as the network of all connected devices and applications, not just the PC-based application formally known as the World Wide Web) as a newborn baby. She sees, but at first she can't focus. She can feel, but she has no idea of size till she puts something in her mouth. She hears the words of her smiling parents, but she can't understand them. She is awash in sensations, few of which she understands. She has little or no control over her environment.
>
> Gradually, the world begins to make sense. The baby coordinates the input from multiple senses, filters signal from noise, learns new skills, and once-difficult tasks become automatic.

In this analysis, the focus has moved away from the individual user and towards a notion of the system as part of an interdependent collective intelligence, an entity for which the most obvious metaphor is the human family.

"The Web is growing up," write O'Reilly and Battelle (n.d.), "and we are all its collective parents", Doug Engelbart, father of the hyperlink, would probably agree.

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Chapter 9
The Pleasures of Collaboration

Thom Swiss

New media literature — composed, disseminated, and read on computers— exists in various configurations. Many of these digital "events" (to borrow a term from Kathryn Hayles) are kinetic, visual, written, and sounded, published in online journals and stored eventually in archives. Unlike mainstream print literature, which typically assumes a bounded, coherent, and self-conscious speaker, new media literature assumes a synergy between human beings and intelligent machines. In the case of new media poetry, the work sometimes remediates procedural writing, gestural abstraction and conceptual art, while contributing to an emergent poetics.

As a poet, I began my own collaborative, Web-based work with visual and sound artists almost ten years ago, working mostly in Macromedia Flash. Flash, a vector-based animation software, was used by programmer/artist Motomichi Nakamura to create our poem *Hey Now*, for example. The collaboration had roots in conceptual art. We began by experimenting with the idea of "wrapping" language. Following the ideas of Christo and Jeanne-Claude, contemporary artists well-known for wrapping artifacts, buildings, and landmarks with various materials, we were interested in what "wrapped language" might look and sound like. Christo's "The Pont Neuf Wrapped, Paris 1975-85," for example, draped the famous French bridge in fabric, and was widely regarded as a fascinating experience for its viewers because wrapping and unwrapping objects hides and then re-reveals the familiar, allowing us to see objects in a new light.

In the case of our composition, the poem is hidden and revealed by animated characters who whisper jibberish before speaking verses of a cut-up poem I wrote. From games, we developed the notion of a pacing cartoon man on the screen, who, when clicked by the viewer/reader/user, kicks the head of a figure who whispers like an alien before launching into the next animated section of the poem. "Readers" of new media poems are often challenged to make sense of synthesis; it's an opportunity to broaden interpretations and to look critically at how language is shaped by new media.

In the introductory essay to our co-edited volume, *New Media Poetics: Contexts, Technotexts, and Theories* (2009), Adalaide Morris asks: "What can new media literature tell us about thinking and writing in a world increasingly reliant on databanks, algorithms, collaborative problem-solving and composing, instant retrieval and manipulation of information, the play of cutting, pasting, morphing, and sampling, and the ambient and nomadic aesthetics of a networked and programmable culture?" (p. 7) Plenty, I believe.

Collaborative work redefines artistic labor in what is for me and others new and complicated ways: What is the relationship, for example, between my language and the images and sounds that others create, even if under my "direction"?

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http://www.hyperrhiz.net/issue04/swiss/swf.html

[Blind Side of a Secret]

Words by Thom Swiss; Audio and Visuals by Nils Mühlenbruch

How do the images and sound "change" the meaning of the language (and vice versa) and in what ways can the piece be said to still be a "poem"?

http://www.hyperrhiz.net/issue04/swiss/index.html

[Blind Side of a Secret]

Words by Thom Swiss; Audio and Visuals by Yoshi Sodeoka

Collaboration allows writers and artists to reconsider their work and their identities, to literally see both of them anew as they move from individual to composite subjectivity. And it brings new pleasures in composing, new surprises in the work.

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Chapter 10
Info-Citizens: Democracy, Expertise and Ownership in European Research Funding

Timothy W. Luke & Jeremy Hunsinger

Higher education and research institutes are funded through a variety of means. As one of the primary missions of higher education and research institutions is to perform research, the funding of research plays a part in the future of these institutions. As higher education in Europe is undergoing massive transformation in relation the European Union's Bologna Process, so has the funding of research been centralized and reformed through the E.U.'s research frameworks programme. The ongoing transformations of the E.U. in the higher education and research arenas parallel the neoliberal transformations throughout the rest of the public sphere.

The Sixth Framework's information technology funding's construction of citizenship presents us with the problem of how different approaches to democratic thinking can challenge the corporate roles and responsibilities embedded in the Sixth Framework's understanding of research by refusing to accept the unquestioned prerogatives of technical expertise and capital ownership in the workings of liberal democratic economies and societies. Expertise and capitalist ownership constitute the foundations for a very real type of subpolitical power within the apparatus of knowledge production. These foundations are treated for most businesses and professions in most common practices, as unspoken assumptions, as conventional activities, and as types of authority with a special legitimacy. Yet, it is precisely this sort of narrowly imagined and questionably legitimated power that democratizing social movements have contested over the past centuries.

As Forester (1999) and Fischer (2000) argue, there are many open democratic alternatives to the closed corporate subpolitics occurring in contemporary institutions. By turning to shareholder rights groups, social responsibility activism, environmental justice organizing, citizen technological juries, participatory design processes, and deliberative design panels in the USA and other countries, one can ask something else of the economy and state -- even from within existing democratic theory. In particular, we might illustrate why experts are often not always "expert" and owners frequently do not hold any sense of exclusive "ownership" interests in how businesses decisions about publicly affecting technologies, technical product design or financial/managerial production are made. Instead we could push for some sort of more open democratic review, deliberation, or consent/dissent process both to enhance corporate success and to increase popular democratic engagement in the creation of a more satisfying communal life for researchers in the European Union and their colleagues around the world.

At some level, these concerns usually are raised by liberal democratic societies in discussions of research funding, corporate regulation, licensing, patenting, and

chartering as well as professional accreditation, certification, licensing, job mobility, and retraining. These concerns, in other words, surround our constructions of expertise, professions, ownership, and the control of knowledge. The veils of expertise and ownership are perhaps tested here, but they are very rarely pierced. Indeed, all of the oversight activities by the state usually are used to prevent a more effective public questioning of experts and owners, which usually insures that communal codetermination in expert decisions and ownership issues are systematically avoided. This analytical discussion, then, will probe some of the structural conditions and operational limits that prevent such interventions, while hinting at some possible benefits of broader community engagement in what professional-technical experts and corporate owners/managers can do behind the veils of expertise and ownership.

Beyond the barriers of expertise, a new issue arises, the nature of the citizen in the knowledge society. The requirement, frequently found, of corporate involvement in the scientific projects in the Sixth Framework reconstructs the relationships amongst scientists and citizens from community to contract, transforming sharing to service. This transformation of research is clear in the texts of the Sixth Framework, and is increasingly found in almost all conceptions of funded research worldwide. Through this transformation, consortium and contract science is put in the service of the state and its interests. The interests of the state in knowledge production are no longer the interest of the citizen as the citizen is being construed differently. The citizen's citizenship is no longer status quo birthright, but a right of consumption, participation, and to serve in the individualizing institutions of the knowledge society or more precisely the knowledge economy (European Commission, 2002). This transformation has reconstructed the relations of citizens as researchers and knowledge producers in an epistemic community to citizens in service to the owners and experts that service them.

Subpolitics Beyond Politics In The Sixth Framework

Relegating vital research decisions to the subpolitical realm of corporate interaction is dangerous to the foundations of democracy in that it hides relationships, influences, and thus control that should be public knowledge and in doing so, the knowledge that democracy requires is transformed in relation to it. Indeed, it is a strategy that trusts scientific experts and business owners to do “what is right” for the common good in accord with best scientific and business practices, which may not account for the interests of the state or its citizens. In the age of BP, Enron and Worldcom, this trust is difficult to maintain. In fact, liberal democratic assumptions about research, knowledge, and capital still strongly privilege those with the technology (or the “know-how”) and/or who have capital (or the “own-how” or "buy-how") in the economy and society. These same assumptions, however, ignore how fully those same economic and social relations are organized behind the veil of expertise and ownership to guarantee that most members in society can neither acquire know-how nor accumulate own-how as comparable to the people and institutions with either, they lack the buy-how. The existing regime of power/knowledge in liberal democratic society actively works to ensure that most of its members cannot buy-how and do not know-how or own-how it

operates, because the political has mostly been displaced institutionally into the subpolitical as the driving force in most economies and societies. If we allow it to be replaced in research funding, we are perpetuating a subpolitics of research, which is increasingly exemplified by the replacement of community with contract in the European funding system (European Commission, 2002).

Unlike the larger public projects underpinning what is usually identified as the polis, Beck argues much smaller corporate and professional agendas for private profit and power now driving broader agendas in the economy and society. What is more, the financial, professional and technical networks behind this subpolis cripple the possibilities for collective action as the political imagination gets caught somewhere between a traditional vision of politics and non-politics. As Beck suspects, big technological systems, like cybernetic networks, telecommunications grids, or computer applications, are becoming the material basis for

> ...a third entity, acquiring the precarious hybrid status of a sub-politics, in which the scope of social changes precipitated varies inversely with their legitimation....The direction of development and results of technological transformation become fit for discourse and subject to legitimation. Thus business and techno-scientific action acquire a new political and moral dimension that had previously seemed alien to techno-economic activity....now the potential for structuring society migrates from the political system into the sub-political system of scientific, technological, and economic modernization. The political becomes non-political and the non-political political....A revolution under the cloak of normality occurs, which escapes from possibilities of intervention, but must all the same be justified and enforced against a public becoming critical....The political institutions become the administrators of a development they neither have planned for nor are able to structure, but must nevertheless somehow justify....Lacking a place to appear, the decisions that change society become tongue-tied and anonymous....What we do not see and do not want is changing the world more and more obviously and threateningly (Beck, 1992: 186-187).

Ironically, then, collective decisions made by technicians and tradesmen to structure the economy and society around such "subpolitical systems of scientific, technological, and economic modernization" (Beck, 1992: 186) are now changing the world without much, if any, direct state regulation, political planning, or civic legitimation. This technoscientific socius could be called the knowledge society, and this knowledge society and its requisite economy is the productive goal of the Sixth Framework (European Commission, 2002: 6).

On one level, in this new operational environment (knowledge society), a politics of reason and freedom, which sees science and technology bringing gradual, but inevitable,

progress to individuals and societies through an unfolding of reason in history, as Lyotard argued, starts closing. Few now believe in progress in knowledge and its visions for "a society emancipated from poverty, despotism and ignorance. But all of us can see that the development continues to take place without leading to the realization of any of these dreams of emancipation" (Lyotard, 1984: 39).

Instead poverty, despotism, and ignorance have become naturalized as background conditions for many in the world, while a few organize the artificial world to realize hyperdeveloped outcomes that openly doubt most of modernity's myths (Tabb, 2000). With this eclipse of politics by subpolitics, Lyotard argues science and technology are falling under the sway of "another language game, in which the goal is no longer truth, but performativity--that is, the best possible input/output equation" (Lyotard, 1984: 46). Combining this with the subversion, transformation and deployment of intellectuals by the state as contractor, funder and thus supporter, brings into question the role of the intellectual as liberal democratic citizen (Fuller, 2000: 83).

The prerogatives of professional expertise and individual property in liberal democratic societies are the essentially unquestioned means whereby the subpolitical is created. Liberal codes of property and professional credos of technocracy are shields held up against all political attempts to ask the "who, whom" question of infrastructures, systems, and technologies in national politics (Beck, 1997). Meanwhile, one finds that it is in the subpolitics of the world system where real decisions about "who, whom" are made, and then made to hold fast (Luke, 1999). Here, the most decisive revolutions are being made globally and locally, as Beck maintains, "under the cloak of normality" (1992: 186) by technics and economics. Therefore, "in contemporary discussions," as Beck suggests, "the 'alternative society" is no longer expected to come from parliamentary debates on new laws, but rather from the application of microelectronics, genetic technology, and information media" (1992: 223). This alternative society, the knowledge society of the European Union, centers on the ownership of knowledge, and not one of an equitable distribution of knowledge as it espouses, as the subpolitics of research transforms the relationship of citizen, researcher, and state.

Technics, Economics, Politics

Technologies do not fall fully formed from the sky, nor do they sprout from the minds of creative geniuses. They must instead be designed and developed by their owners and/or managers for some sort of business by enrolling owners, users, and advocates in new social movements and new social relations to promote their utility, tout their necessity, and herald their inevitability. Living in societies organized around global information networks and commodity markets requires a broad facility from everyone for coping with many different language games, using various skill sets, and adapting to several new technocultures (Agger, 1989). In these societies, groups that are intimately familiar with the technology, those that can play the game, are empowered to change them, transforming the users of the technology in the process.

One such group involved in the development of the Sixth Framework are the open source software proponents, a group comprised of pundits, producers, and researchers. In December of 1999, they produced a research report through the freesw@connecta.it list, which was "created to support discussions on the work of the european working group on free software," (Working Group, URL). This group was lobbying to include open source, a movement some see as contrary to the subpolitical managerialism, into the Sixth Framework funding scheme for information technology. However, they were not limiting themselves specifically to the E.U. realm, they were globally inclusive to those who wanted to participate. Participating already in the open source community, they implicitely understood the possibilities of global communication in the knowledge society, and resisted the ownership implicit in this in favor of the open model of a civil society.

The multiplicity of material human interests in civil society once rose from distinct quarters of cities, regions, and nations among divergent occupational, financial, and technical groups distinguishable by their class, ethnic, and religious memberships (Mumford, 1963). Hence, one still speaks of "citizens" as collaborators within, and co-residents of, an urban site. The satisfaction of human needs today, however, mostly transpires in the world market where large and small corporate entities oversee cycles of production and consumption for the goods and services required to supply global demands (Nye, 1996; and, Reich, 1991). Other categories of citizenship are needed to understand these arenas of action.

People develop networks for communicating, debating, and mediating their collective and individual interests as part and parcel of sustaining the corporate entities and civic structures that simultaneously perpetuate their civil society (Habermas, 1989). Personal identities, individual interests, and technical imperatives become tied up with reproducing the corporate form as well as producing the civic substance of the everyday civilized life it makes possible (Mittelmann, 2000; Robertson, 1992; and, Harvey, 1989). No understanding of global society should ignore these dimensions in the workings of corporate economic, political, and social practices as they run beneath the enjoyments of all civilized social agents (Virilio, 1995; Ohmae, 1990, and Harvey, 1989). Still, these conditions could be changed, and, at the same time, made more democratic.

Corporatism, Consumerism and the Enscription of the Citizen

Consumer goods of any type can be supplied once these new subjects are recognized as having the demand functions expected from "good consumers." Subjectivity is redefined as material needs, and global subjects are those who can be defined by their demand for the transnational goods and services designed to supply and thereby satisfy them (Baudrillard, 1996). But in information technology, the open source argument says that individuated consumers can become individual producers to 'scratch an itch', their constructed desire transforms their productive capacity, which reflexively reconstructs the community of consumers. Disciplinary objectivities, in turn, shape disciplined subjectivity. As Baudrillard observes,

> The consumption of individuals mediates the productivity of corporate capital; it becomes a productive force required by the functioning of the system itself, by its process of reproduction and survival. In other words, there are these kinds of needs because the system of corporate production needs them. And the needs invested by the individual consumer today are just as essential to the order of production as the capital invested by the capitalist entrepreneur and the labor power invested in the wage laborer. It is all capital (1981: 82).

Another crude functionalism is not at play here. Instead, one sees many sites where the elective affinities of expertise and authority draw technologies of the self (consumer decisions to exercise purchasing power) together with technologies of production (producer choices to organize adding value) in the world's industrial ecologies (Foucault, 1988).

Ideologies of competitive corporate and national growth realized through the exploitation of labor are enscribed in each commodity, even though these objects are delivered to consumers as true tokens of their collective liberation. Moreover, corporate ideologies of individual empowerment such as the knowledge society are reaffirmed with each act of personal artifact appropriation as signs of once more backward markets attaining greater economic and social development (Tomlinson, 1999). But it isn't not just physical labor that is exploited, the Sixth Framework specifically targets the exploitation of knowledge, and with that comes knowledge producers, which in the end are also consumers of knowledge (European Commission, 2002).

The consumer is not an inert, passive target. He/she is an active, volatile capacitor for every circuit of corporate globalism's power effects (Falk, 1999; French, 2000; and, McNeill, 2000). As growth targets circulate through nets of normalization, goods and services in the marketplace constitute both individuality and collectivity around the prevailing norms of consumption. For the European Community's knowledge society, this target is evident in the Sixth Framework for I.T. as:

> - Solving *"trust and confidence"* problems so as to improve dependability of technologies, infrastructures and applications. These should ensure security, privacy and protect property and individual rights. Improving trust in the knowledge society is a key requirement for its development.
>
> - Strengthening *social cohesion by providing* efficient, intelligent and easy to use systems for health, transport, inclusion, risk management, environment, learning and cultural heritage.
>
> - Enabling *sustainable growth and improving competitiveness* both of large and small businesses as well as the efficiency and transparency of

governments. This includes the development of mobile eCommerce and business and *e*work processes and will provide for more and better jobs.

- Supporting complex problem solving in science, society, industry and businesses. The aim is to harness the computing and knowledge management resources across Europe and bring them to the desktop of any researcher, engineer or other end user.

These goals are clearly oriented toward economic improvement and needs of the needs of the citizenry, the state, or the scientists, but also to the corporations and their interests. Expertise and ownership constitute a program of command and control, and they communicate themselves through the ever shifting normalization routines of the commodity. When consumers admit that “they can’t have just one,” or that the product gives them “that feeling,” or that buying the right stuff gets them “connected," we must recognize how individual subjects become repositioned by their possessions in the manifold agendas of transnational globalism. This is part of the trust and social cohesion aimed for in research. As Foucault notes, "individuals are vehicles of power, not its points of articulation" (1980: 98). Power flows freely and politics becomes arises from the depths when individuals are global citizens and producer/consumer/advocates in those critical spaces outside of systemic corporatism.

Truly the most significant "new social movements" at work today are the manifold mass movements managed through intensive marketing by large firms, as they guide consumers to newer commodity-spaces from new commodity-spaces and then to the newest commodity-spaces. The vanguard of permananent revolution is, as Beck argues, found in the realm of subpolitical forces and structures. Today’s global lifeworlds mostly are now corporate institutions in which open-ended experiments with new artifact-acts follow along after experiences other older artifact-acts. Capitalist exchange, under these conditions, brings a subjectivity of object-centeredness. Everyone is what they buy, everyone buys what they are, have been and will be. "In the end," as the vision of corporate globalism proves, globalized peoples become "destined to a certain mode of living or dying, as a function of the true discourses which are the bearers of the specific effects of power" (Foucault, 1980: 94).

While corporate formations are not solely machines, they have machinic qualities in their technics, territories, and trades -- concentrating power, focusing energies, forming social relations, multiplying civilities, transforming symbols, patterning conduct. Civilized life for any civic group and all ordinary people requires most of them to acquire these goods and qualities in close coevolutionary collaboration with private enterprises operating as machinic systems (Baudrillard, 1996). Without the technics of urban life, there would be no polis. Without a polis, there is no politics. Techne, however, coexists, coevolves, and coproduces civic political life with praxis, so one cannot understand politics without bringing both “technics” and “economics” out of the shadows. This fact

should not privilege subpolitical authority against popular politics, even though expertise and ownership constantly push toward this result.

Once captured within the self-replicating cycles of capital and expertise, which sustain what is labeled as "liberal democratic capitalism" despite its many illiberal, despotic and collectivist qualities, individuals—as citizens, clients, and consumers—especially conform within many cross-cutting fields of normalization. As Baudrillard observes,

> Individuals, such as they are, are becoming exactly what they are. With no transcendence and no image, they pursue their lives like a function that is useless in respect to another world, irrelevant even in their own eyes. And they do so all the better for the fact that they is no other possibility. No instance, no essence, no personal substance worthy of singular expression. They have sacrificied their lives to their functional existances they coincide with the exact numerical calculation of their lives and their performances (2004: 108).

Granted the truth of Baudrillard's observations, the Sixth Framework perhaps begs some very big questions.

That is, the citizen mostly remains trapped before the veils of expertise and ownership; and, once trapped, copes with entrapment through merging with "the mass" and its polydimensional functionalities. Without any effective mechanisms for removing, or at least at times, rending these veils, they can only submit to what seem to be the imperatives of their functional existences. Existential functionality, however, can have registers other than those constructed by corporate or state blocs of professional-technical experts. The open source software movement is a useful case in point here.

The open source software movement, irrespective of claims made some of its more vocal enthusiasts, is not much of a resistance. Moreover, in a world in which virtually everything is integrated into the circuits of capitalist reproduction, one should perhaps be, like Baudrillard, "resistant to the idea of resistance, since it belongs to the world of critical, rebellious, subversive thought, and that is," especially for Baudrillard, "all rather outdated" (2004: 71).

Ordering citizenship and citizen researchers around consumption--either in markets as "consumers" or within bureaucracies as "clients"--reduces its duties to another domain of imperatives in which Baudrillard has envisioned as "a generalized system of exchange and production of coded values where, in spite of themselves, all consumers are involved with all others" (1998: 78). Open source software in many ways is another fact of "the system of needs" that is, has been, and will be little more than "the product of the system of production" (Baudrillard, 1998: 74) inasmuch as it simply rearticulates beyond individual needs, enjoyment or desire more flexible and fungible functionalities for the consumer society's "machine/productive force, a technical system radically different from the traditional tool" as well as "a rational system of investment and

circulation, radically different from 'wealth' and from earlier modes of exchange" (Baudrillard, 1998: 75).

The technified fun, pleasure or thrill of open source software arguably underscores how fully consumption is "now something which is forced upon us, something institutionalized, not as a right or a pleasure, but as the duty of the citizen" (Baudrillard, 1998, 80). Open source software coding clearly can be fun-filled, pleasure-serving or thrill-based; yet, it is unclear how citizenship in this technified register of action rises beyond the imperatives of consumerism. Here, as Baudrillard observes, the open source movements' participants seem to match closely the profiles of what he labeled "consumerist man (L'Homme-consommateur) in 1970. That is, the open source softwear exponent, in a manner not unlike the subjectivity presented by Microserfs or Oraclers, regards such fun-filled coding "as an obligation; he sees himself as an enjoyment and satisfaction business. He sees it as his duty to be happy, loving, adulating/adulated, charming/charmed, participative, euphoric and dynamic. This is the principle of maximizing existence by multiplying contacts and relationships, by intense use of signs and objects, by systematic exploitation of all the potentialities of enjoyment" (Baudrillard, 1998: 80). While it has resistant qualities, the open source software movement, as the Sixth Framework suggests, hardly is a quality resistance with tremendous potential for transformative change. However, it is an alternative and indicates that there may be possibilities to break from the sub-political and then form into alternative political-economic collectivities in the knowledge society.

Subpolitics at Work

Entire literatures about the most desired qualities for more open and participatory forms of democracy have been written and rewritten in great detail since the 1960s. Nonetheless, once the dust raised by this work settles, the prevailing sense of actually existing democracies rarely moves past Schumpeter's reduction of "democracy," as it actually is practiced by modern liberal democracies in Western capitalist economies, to "a political method, that is to say, a certain type of institutional arrangement for arriving at political--legislative and administrative--decisions" (Schumpeter, 1943: 242). While affirmative action or identity politics may take some rough edges off, this vision of democracy is centered mainly upon choosing and legitimating a group of expert decision-makers in periodic open elections to make these decisions. Moreover, these democracies typically arrange all major communicative, economic, political, and social institutions around supporting the formal mechanisms "for arriving at political decisions in which individuals acquire the power to decide by means of a competitive struggle for the people's vote" (Schumpeter, 1943: 242). Of course, these mechanisms will include "competing" political leaders, parties, or alliances which allegedly offer clear "choices" between different candidates, values, or policies in more or less open free elections to mass electorates. Just as they freely choose between various consumer products in the open marketplace, voters presumably can decide freely to pick from many alternative electoral choices by endorsing one or another with their ballots (Giddens, 1970).

Nonetheless, this peculiar vision of democracy only accounts for the technocratic managerialism of many advanced capitalist states by improving upon what Schumpeter labeled as the classical theory of democracy. Classical democracy supposedly rested upon a maximal level of continuous participation by every citizen as well as a moral ideal of rational/active/informed/engaged citizenship that guaranteed the implementation of wise policies guided by civic virtue. Various images of this sort of democracy also lie at the heart of the participatory democracy literature written since the 1960s. Advocates of more popular democracy frequently invoke such activist ideals as their best vision of a more participatory democratic society. As an arrangement for realizing direct democracy in small-scale, face-to-face settings, Schumpeter somewhat problematically defines classical democracy as "that institutional arrangement for arriving at political decisions which realizes the common good by making people decide issues through the election of individuals who are to assemble in order to carry out its will" (Schumpeter, 1943: 250).

In order to work well, classical democratic systems allegedly required everyone to know precisely "what he wants to stand for...a clear and prompt conclusion as to particular issues would have to be derived according to the rules of logical inference...all this the model citizen would have to perform for himself and independent of pressure groups and propaganda" (Schumpeter, 1943: 253-254). Since such conditions of popular rule via direct democracy no longer hold true, if indeed they ever did, this classical theory of democracy must give way, along with the image of self-rule by rational/active/informed/ engaged citizens, to the more realistic practices of modern liberal democracies, where much less rational/active/informed/engaged voters periodically disapprove or approve of different expert elites competing for governmental offices in systems of indirect rule via representative democracy (Beck, 1997).

Participation for the vast majority of "citizens" in modern liberal democracy, therefore, boils down a routinized process of giving electoral affirmation periodically to this or that set of contending programs, policies, and politicians (Beck, 1992; and, Bourdieu, 1998). To protect their positions, voters supposedly vote for leaders that espouse programmatic solutions in their debates over the issues of any given election that can be seen as fulfilling the voters' assessments of their own interests. Inactive and/or apathetic voters, according to the theory, either see their interests already being served or, at least, see them as not being severely threatened by incumbent governments.

Dahl (1971: 2) argues this model of governance requires all citizens to have unimpaired opportunities to formulate their preferences, signify their preference to their fellow citizens and the government by individual and collective action, and have their preferences weighed equally in the conduct of government without regard to their content or source. Associated sets of parallel institutional arrangements--such as the freedom of expression, right to vote, freedom to organize, eligibility for office-holding, access to alternative information in a free press, guarantee of free and fair elections,

right to compete for votes, and linkage of voting to policy implementation--all are centered upon closing the preference-forming, preference-signifying, preference-registering circuits between voting publics and competing elites.

Organized on a territorialized basis in modern nation-states, these democratic institutional arrangements allow for competing elites at the local, regional and national level to gain or lose authority in response to the votes cast by the voters inhabiting any particular national territory (Anderson, 1991; and, Fukuyama, 1992). On this foundation, then, liberal democracies are seen as constructing systems that provide stable, equitable, and responsive levels of popular governance, which Dahl relabels as "polyarchy." Polyarchy's combination of competing elites, trusting publics, and moderating civic norms is something much less than the classical model of democracy described by Schumpeter, but it is seen as better adapted to today's political context. As Dahl observes, these institutional arrangements, when matched with a basic consensus of the ruling elites on what are the legitimate social norms as well as a general acceptance of the ruling elites' expertise by the popular majority, provides "a relatively efficient system for reinforcing agreement, encouraging moderation, and maintaining social peace" (1971: 149-151).

The criticisms of polyarchical arrangements in contrast to classical normative democratic theories, as they both are identified in modern empirical, descriptive, or formal theories of democracy, are numerous and wide-ranging. The criticism sometimes is compelling, particularly inasmuch as the critics assail the reliability of the voter/leader preference-to-policy circuit. Such attacks challenge the practices of democratic elitism, doubt the responsiveness of polyarchy, or dispute the rationality of such collective choice structures (Hardt and Negri, 2000). These critiques, however, overlook the subpolitical foundations supporting the polyarchical version of modern liberal democracy.

For the majority of consumers served by modern machinic formations of the liberal democratic state, autonomy is nothing more than the minor ambit of their tightly confined purchasing behavior, which affirms this or that set of competing products, packages, or professionals at the point of sale. Self-determination is really much more like “self” termination. To serve and/or protect their needs, consumers supposedly buy the products that are branded with those attributes that they attach to their needs. Inattentive and/or apathetic consumers continue making whatever purchases they do make either because they believe their interests are being served or, at least, they are not being severely threatened (Luke, 1996). Like polyarchy, megatechnics also pretends that all consumers have an unimpaired opportunity to formulate their preferences, signify them to others and the market, and get them weighed equally in the mix of marketplace products without regard to their content or source. Other associated institutional arrangements, like legislation pertaining to equal employment, free trade, open markets, enterprise incorporation, patent rights, service guarantees, and technical standards, all are directed at rationalizing preference-forming, preference-signifying, and preference-registering circuits between buying publics and competing economic elites

(Beck, 1992). These subpolitical barriers are what democratic action needs to open. Yet, it is unclear that open source infopolitics are what can make this work. Indeed, it might be that instead of bringing down the barriers, open source infopolitics only opens the system to further constructions of complicity within its current system.

Implications

In the last analysis, the tendency to engage in subpolitics must be confronted with a push for greater democracy. Accepting Mumford's readings of complex technics, Schumpeter and Dahl envision the institutional arrangements of modern liberal democracy as technical mechanisms. They allow the voters to form their preferences, signal these preferences to each other and their leaders, and register such preferences in policy without consideration of their content and origin. More often than not, however, these politics only work the other way around by generating more subpolitics. Highly organized corporate and institutional groups with a very clear awareness of their interests register their expert preferences and owner prerogatives in the process of governance, signifying their preferences to each other and to elected leaders, forcing the voters to form their preferences within the narrow compass of pre-processed options as they have been marked out by such institutional arrangements (Beck, 1997; and, Bourdieu, 1998).

There are other institutional arrangements that are possible though. They operate throughout the knowledge society and realize a politics based on the collective instead of the corporate. The example of the European Working Group on Free Software is illustrative of this alternative. Operating through the statal regimes, but reaching outside of them not to a European, but to a global populace, they manage to leverage interests to generate change by including open source software in the Sixth Framework. Without this and similar expert groups operating, the Sixth Framework would very much be subservient to the megatechnics of the corporations and the managerial subpolitics would override the possibilities for a global citizen of the knowledge society creating instead the consumer- citizen.

This argument shows that different choices, however, can be made about how power, knowledge and wealth are defined and exercised as the open source movement suggests. The veils of expertise and ownership can, and should, be pierced by more communal engagement. And they should be mainly by ordinary people at the immediate local level, grounded in their concrete material settings, rather than by various expert elites, working in distant government and corporate offices (Forester, 1999). By fabricating expert-oriented narratives about modern democracy as an archive of institutionalized necessity that empowers perpetually competing elites with unusual energy and special expertise to govern often inattentive voters with little interest in or knowledge about politics, most political discourses legitimate the operations of a new subpolitical system of expert power. At best, permanent formations of bureaucratic expertise periodically are directed toward or redirected away from certain policy preferences by voters as they make changes in the elected leadership. Nominally

charged to implement particular policy packages by the voters and their elected leaders, these bureaucratic experts recognize how inattentive and unknowledgeable the voters actually are as well as how self-interested and competitive the elected officials always will be (Virilio, 2000). Hence, such administrative specialists will use the existing institutional arrangements to serve enduring preferences as they see them formed, signified, and registered by actual organized social forces or real economic blocs in the larger society, which also compete as lobbies, pressure groups, or issue coalitions to win electoral support from voters and support leaders in electoral competitions (Beck, 1997; and, Luke, 1998). Many practices in modern democratic states, then, normalize a fairly stable of regime for new class elite governance of the experts, by the experts, and for the experts as the outcome of preferences expressed by the voters (Beck, 1992). The Sixth Framework, along with most other research funding regimes, may well be in perfect case in point.

Chapter 10
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Chapter 11
The New River: Collected Editors' Notes

Ed Falco, et. al.

In 1996, when, with the technical support of Len Hatfield, I posted the first issue of *The New River*, email was still a novelty and the Internet was, to most of the population, largely a mystery. Today, a mere thirteen years later, the world has been radically transformed by cascading advances in digital technology, and there's hardly an individual or an industry that hasn't had to in some way adapt to these changes. That's certainly true for art and artists and for the industries that revolve around them. While I wouldn't have guessed back in 1996 that so much change would happen so quickly, it was clear that change was coming even back then. Once writers and artists started producing work on computer screens and consumers started reading and viewing work on computer screens, then all of the possibilities of digital technology—which include the ability to link words and documents, and to incorporate multiple media in a single work—would begin to influence the direction of literature and art. That notion—that digital technology would eventually influence and alter the direction of literature and art—was what lead to the founding of *The New River*.

For the first dozen numbers of *The New River*, I did the editing while Len Hatfield first and later the Center for Digital Discourse and Culture (in the person of Jeremy Hunsinger and, in Jeremy's absence, Brent Jesiek) posted the issues, oversaw all technical concerns, and maintained the site. Throughout those years, 1996 – 2004, issues were posted sporadically, as work became available and time allowed. Starting in 2006, graduate students in Virginia Tech's new MFA Program in Creative Writing took over the editorial responsibilities of the journal. Each semester, I offer an Independent Study in editing a digital journal, and the one or more students who sign on for the study solicit, review, and select the work for an issue that is posted at the end of the semester. As the instructor of record for the course, I oversee the students' work and provide some instruction and guidance—but the real editorial work is the responsibility of the students, who are listed as each issue's managing editors. Since graduate students started editing *The New River*, issues have been posted regularly, twice a year, at the end of the fall and spring semesters.

In the first issue of *The New River*, I posed the question, "What kind of art can be made with hypertext and hypermedia?" These days, writing designed to be read on screen is commonly referred to as new media writing, or, sometimes, electronic literature. The terms have changed, but the questions remain the same. What really are the possibilities of screen-based writing? How can multiple media be productively incorporated in new writing? What kind of changes will digital technologies bring about in writing and art? Those questions are addressed and explored in the editor's notes that introduce each issue of *The New River.* As I collected these editor's notes for publication on the occasion of the CDDC's tenth anniversary, I was struck by how

unchanged the central questions remain, even as the digital technologies that generate the questions change at breakneck speeds.

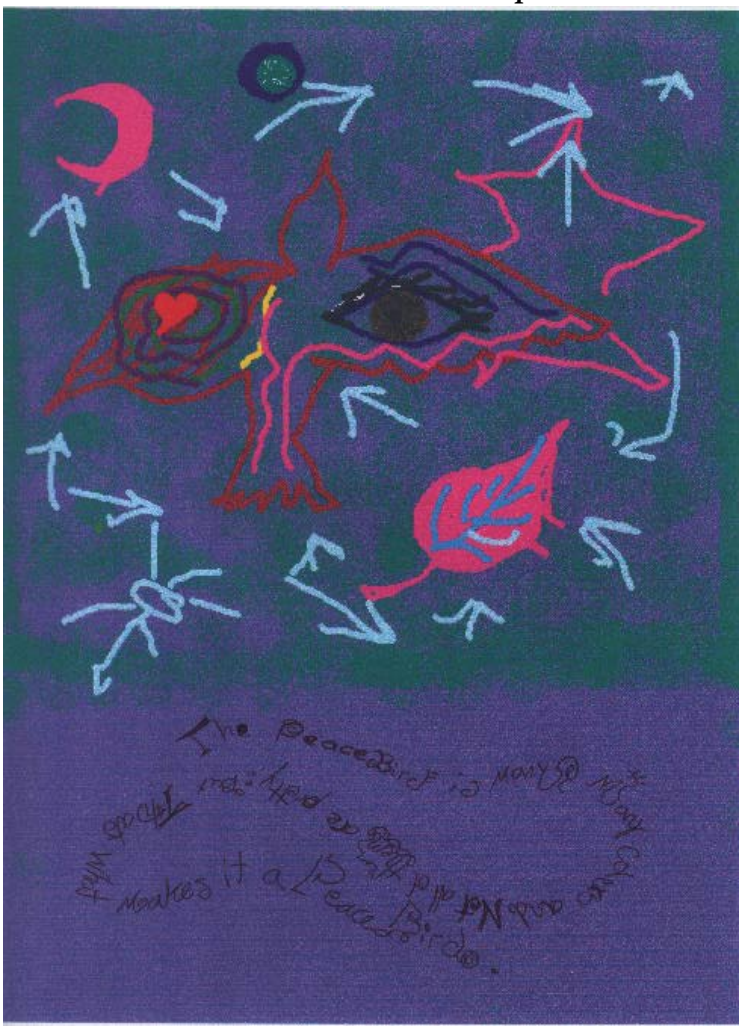
And why did I name the journal *The New River*? Well, it seemed like a good idea at the time. I suppose I was thinking of the Internet as a new river of information, and I thought the name might be a way of connecting the journal with its place of origin in the physical world, which is in the mountains of southwest Virginia, here at Virginia Tech, where The New River has been flowing through our gorgeous corner of the planet for millions of years. I have considered changing the name more than a few times over the past decade, but I have always wavered. *The New River* is, after all, the very first online journal dedicated exclusively to new media writing and art. And so, for tradition's sake, the name stays.

Ed Falco
Blacksburg, VA
August, 2009

The New River 1

Welcome . . .

At the heart of *The New River*, there's a question: What kind of art will be made with hypertext and hypermedia? That a new kind of art is evolving seems self-evident. One need only look at the critical and creative work being produced by the writers associated with Mark Bernstein and Eastgate Systems. In the work of Bernstein, Guyer, Joyce, Landow, and Moulthrop--to name only a few Eastgate authors--an aesthetics of hypertext is being articulated, argued, defined, and manifested. On the World Wide Web, a quick visit to Michael Shumate's Hyperizons site further illustrates the point: There is a new kind of literary art-making evolving, and it is a kind of work essentially different from anything that has preceded it. With the evolution of the computer, we have the potential for a form of art that fluidly integrates previously disparate media. On the computer screen words, video, visual art, and sound can be easily integrated by one person sitting alone in her bedroom in front of a computer screen. How easy? My seven-year old step-son and my fourteen-year old daughter have no problem with it. Will opens up ClarisWorks, dips into the paint bucket, and he's off making his seven-year old art. Susan, more sophisticated in her fourteen years, produced the piece below using Claris.



She calls it "The Peace Bird." The writing integrated with the art reads: "The peace bird is many many colors and not all of them are pretty: but that's what makes it a peace bird." Probably it's just because I'm her father that Blake comes so readily to mind. Still, when I watch my children working easily with software that manipulates and integrates words, sounds, colors, designs, and video, I have no doubt that there are new Blakes growing up all over the world, and that they will make culture-changing art on the computer.

But what kind of art? It seems clear to me that it won't be anything much like our old and wonderful novels and poems, sculptures and paintings. Those forms of cultural artifacts are, in my view, permanent. Books, paintings, sculptures: they're not going anywhere. Because hypertext and hypermedia are so essentially different in nature from traditional art, I don't see them as in competition. John Unsworth, Director of the

University of Virginia's Institute for Advanced Technology in the Humanities, sees a useful comparison in the relationship between television and radio. Television didn't, as many feared, eliminate radio, the way the CD eliminated the LP. Television was a different kind of medium. It didn't do the same thing radio did, only better--as was the case with the CD and the LP. Hypertext won't eliminate the book. Hypermedia won't eliminate traditional art. They are not the same kinds of things. Literature and poetry have been described as sophisticated linguistic timing devises. The powerful effects of stories and poems are entirely dependent upon the timing of the presentation. Imagine trying to comprehend a great Chekhov story by reading the last sentence first and then popping around in the text reading sentences here and there. The notion is absurd. But that's exactly what one does with hypertext: in a hypertext work, the reader controls or significantly influences the order of presentation. The authorial control of timing is eliminated, calling into question everything about traditional art, including the role and position of the author.

So we're back to our question. What kind of art can be made with hypertext and hypermedia? Those interested would do well to examine the novels, poems, and critical writing of the Eastgate authors, and to explore the vital world of hypertext thriving on the World Wide Web. And to bookmark *The New River*, where I plan to publish hypertext and hypermedia that speak to the question. In this, the first number of *The New River*, the published works illustrate two very different approaches to the possibilities of hypertext.

David Herrstrom's "To Find the White Cat in the Snow," takes the modernist practice of thematically or associatively linking sections of a poem, and carries it a step further with hypertext. Like Wallace Stevens in "Thirteen Ways of Looking at a Blackbird," Herrstrom provides no narrative links between the sections of his poem. Unlike Stevens, Herrstrom is not constrained by the technology of print to present the stanzas of his poem sequentially, in a manner best suited to narrative. His poem is not a narrative and it is not ordered as if it were. It's ordering is hypertextual: the reader controls the sequence in which the stanzas appear and disappear. "To Find the White Cat . . ." is about, among other things, the difficulty of apprehension and the interrelationship of the phenomenal and the conceptual. It seems to me a remarkably appropriate poem for hypertext.

Eugene Thacker takes a more radical approach to the use of hypertext. His piece appears at first to be nothing more than a black screen--but move your cursor around and it will signal links hidden in the dark; press down the button on your mouse and whole fields of language will come into view. And what to make of the language that appears in the several screens connected by the linked words? Apparently that's entirely up to the reader. In "fleshthresholdnarrative" traditional notions of authorship and design are exploded. Since it is evident that Thacker did not create the text of "fleshthresholdnarrative," (the text is appropriated from other sources), and since he

can not control the order in which you read these words that someone else wrote, in what sense is he the author of the piece? I assume of course that the posing of that question is part of Thacker's intent.

I'm pleased to be able to publish two pieces as different as Herrstrom's and Thacker's in this first number of *The New River*. I hope it will dramatically suggest the journal's editorial range. The question at the heart of *The New River* is, again, what kind of art will be made with hypertext? I see my role as editor not in proposing an answer to that question, but in listening to the answers that are being proposed by contemporary writers. I would like this to be a journal where all literary explorers might find a home.

And, so . . .

Welcome to *The New River*.

Ed Falco
Blacksburg, VA
15 October 1996

The New River 2

Welcome to the second edition of *The New River*, which consists in its entirety of "Turning Away," Curtis Harell's revolving haiku. It had been my original intention to publish two or more hypertexts in each issue of *The New River*, but it hasn't taken long to figure out that, at least for the time being, that won't always be possible. Submissions to *The New River* arrive at a trickle. A slow trickle. I don't know what I expected--in terms of submissions--when I started a journal for hypertext writing. That hypertexts would come pouring in by the dozens? If that's what I was thinking, it seems unreasonable. Hypertext is a new and evolving medium, and it's clear to me now that there aren't large numbers of writers seriously experimenting with it. There are several, to be sure. Michael Joyce has just published *Twilight* (Eastgate Systems), his new hypertext novel that incorporates images, sound, and video; and he has a hypertext short story entitled "Twelve Blue," published on Eastgate's home page. Stuart Moulthrop continues to publish his own hypertexts and to actively support the hypertext publications of other writers. Beyond these two most-famous names in the field of Hypertext Lit, there are at least another couple of dozen writers who are betting their literary futures on the future of hypertext. The number of writers working with hypertext is clearly large enough to constitute a small avant-garde movement in the already tiny world of literature--but it's not large enough to stock a literary e-zine with multiple poems and stories in three or more issues per year. Still, as long as work as good as Harrell's "Turning Away" manages to find it's way to *The New River* with at least some regularity, the small numbers of hypertext writers shouldn't be an insurmountable problem.

Harrell's revolving haiku represents an elegant use of technology to create a poem. Actually, I don't think you can fairly call "Turning Away" a genuine hypertext work, since there are no links in the poem, and the reader's relationship to the work is passive. We need only sit back in our comfortable desk chairs and watch the poem happen. Nonetheless, "Turning Away" passes the first test of hypertext lit: the work created is inappropriate for the page. Harrell's revolving haiku can only be experienced on the computer screen, and so constitutes an honest computer-based text. More important, "Turning Away" passes a second and harder test: it's a good poem. The traditional poem--I mean to make a contrast here with the fascinating and innovative work of hypertext poet Jim Rosenberg--attempts to control the responses of the reader in a effort to produce meaning and emotional effect. Doing this well is always difficult, in any medium, but it's all the more difficult in hypertext, where the poet typically has to give up the ability to control the order in which the various segments of a poem are read. In hypertext, the poem as a timing device is exploded. Harell has dealt with this problem simply: he doesn't entirely give up control of timing. In "Turning Away," Harell has used computer animation to make the three lines of his haiku appear and disappear in a regular if unpredictable order. Each of the haiku's three lines of five, seven, and five syllables appear and disappear, one at a time, every few seconds, always altering and shifting the meaning of the haiku stanza. The cumulative effect is to create a poem that is wonderfully musical and lyrical; a haiku that reads like a ballad; that sounds, at least to this reader's ear, like a melancholy song.

I hope you'll spend some time with "Turning Away," and I also hope you'll help spread the word that *The New River* is looking for good hypertext lit and art.

Let us see what you've got. Let us see what's out there.

Edward Falco Blacksburg, Virginia 15 March 1997

The New River 3

What if the word will not be still?

But Dad, those other worlds in the Net, like V-School and Xanadu and the Dreaming... they're... not real. They're just virtual, right?

Nothing is ever "just" virtual, son. But yes, they aren't the same thing as bodyspace. You've known that for some time now.

Welcome. In this third number of *The New River*, we break records for length. Stuart Moulthrop's revised and expanded *Hegirascope 2* is the longest hypertext we've yet published, and David Sten Herrstrom's new poem, "Leaving a Virtual Reality Exhibit at the Singapore National Museum, I Walk Down Orchard Road to the Temple Park," has the longest title. By far. Interestingly (though not by editorial intent), in addition to this ephemeral connection both works share a serious interest in the shifting nature of our contemporary reality, especially as it is reshaped and called into question by the virtual reality of cyberspace.

Visiting Singapore, a city redolent with history, Herrstrom attends a virtual reality exhibit, and the questions generated by that experience give rise to his poem. In the lyrical and intensely imagistic language of poetry, he thinks about the relationship between perception and place, actual or virtual. "Even if a moment did exist that death could not find," he writes, postulating a possible way of thinking about a reality that's virtual, "the landscape would take time to catch up/ from where I am to where I stand." Place (where I stand) is always altered and influenced by the complex combination of factors--emotional, psychological, historical, intellectual, experiential--that shape the moment of perception (where I am). Herrstrom argues that whatever the influence of landscape, virtual or actual, it lags behind the complex factors that constitute psychological place. Given the difficulty of disentangling reality and perception "in our riddled world," why does the speaker find virtual reality threatening? Why, after leaving the museum, did he "fear/ that the symmetry of a ferocious order had been broken"? What makes reality virtual or actual, given that "being aware" is after all "a transient state of neurons"? The poem takes on these questions in a language full of wonder, mystery, and beauty; and Herrstrom proves himself to be one of the most interesting and gifted poets working seriously with hypertext.

Stuart Moulthrop, long established among our most important practitioners and theorists of hypertext, considers questions of reality, virtual and actual, from a considerably wackier perspective. *Hegirascope* 2 is a wild ride through a virtual countryside of stories and ideas. There's the taciturn Bent and his adoring Gina, driving across country with something ominous in the trunk of their big, silver Ford. There's the reanimated Marshal McLuhan, taking in the closing years of the Twentieth Century, appearing on The Tonight Show and walking off when he discovers Johnny has retired. There's a couple arguing about Wallace Steven's "Sunday Morning," and there's Annabelle and Ronette, doing nasty things with Fatman, the Congressman--nasty things which include drugging him and implanting suggestions to vote against HR 3258 and the Star Wars Initiative. There's web war and real war, the Book of the Everlasting Book and The Bomb, surfers and sinners and much coming--of all kinds--and going. Along with

Moulthrop's own character Laurel, I recommend that you "check out this whacky thing *Hegirascope*."

Finally, you should also check out Jeanne Larsen's response to Shelly Jackson's *Patchwork Girl*, the recent and widely-applauded hypertext novel from Eastgate Systems. Larsen's sharp intellect and engaging wit make the essay a special pleasure.

The question Moulthrop poses is central to any discussion of hypertext: "What if the word will not be still?" Though Herrstrom reminds us that of course the word has never been still, that nothing perceived by the mind is still, *still* hypertext makes the shifting nature of thought and language patently obvious. Compared to the linked word on a flickering computer screen, the word on the page is a stable thing, a still center in a turning world. And so . . . What does that mean? Well, I refer you back to Moulthrop and Herrstrom--and to past and future issues of *The New River*, where such questions have been and will continue to be engaged by poets, writers, and artists.

Edward Falco Blacksburg, Virginia 15 November 1997

The New River 4

Welcome. With this number of the *New River* we manage for the first time to bring a visual artist onto our digital pages. Leslye Bloom's work is not hypertext, of course. It's visual art created through experimentation with digital technology. It is included here because it provides another piece of the answer to the question posed in the first number of the New River: *what kind of art will be made with hypertext and hypermedia?* The distinction, in any case, between visual art and hypertext has always been a complex issue. Hypertext is not another manifestation of the linear narrative, with its roots in the oral traditions of storytelling. Hypertext is something different, more closely connected to the first scratchings on cave walls than to the first tales told around the fire. Art like Leslye Bloom's, arising out of the digital image, seems exactly appropriate, then, to the content of the *New River*.

Working with, among other soft- and hardware, Photoshop, GraphicConverter, Color IT!, Pagemaker, Kodak Picture Transfer Application, Photoenhancer for Kodak, Posterworks, a Kodak digital camera, a Power PC with a monster motherboard and graphics accelerator card, Zip and MO drives, a Nikon slide scanner, LA Cie color scanner, and a flat iron, Bloom creates unique final images of intriguing depth and complexity. In the stained-glass-window-like panel of *Tranquility*, for example, Bloom uses her various technologies to add sensuality and texture to what would otherwise be an interesting photo montage, making it something different, a digitized merging of painting and photography. I find much to admire in these pieces: the way, for example, under an umbrella of petals the crane looms above a solitary figure on the shoreline in *Tranquility*. Or the way Ms. Bloom's hand subtly disappears, in *Me with Jamaica Apple*, to be replaced by the silk screen of her hand rendered on the T-shirt she's wearing. Or the way the very air seems

scratched and marred around the ominous black cenotaph in *Salutamus*. These are pieces that reward your attention.

I'll hope for more opportunities in the future to present the work of visual artists.

Also in this issue, Curtis Harrell returns with an ambitious hypertext poem, the title of which can't be correctly rendered outside of hypertext. The four words that comprise the title--*Nightmare, Wanders, Fathers, Song*--are hidden in the black field of the opening screen, to be found by readers as they explore with cursors. The title thus changes from reader to reader. It may include all four words, as in "Song Wanders Fathers Nightmare," if the reader sticks around the opening screen long enough; or the title may simply be "Nightmare," or "Song," if the reader follows the first link found. You see the possibilities. In this new poem, as in "Turning Away," published here a couple of numbers back, Harrell brings a traditional lyric sensibility to the digital fields of hypertext poetry.

In the last few months--as anyone reading this has no doubt already noticed--several digital reading devices have made their way to market, including the Everybook, from Everybook, Inc.; the RocketBook, from NuvoMedia; and the SoftBook, from Virtual Press. This strikes me as a significant development in the progress of hypertext. These products are not being marketed with hypertext in mind, of course. They envision--accurately, I believe--a world in which the incredibly costly business of printing, warehousing, and distributing the traditional book is replaced by the immensely more efficient downloading of digitized books into reading devices. In such a world, all of Faulkner's books and all of the important books written about Faulkner's books could be contained on a single chip popped into a single reading device, organized and navigated with hyperlinks. In that near-future world, where the context for hypertext writing and art is established; where young people grow up reading on hand-held computers and navigating text with hyperlinks; we can expect to see the evolution of new kinds of writing and art, the beginnings of which we are exploring here first in *The New River*.

--Edward Falco

The New River 5

This newest issue of *The New River* goes online only days before dozens of writers and programmers (and, of course, writer-programmers) gather at Brown University for the Technology Platforms for 21st Century Literature conference. The array of hypertext writers, theorists, programmers and industry representatives attending the conference is impressive, and promises to deliver an energetic schedule of discussion and interaction.

On the conference list, the tension between hypertext and hypermedia turned out to be one of the first issues to generating discussion. In an early post, Stephanie Strickland emphasized the importance of text. She wrote of her interest in a publishing

environment where text could be ". . . presented effectively enough that someone, in the midst of the present Web speed culture, actually finds an individualized, meditative, space, of the kind that supports mental doodling, rest, quiet exploration in a safe space, as books were wont to." I followed up on Stephanie's observation with a post expressing my concern for the centrality of text. "I am most interested," I wrote, "in language, in the meditative experiences of reading and writing, and that's where I want to concentrate my energies: on the word, on words in combination, on the dreams that words alone can render." In a subsequent post, Marc Canter expressed a different view, one held by many digital composers, in which text is only one element in a multimedia environment. "We need standards for hypermedia links," he wrote. "One of the things folks are missing on this list is video, audio, animation, photos - all the 'other stuff' besides text. . . . you GOTTA have it be full hypermedia - not just hypertext!"

The issues raised by the tension between hypertext and hypermedia are likely to produce a good deal of head scratching for some time to come. Though no one knows where digital literature and art is going, here's one guess, and it's only a guess of course, but it's my own personal one: hypermedia will evolve into a collaborative art, in the way of film and television, to be viewed on the computer-television screen. I suspect this because, though the world is changing rapidly, some things don't and will not change. The mastery of a skill--any skill, from making a poem, to composing a photograph, to writing a computer program--requires single-minded dedication and concentration. That won't change. The multiple skills involved in multi-media productions will most often require multiple creators, each of whom has worked hard to master her particular craft. Hypertext, alternatively, will remain the domain of the writer, working alone, with language, shaping stories and poems to be read on hand-held, pocketbook-sized, digital readers. In my guess at the future, the book remains of central cultural importance, as the principal medium of thought and meditation. The book's form will simply become--in many instances, certainly not all--digital; and all digital writing will commonly come to include hypertext.

All of which leads us to the current issue of *The New River*. The works included in this number are illustrative of the differences between hypermedia and hypertext.

Christy Sheffield Sanford's "Light-Water: a Mosaic of Mediations" is a hypermedia work. It is a striking visual-literal meditation on light and water. This combination of the visual and the literal is central to the direction of hypermedia. One reads "Light-Water . . ." as a merged experience of visual art and literature. It both happens to the viewer--the way moving images happen while we observe them--and is made to happen by the reader, in the manner of traditional writing, by interpreting and translating words, turning them into patterns of thought.

David Herrstrom's "City of Angles & Anguish" is a hypertext piece, and in most ways a more traditionally literary undertaking. Its magic is in its language exclusively. There are

no pictures, no moving images. There are only the words on the screen, arranged and ordered hypertextually, using the screen to break away from the fixed order of the page.

Both works are fascinating, and I hope you'll spend time with each of them. They may also represent a fork in the road of digital writing.

Edward Falco
Blacksburg, Virginia

(1 April 1999)

The New River 6

In this number of *New River*, we bring you a micro-hypertext from Deena Larsen, and a cinepoem from Adrian Miles. Don't feel too bad if you've never before heard of a micro-hypertext or a cinepoem. I'm pretty sure the authors made the terms up. Strange as they might sound at first, both strike me as impressively simple and accurate descriptions of the work. In "Mountain Rumbles," Larsen has devised a limited structure appropriate for her subject. She uses the Japanese kanji for mountain as a hypertext map, which the reader is invited to use for navigation. As the reader points a cursor at different parts of the kanji, different sections of the work appear in a box to the right. The number of sections is limited by the lines of the kanji, creating a short, spatially limited hypertext: a micro-hypertext.

Adrian Miles refers to his cinepoem, "I know that somewhere here this is a homage some where," as a "mixed media appropriation." Astute readers will notice right away there's nothing particularly hypertextual in Miles's piece. There are no links. The reader has no say in the progress of the narrative. You might even argue that there's no narrative, though I would disagree. Still, this piece strikes me as terrifically interesting and pertinent to the various questions raised by hypertext and hypermedia. True, the reader can't navigate the work--but look at all the fascinating links embedded in this forced yoking of Nelson's words to Wells's images. And at the center of it all is Xanadu, which serves wonderfully as a metaphor suggesting the unfinished and unfinishable work of the imagination. That strikes me as appropriate enough to belong in *New River*.

To anyone who has ever tried to write a hypertext and wrestled with the problems of structure, I recommend Alice Fulton's new book of essays, *Feeling as a Foreign Language: The Good Strangeness of Poetry*, from Graywolf. Though all of the essays in the collection are a pleasure to read, Fulton is of most interest to hypertext writers when she calls for a postmodern analysis of poetic structure that is informed by fractal theory in particular and science in general. She may be analyzing poetic structure when she talks about "manageable chaos" and "constant digression and interruption," but she might just as well be considering the questions inherent in structuring hypertext.

Letters to the editor, by the way, are encouraged. We're interested in your thoughts on the pieces we publish, or on any of the issues raised by digital writing. If we get enough responses, we'll publish a letters section in the next number.

Ed Falco
Blacksburg, VA

The New River 7

Welcome to *New River 7*

This time around we bring you M. D. Coverley's *Fibonacci's Daughter*, a multimedia narrative that takes as its subject matter the mall voodoo of one Annabelle Thompson. Annabelle's business, The Bet Your Life Shop, sells insurance against the failure of dreams. It's an enterprise that strikes me, given the current state of our union, to be a small piece of entrepreneurial genius. Unfortunately, Annabelle runs into a problem or two, complications which, fortunately, serve to entertain readers on their narrative journey. Among the many things that M. D. Coverley (aka Marjorie Luesebrink) does wonderfully well in *Fibonacci's Daughter*, I find myself most impressed with the way she uses images and sound to create a magical atmosphere appropriate to her tale. In a piece of truly hypertextual storytelling, Coverley provides her readers with multiple paths through a swirl of events, all revolving around Annabelle Thompson and her unique enterprise. It's a story that rewards the reader with its amusements and its insights, while illustrating a variety of structural possibilities in multimedia storytelling.

Enjoy.

The New River 8

Notably different approaches to navigation and design are evident in the works appearing in this newest number of the New River.

Robert Kendall's elegantly simple navigation seems perfect for the paired poems of "A Study in Conveyance." He calls the poems "duets," or "double poems," and he offers readers the chance to read through them independently, but side by side—as if presented on the page in two columns, with stanzas that appear and disappear at the click of a button. Kendall, one of the best known and most widely published of hypertext poets, seems to me to have simplified his approach to navigation and design in these poems, choosing not to play with the multimedia possibilities of web-based writing, a choice that focuses attention on the words themselves as they appear and disappear from a relatively quiet screen.

David Herrstrom takes a similar approach in "Sorting Things Out and Putting Things in Their Place: A Dictionary for Those Who Suffer from Acute Classificatory Anxiety."

(Herrstrom is clearly intent on remaining the New River poet with the longest titles.) In this latest hypertext offering, he offers readers a navigation icon that allows for random reading through his collection of "taxoms." The emphasis here is all on the words on the screen, with an approach to navigation that's similar to shuffling pages.

Joel Wieshaus, on the other hand, seems to revel in the navigation and design possibilities of hypermedia. His pages dance around as animated GIFs make words appear and disappear, and visual images spin and slide. Given that the principal character in Wieshaus's ambitious project is the human brain itself, his approach seems absolutely appropriate. Part reading and part viewing, "Inside the Skull House" is a hypermedia composition intent on exploring the innovative possibilities in digital writing.

Different writers, different approaches: all exploring the possibilities of writing for the screen.

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"Night, Water, Night" is an early hypertext of mine that was accepted for inclusion in an anthology of hypertext poetry several years ago. That anthology never did come out, or at least hasn't yet come out, and thus the poem has resided quietly on my hard drive lo these several years while the software and hardware of the digital revolution has gone on changing and mutating at a breathtaking pace. When I accepted Deena Larsen's "Intruder" for this current number of *The New River*, it occurred to me that "Night, Water, Night" might provide an interesting contrast to her poem.

"Intruder" takes advantage of some of our most current technology in order to create a piece that uses sound, image, and movement to create a distinctly literary effect. When I wrote "Night, Water, Night," the technology to create such effects wasn't available (that is, it wasn't available to me–an individual working on a personal computer with popular and affordable software). I wrote it on Storyspace, the only hypertext authoring system readily available at that time. In many ways, "Night, Water, Night" seems downright old-fashioned compared to "Intruder." The principal difference between it and a print-based work is that it was written to be read on a computer screen and constructed so that the reader controls the order in which the various sections of the poem are read. As a consequence of that design, the experience of the poem changes with every reading, as parts of the poem are inevitably read in differing sequences, while some sections that are missed in one reading are found in the next. Compare that to "Intruder," where words emerge in a context of sound and image, changing shape and color, fluttering across the screen as if falling like snow or flying like sparrows through our line of sight. And because this is still hypertext and not yet television, the author invites us to alter the experience of the piece by pointing and clicking in the appropriate places.

Whatever one thinks of the merits of these two poems, it's hard not to be impressed by how rapidly digital writing has changed in the handful of years since writers have been

trying to adapt computer technology to the purposes of literary writing. More than ever these days I'm convinced that hypertext will play a part of the future of serious writing. But at the rate things keep changing and evolving, I don't think anyone can yet say what that part will be.

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Editor's Note

Two very different writers appear side by side in this new posting of the redesigned New River: Stephanie Strickland, a well-known writer both in the world of poetry created for the page and in the digital world of poetry written to be read on screens; and Kathleen Dale, a poet relatively new to digital writing. Strickland's *Vniverse* is an ambitious project, with a book manifestation (*V: WaveSon.Nets/Losing L'Una*, Penguin, 2002) and a web site, Vniverse.com. The book is designed so that it can be read from either direction with both possibilities leading to the center where readers finds a title, "There Is a Woman in a Conical Hat," and a URL, http://vniverse.com. Strickland has been writing digital poetry for several years now and this latest work of poetry and hypertext brilliantly explores the possibilities of digital writing to reshape the conventions of poetry. By hosting a mirror of the Vniverse web site here on *The New River*, we hope to bring more readers to Strickland's poetry—and via an alternate route, one that begins with the hypertext and leads readers to the book, rather than the other way around. That alternate route will alter and I believe deepen the experience of the poetry. In addition to the mirror site of Vniverse, *The New River* is posting "Making the Vniverse," an original commentary on the project (with links to reviews) written by Strickland and her collaborator, Cynthia Lawson.

In comparison to Strickland, Dale's project is rudimentary. She has written a single, lovely poem and used the digital medium to augment it with sound and imagery.

Dale and Strickland are two poets at different stages in the exploration of digital writing. *The New River* is happy to bring their work to you.

Ed Falco

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Editor's Note

The digital word's ability to morph, move, disappear, reappear, dance, flash, bend, warp, and do just about anything a creative mind wants it to do seems to be of particular interest to poets. One of our earliest contributions, Curtis Harrell's "Turning Away," is a haiku that changes before the reader's eye as lines disappear to be replaced with new lines, creating a new image and thus constantly altering the reading of the poem. Our latest posting of *The New River* features Shaolian Su, who is not only our newest

contributor but also our first international contributor. In his digital poem "Heart Changes," Su creates lines that oscillate and shift, moving back and forth rhythmically in a manner that visually evokes the sensation of a heartbeat. Su's poem is translated by Shuen-shing Lee, who offers us, in a brief introduction to the poem, his own insightful observations and analysis.

In "Cybermidrash," Alan Sondheim and Joel Weishaus, two well-known figures in the world of hypertext, offer up a collage of speculation, observation, analysis, and commentary, using a sentence from the philosopher and Talmudic commentator Emmanuel Levinas (1906-1995) as a starting point. The Talmud is commonly cited as a conceptual precursor to digital writing. One moves through all the various interpretations (Mishnah) and commentaries (Gemara), the argument goes, very much as one moves through the various links of a hypertext. In "Cybermidrash," Sondheim and Weishaus create a similar reading experience. For those of you who might wonder how to read their work, Sondheim provides a generous hint in one of his entries:

> read as chanting or singing together, in
>
> read as: primordial sound, plasma, a1-supernova, universal chaos
>
> tending towards coherency.

Creative collaborations are commonplace now in the making of hypertexts. In the work of Su and Lee, and Sondheim and Weishaus, we have two striking examples of how fruitful collaboration can be in the growing realm of digital writing.

Ed Falco
November, 2003

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Editor's Note

Sound plays a dominant role in both Bill Marsh's "Tools Built by Anonymous Ancestors" and Lewis LaCook's "Light Has No Tongue," the two new pieces posted in this edition of *The New River*. Bill Marsh is an interesting figure in the ever-expanding world of digital writing. A West Coast writer not to my knowledge connected in any way with the early Eastgate Systems hypertext theorists and writers, he's part of a new group of authors taking hypertext in new directions—and the use of sound as an integral element in digital writing is clearly one of those directions. In "Tools . . ." Marsh composes a series of "poems" by building a site that allows readers to play with a range of visual and aural images derived from web searches using only the words "tools built by anonymous ancestors." Lewis LaCook, a musician, calls "Light Has No Tongue," "a hyperpoem with

generative music," and he thinks of it as a "kind of haiku" with music that "composes itself based on Western functional tonality." Like Marsh, he has published widely in the growing numbers of online venues while creating works that explore the creative possibilities of digital media.

We've made a couple of small changes in this edition of *The New River*. On the splash page, we've added the names of the new authors under their pictures; and we've retitled our "Archives" as "Contents," which we hope will encourage readers to explore all of the works posted in *The New River* over the past several years.

Ed Falco
May, 2004

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Note from the editors

Welcome to *The New River*! After a period of dormancy, *The New River* has been re-designed and reborn, complete with exciting new works by leading digital authors.

David Herrstrom's "The Nicodemus Glyph" is a heady investigation of the ancient author and teacher, Nicodemus. Herrstrom has constructed the Glyph to taunt the reader's desire for more definite knowledge of Nicodemus, while simultaneously signaling that we can never fully know a historical person or circumstance.

Jason Nelson's work tests the boundary between "game-like" interfaces and serious poetry. "Poetry Cube" not only allows readers to reorganize Nelson's words, but it also allows them to enter their own poetry and, with the click of a button, shuffle the lines into an array of possibilities. "Between Treacherous Objects" takes a form reminiscent of a video game flight simulator. Using the mouse, readers fly through the space of images and poetry, choosing to stop where they desire.

Dan Waber's "Writing Through Time" examines and challenges the limitations and constructs of space and time as they traditionally apply to the written words. Words appear and disappear on the "page," creating a layered fabric of text and meaning that can be further manipulated by the reader.

If you're new to the world of digital writing, we hope that you will explore these pieces with an attitude of adventure. Digital writing is not intended to provide you with a traditional narrative or sense of closure. Rather, it is an interactive form in which you become a co-author as you choose the order in which you will view the text as well as decide when you will stop reading. This process also gives you a greater role in determining the meaning of the text. Digital writing is a way of exploring the evolutionary edges of language, words, and meaning, so bring your curiosity, and have fun!

Laura Dulaney and Bryon Sabol, Managing Editors

(Fall 2006)

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Note from the editor

Fall 2007

The Spring 07 edition of *The New River*—collected, refined, and loved during a devastating time at Virginia Tech—is just one more way to prove that our university community has the ability to overcome, and to prevail with flying Hokie colors. I thank our contributors for their patience over the past month as I worked to bring this journal together. This issue would not exist without your vision and efforts. Most of all, I thank the Virginia Tech community for its strength and support over the years, especially this past month. This issue is dedicated to all of the Hokie Nation.

As we unveil the largest issue of *The New River* to date, I look at our list of contributors and see familiar names to our publication, as well as new names. Hypertext has always been the principal interest of *The New River*. However, with technology ever evolving, the realm of hypertext has expanded and changed beyond its original bounds. Sounds, images, text, motion, and link-navigation have all come together to create a new digital medium that is a hybrid of hypertext and digital art. As the current editor of the journal, I decided to showcase a wide-ranging sample of what digital art is today.

Gita Hashemi's piece "Hyper-nomadic Textual Journeys" is a hypertext piece that winds and dances like a lyrical poem: it wanders through hyperspace as pure text. Then there is Lewis LaCook's, "King's Woods," a hypertext poem incorporating a rotation of various images that have been digitally manipulated into eye-candy. The user can interact with "King's Woods" by submitting text in a box. The user engages and contributes to this art.

In our featured piece, Stuart Moulthrop's "Radio Salience," the user interacts with image panels that randomly fade in and out of view. When the reader clicks on the images at just the right moment, a computerized voice begins to read the text as it appears and scrolls across the image pane. Moulthrop's piece incorporates many different mediums into one piece of digital art, and is an evolutionary step in the growth of hypertext and digital media.

I have also included digitally manipulated images in this issue of *The New River*. This marks the first occasion that *The New River* has featured digital stills. Peter Ciccariello is an acclaimed digital painter and poet. His images go beyond the confines of paint and canvas into the realm of digital art. Peter incorporates text/letters into his paintings, creating hybridizations of image and symbol with intriguing titles, such as "G Dying Center Stage," "The Distance of Language from Itself," "Poem, Barely Alive in Landscape," and "Prufrock-1915." Ciccariello's poetics show in these titles and the

dynamic relationship between text and image in his artwork. The synthesis he achieves through merging text and image makes his work perfect for *The New River*. The other digital stills are fractal art. Kelcie Edwards, a Virginia Tech alumnus, is a fractal painter. His fractals reach beyond the bounds of algorithms to create organic paintings that are rich with texture--they are at once cosmic and organic. Be sure to read his bio to learn more about his process for creating these ethereal images.

This issue also includes Alan Bigelow's pieces "Because You Asked" and "American Ghosts." Both are different from the other pieces featured here, but fit comfortably in the realm of digital art. In "Because You Asked," viewers interact with a painting window in which icons activate sounds and images. After clicking and closing all icons, the viewer has the choice to obliterate the painting or leave it alone. "American Ghosts" is an audio/video exploration of historical American icons. This piece is similar to Moulthrop's piece in its visual design and method for delivering text to the audience. The artist's witty update of these old American icons is fascinating and innovative, both in concept and delivery. Finally, Jason Nelson's piece "Promiscuous Design" is an image/text artwork, which acts like a GUI web page. By clicking icons/images/text, the user interacts with the artwork to an ambient soundtrack as the layers unveil one by one. In all, this adds up to a dynamic display of digital art and hypertext.

I would like to thank Ed Falco for his perseverance and guidance in the compilation of this issue. Also, many thanks to Brent Jesiek, without whom this project would not have a home; Darrell Wells, who's HTML tutelage was invaluable to me as we brought this issue from the depths of our server to your browser; and thanks to Bryon Sabol for his mentorship. We hope you enjoy your journey through the realm of digital art/media in this new issue of *The New River*. You can find us easier than ever on the web: just point your browser to our new domain name thenewriver.us.

Ben Kaja
Blacksburg, VA

(Spring 2007)

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Note from the editor

Fall 2007

Expectations of Reader, Writer's Responsibilities

Sit by the fire, pour a glass of cabernet, and open the cover—of the laptop? Computers are not always associated with the same mode of relaxation as a favorite paperback. People arrive at the computer with an expectation of immediacy (unless you are still on

dial-up in which case, delayed immediacy). Most of us do not sit at the computer with the intention of reading 300 pages of traditional text. Information comes to us on the screen through several places at once, with ads in spectrums of color, in bits, thumbnails, files, illustrators, and an amalgam of other packages.

The immediacy of computer culture plays a part in the expectations people bring to the screen. Game interfaces of all kinds are at our fingertips online. Games, from the simple PC solitaire to elaborate online games, easily capture large audiences. So, the issue of entertainment also comes into new media writing as a way to keep the reader interested. In the previous issue of *The New River*, it is easy to see hints of this type of interaction in Stuart Moulthrop's "Radio Salience," and Alan Bigelow's "Because You Asked." The traditional challenges and interactions associated with games can bring the same kind of reader involvement in a new media composition.

To approach a hypertext, the reader must allow her- or himself to be immediately transported into the world of the piece, to accept that it most likely will not appear as simply text, but compilations of visual, audio, and textual elements. Most digital writing relies on one or more of these elements to function as hyperlinks—a method of movement from page to page. Mark Marino's piece, "Marginalia in the Library of Babel," integrates annotations to the traditional Borges work while allowing the reader to traverse what is akin to a self-contained internet. The reader moves *through* the links into pages where they are welcomed to create their own annotations to the texts at hand. This type of interaction allows for new associations to be made with each venture into the piece.

New Media Writing and Digital Art

In the new tradition of including the realm of digital art in the journal, there are several pieces in this issue that can be considered solely digital art, and those that bridge the line between art and hypertext. Karin Kuhlmann's three-dimensional algorhythmic works create a similar satisfaction to viewing a traditional canvas, but are amazing in their digital method.

Digital writing rarely appears in such a way that demands the reader remain within a sequential order of screens. Hypertext relies on surprising associations and non-linear linking to keep the reader's interest. There are several pieces in this issue that bridge the distinctions of new media writing and digital art. For instance, Jody Zellen's "All the News That's Fit to Print" uses text from *The New York Times* to create a beautiful and effective piece of interactive art. Zellen's work incorporates a type of found poetry consisting of juxtaposed headlines which the reader can keep clicking to create new lines. This is work that is both visually satisfying and pertinent. The reader is able to create her or his own meanings with each new page. In a similar way, Heather Raikes's "The Wave" uses choreography and visually stimulating links along with original text to create the world of the piece.

The work of A. Andreas also functions as digital art. Andreas' pieces do not move from node to node, as the aforementioned works, but exist as artistic compositions that use movement and color to create the tone of each work. Words appear unexpectedly, in a less linear fashion, and contribute to the associations the viewers make for themselves.

The Ever-Changing Medium

As the world of new media writing expands, it is difficult to categorize or label what exactly it is or isn't. The computer interface allows artists to visualize their work in a multi-dimensional setting. In many instances, digital writing is an opportunity for collaboration between artists and writers. It is also a place for writers to imagine their work in a new space.

Ed Falco's New Media Creative Writing class is offered once every three years at Virginia Tech. Students from Virginia Tech's MFA in creative writing program are asked to produce two hypermedia compositions as they engage in discussions on the nature of new media writing and how the field has evolved since early Eastgate works, such as Shelly Jackson's "Patchwork Girl."

Two pieces in this issue, Tim Lockridge's "A Sky of Cinders," and Carrie Meadows' "(NON) sense, for to from Eva Hesse," are products of graduate student writers in this class. Both pieces contain evocative writing. "A Sky of Cinders" is poetic in nature, though a narrative emerges as the reader clicks through the piece. "(NON) sense" is a series of poems based on the works of the artist Eva Hesse. Both offer non-linear ways to engage the reader.

The artists and writers in this issue of *The New River* represent a variety of approaches to new media writing. They appeal to a wide aesthetic and incorporate emerging technologies. They are part of the future of art and writing—brush to canvas, pen to paper, hand to keyboard.

Thanks to Ed Falco for his ongoing guidance and knowledge and to Brent Jesiek for his technical support. Also, I am indebted to Ben Kaja for his tutelage.

Lauren Goldstein, Managing Editor
18 December 2007

(Fall 2007)

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Note from the editors

Spring 2008

Less Answers than Temporary Guidelines

Like young amorous people in undefined relationships, some of the issues regarding digital writing and art seem basically semantic and, to a degree, unanswerable. What is hypertext? What is digital writing? What are the fundamental aspects of the reading experience?

The world of hypertext (yesterday's term) and digital writing (today's; worth noting: expect changes to nomenclature soon) is a sort of wild-west of writing and publishing, a manifest-destiny-ish pursuit. Digital writing, in any number of ways, is a process in which rules are established and broken day by day.

Though we're all spending more and more time reading words on screen instead of on paper, the bulk of that reading is still very much a traditional exercise for the reader: information is presented in a sequenced, ordered way, with the reader controlling little more than flipping the digital page (if at all).

While digital writing offers the reader a level of agency that's unavailable in any other format, it also transfers a level of responsibility to the reader. The old author-as-god debate, at least in terms of digital writing, never had a chance.

The question then seems: at a time in which access to digital writing—because of more and more powerful computers and faster and faster internet connections—is about as easy as possible, why is it not a form as popular as, say, blogging? (That term, 'blog,' by the way, was coined in 1999; see note above re: nomenclature and rapid change.) Why is digital writing—not necessarily real literary writing, but digital writing that includes some elements of multimedia and reader-control—still underused?

Of course, this question's as unanswerable as the earlier ones. One possible explanation is that the reader, by being pushed toward a level of involvement otherwise unasked-for in writing, might get nervous. Get scared off. Get uncomfortable about the idea that reading might, in fact, be as active an act as writing.

Our interest, as we conceived of this issue, was in good writing. The issue for many of us with an interest in digital writing is that for all the fancy graphics and intriguing interface, the writing must, as always, pull its weight. The fanciest digital song-and-dance of a story is, at its heart, a story made new, presented in a new, reader-centered context. We believe—perhaps foolishly—that good writing is almost impossible to make un-good. We also believe—again, perhaps foolishly—that bad writing is almost impossible to make good, regardless of whatever bells and whistles eventually are added (as distraction, as emphasis, as whatever).

And so, when we started this issue, we thought: let's talk with some writers we enjoy and see if they'd be willing to offer work that'd get re-imagined and digitized by digital artists. It was, we thought, a great idea. What we realized, however, is that to think of digital writing as two interlocking pieces—writing on the one hand, digital magic on the

other—is, well, off. Finding writers willing to have their work reimagined was relatively easy: finding digital artists with the time and energy and ability to take good writing and find new ways to present it was much, much more difficult.

The only piece that made it is Jennifer Smith's presentation of Caren Beilin's "Animals Are Placebos." Both Jennifer and Caren are students—at VCU and the University of Montana, Missoula, respectively—and though they don't know each other, Jennifer's original and clever digitizing of Caren's spare, strange language seems well-matched. In an *Alice In Wonderland* sort of move, the reader chooses his or her pill and the story moves according to the reader's decisions.

Sara Bailey's "Factography" came unsolicited and seemed to us a phenomenal, well-written, and complex example of what might be considered 'classic' hypertext. The novel-in-stories is very much a character-driven narrative and would, if bound in cloth and printed on paper, be a satisfying, traditional read. As is, the reader has the chance to navigate *through* the text, moving from story to story in a different way each time the piece is read.

Travis Alber's "Dandelion Chance," a multimedia work of art, takes a new route through digital writing by withholding from the reader the chance to control any narrative or the flow of information. We were impressed with Alber's language and thought the piece represented a compelling, interesting way to experience writing—an experience that draws on and integrates several senses.

Daniel Howe's "Roulette," a collaboration with Bebe Molina, is the most technically audacious of the pieces in this issue, and one which offers the reader a tantalizing way of interacting with text. The reader is allowed control over interrelated text in a way totally unlike a paper-and-ink based reading experience. The narrative at the center of Howe and Molina's piece is fractured and fracturable, is a collection of stories that will shift and mean different things to different readers.

Aya Karpinska's "fps," a sleek and minimalist work of digital art, is an intriguing balance of the reader-control issue. Offered something like a navigation bar across the bottom of the piece, the reader can make some choices regarding the writing, though the piece also has something of its own engine, inaccessible to the reader. In Karpinska's own words, the piece seems to us "beautifully irreverent and new."

We're sure of very little as we close this issue—perhaps even less sure of things than when we began. Certainly the medium will shift again momentarily. What seems inarguable is that the health of any literary community depends on strong, engaged readers at least as much as (and probably more than) it depends on risk-taking, great writers. We hope we've been, for just one semester, decent readers. On to the show.

(Our great thanks to Ed Falco and Brent Jesiek for guidance both technical and artistic.)

Weston Cutter, Lauren Jensen and Carrie Meadows, Managing Editors
May 2, 2008, (Spring 2008)

Note from the editors

Current issue : Fall 2008

In September of 2008, *The Guardian* devoted space to an Andrew Gallix essay on the current state of Electronic Literature. This in itself is significant—an acknowledgement by one of the major newspapers of the English-speaking world that new media writing is worthy of its thoughtful attention. Yet after recapping some of the highlights of the form, the column's tone becomes dispiriting: "So far, the brave new world of digital literature has been largely anti-climatic... Perhaps e-lit is already dead."

Friends, rest assured we do not share this conclusion.

However, we understand how one can come to believe that electronic literature is a dud: It's been two decades since the first hypertexts appeared and there's yet to be a single electronic work that has generated a fraction of the commercial interest as the latest Stephen King novel. Or, for that matter, a fraction of the mainstream critical attention typically bestowed upon the latest Philip Roth or Marilyn Robinson novel. There are no blockbusters, no best sellers in the world of electronic literature. Despite all the ballyhoo, enthusiasts of electronic literature remain a relatively small coterie of practitioners and academics. Far from being relegated to antique store shelves next to Edison cylinders and stereoscopic cards, the book is alive and well.

Also in September, Robert Coover, a longtime advocate of literary experimentalism, gave the keynote address at the Electronic Literature in Europe conference. Needless to say, Coover paints a much more forgiving picture:

> "It took a millennia of cuneiform writing and the demise of the [Sumerian] civilization that invented it before the first known extended narrative was composed using it.
>
> "In America, book publishing had to wait nearly two centuries for the definitive American novel to appear [Herman Melville's *Moby Dick*] and even then it took better than another half century while Melville's reputation languished before its value was finally understood." (Coover, Keynote)

Coover's right. People have this idea that European culture was immediately transformed by Gutenberg's mechanical printing press, but in truth culture lags behind technology. Elizabeth L. Eisenstein, in her landmark 1979 study on the historical effects of the printing press (*The Printing Press as an Agent of Change*, Cambridge University

Press), found that "[t]he output of early presses drew on a backlog of scribal work; the first century of printing produced a bookish culture that was not very different from that produced by scribes"

Much the same seems to be happening today. Gallix asserts that one reason for the curtailed development of electronic literature is that university humanities departments "emphasis on digitalising traditional books [comes] at the expense of promoting creative electronic writing." Virtually all online literary journals exist to publish work that was primarily intended for the printed page rather than the screen.

While there's an abundance of MFA programs feeding writers into the traditional print genres of poetry, short story, novel, and memoir, comparatively few programs exist within the academy where emerging new media writers can nurture their talents.

Indeed, there are very few venues where an emerging (or even an established) new media writer can place his or her work.

One such venue, increasingly, is the contemporary art institution. Digital Art, now a museum staple, is but a variant of Digital Literature: both often incorporate textual elements, dreamy and/or surreal narratives, and derive from the same aggressively experimental impulse.

Mark Amerika's groundbreaking 1997 hypertext Grammatron was cited by *The Village Voice* as being "the first major Internet-published work of fiction to produce an experience unique to the medium."

Today, Amerika's work is often intended for gallery exhibition. As he said in a recent interview at London's Tate Modern, he is "consciously trying to blur the distinction between different forms and the venues in which they appear… I mean, what is the difference between what we think of as Cinema, Digital Video, Digital Narrative, Net Art, et cetera, Web 2.0 even?"

Amerika has a point: the distinctions between these media spectrums are getting fuzzier. There's a cross-fertilization going on that will likely strengthen strains of electronic literature. While Gallix sees digital literature being "subsumed into the art world," others see it as a sign of the form's relevancy that it can have such an impact on the contemporary art scene.

"The real problem," Dene Grigar (who co-chaired the 2008 Electronic Literature Organization's Visionary Landscapes conference in Vancouver) writes elsewhere, "would be if digital writing is not included [in contemporary art], which does not seem to be the case."

Of course, distinctions between digital writing and contemporary art still remain. As a tradeoff for the ability to be read simultaneously by multiple viewers off a single gallery screen, Digital Art just does not feature the same level of interactivity as Digital

Literature. This is no small distinction, interactivity being one of the earliest perceived advantages Digital Literature had over its paper-bound forebears.

But the question remains: Why does Digital Art thrive in museum environments while Digital Literature is perceived in some quarters as being "already dead"?

Certainly audience expectation plays no small role in answering this question. People who step into modern art galleries do so with the understanding that some of what they see will confound them. There is, if you will, a certain humility within the museum-goer. Or at least a marked willingness to engage with that which she can not immediately understand.

That tolerance for the new and the stylistically different does not exist at the same level in the literary world. Instead, people expect to understand that which they read. When they come across complex or experimental works that resist easy comprehension, readers grumble. American book culture, with its emphasis on accessibility and sales, punishes writers who take risks. Earlier this year, we came across an essay indicating that Donald Barthelme—one of the country's most respected short story innovators—never sold more than 7,000 copies of any of his collections in his lifetime (he died in 1989). We would be shocked if more than a few of today's most experimental writers sell half as well as Barthelme.

Seen in this light, should it be surprising that Digital Literature remains at the cultural periphery? Because it is a complex and evolving form born from aggressive experimentalism, it is not as user-friendly as, say, a Harlequin romance. Digital Literature, luckily, resists pandering. Style and complexity, more than any other factor, explains why mainstream culture has yet to embrace the form.

In our survey of the field, we've yet to stumble upon the equivalent of a digital Harlequin. Should such a thing exist, and we're not convinced that it can, its blatant accessibility could very well ensure it a mass-market niche, and perhaps even critical acclaim, for despite however pure-minded we like to imagine Criticism, there is a link in the digital world between accessibility and acclaim.

One of the more fascinating observations in N. Katherine Hayles' Electronic Literature—New Horizons for the Literary (University of Notre Dame Press, 2008— order it now, it's good!) is on the responses garnered by two Michael Joyce hypertexts. The first, 1990's afternoon: a story, was developed in hypertext's infancy and in many ways can be seen as an adaptation of a standard book-form narrative for the computer screen. In Hayles' analysis, "*afternoon* has received many excellent interpretations."

Joyce's Twelve Blue appeared just one year later (1991) but was much more complex, both in its technological interpretations and its aesthetic and intellectual intentions. Despite these advances, or, more precisely, *because* of these advances, reader response suffered. As Hayles notes, "The player who comes to *Twelve Blue* with expectations formed by print will inevitably find it frustrating and enigmatic, perhaps so much so that

she will give up before fully experiencing the work. It is no accident that compared to *afternoon, Twelve Blue* has received far fewer good interpretations and, if I may say so, less comprehension even among people otherwise familiar with electronic literature."

The good news is that the more creative technologies infuse themselves into daily mainstream life, Electronic Literature as a form will appear less "frustrating and enigmatic" to casual readers.

As Amerika notes, "Net Art has changed—let's call it Net Art 2.0—it's really more embedded in daily practice. So when we think of the practice of every day life, Net Art is no longer like this kind of left field thing coming out of nowhere… [People are no longer asking,] 'What are these artists trying to do?' "

"A lot of people have integrated all this media into their own daily experiences and so for them to experience art as well as part of that networked environment isn't so odd any more."

Beware though: leavening is a two-way street. Early hypertexts with their link-heavy emphasis on interactivity helped form what we expect—if not demand—from electronic media. As web usage changes the way we perceive and interact with media, digital literature changes—meaning that digital literature can not remain static.

David Foster Wallace , in perhaps his most insightful essay, "E Unibus Pluram: Television and U.S. Fiction," deconstructed the reasons why contemporary post-modern fiction can seem stale and out-dated. The self-conscious irony that was the hallmark of post-modernists and meta-fictionists of Barthelme's generation has been appropriated to better and more pervasive effect by Television: "And this is the reason why this irreverent postmodern approach fails…TV has beaten [today's post-modernists] to the punch."

There is ample reason to believe digital literature will not be "beaten to the punch" any time soon by other forms. Five of those reasons—Andy Campbell, Angela Ferraiola, Michael J. Maguire, Nick Montfort, and the combo of Davin Heckman and Jason Nelson—are included in this issue. Many more submissions of excellent quality were sent for our consideration—and we received more submissions for this *New River Journal* issue than any previous issue.

Nick Montfort's "Ten Mobile Texts"

Several of our writers speak of being drawn to digital media writing because of the opportunities it affords to challenge and explore the implications of electronic communication forms. None is more explicit in this purpose than Nick Montfort. As Montfort says in his contributor's note,

> New media writing allows for different sorts of investigation than do other types of writing. Whether we write in forms given to us by digital systems and industries (Web pages, email messages, SMS messages, and so on) or make special use of the computer's capabilities as an interactive, multimedia machine capable of processing, we also have a unique ability in this type of writing to address the transformations that our society is undergoing due to computing and the network. "

Montfort's "Ten Mobile Texts" confronts the inherent limitations of SMS texts. Mature literary forms like the sestina, epic, and ballad morph into radically different forms when filtered through SMS compression. Constrained to employ a maximum of 160 characters, communication itself fundamentally changes. Far from being a dry, academic text, Montfort's piece is suffused with humor. As he writes, things "have just become spaces and words."

Angela Ferraiola's "Map of a Future War"

Some visions seem uniquely suited to digital writing. Angela Ferraiola's "Map of a Future War" is one: we can not imagine it being half as effective if delivered through any other medium. Texts appear and vie for our attention and are crowded out by the emergence of other texts. The navigational path seems like an exercise in randomness, yet there is an inevitability to what is displayed on the screen that is gleaned from the chaos of contemporary tumult.

The complexities explored in "Map of a Future War" simply could not have been explored to the same effect on paper. Ferraiola writes that "we are finally able to step back from the materiality of paper, the constraints paper has placed on language and, therefore, the limits paper has placed on thought and expression. The sentence and the paragraph, for instance, these are sort of 'paper' ideas."

We like that term, "paper ideas."

In our mind, "paper ideas" entail a lot more than the mere sentence- and paragraph-type conventions we use when writing on paper. "Map of a Future War" works, in part, because of its dimensionality, the way it allows readers to see, for example, the conflict of texts that tussle for our attention. The work is about that tussle, that competition.

Paper, quite frankly, does not provide the same dimensionality; this is one of paper's formal limits. The paragraph, with its neatly organized sentences, implies a fundamental order to the world and the ideas expressed within, an order that is rarely as complicated as that which actually exists in the world.

It is not too much to argue that the financial panic she writes about in "Map of a Future War" was born from a hubris of paper ideas. This is not to say that financial instruments are simplistic ideas—derivatives are anything but—but that the worldview that underlies

21st century capitalism is simplistic, often willfully blind to the havoc and misery capitalism unleashes. Ferraiola's choice of the digital writing form (with its emphasis on complexity) in and of itself becomes a salient critique of the socioeconomic system.

Andy Campbell's "Dim O'Gauble"

Andy Campbell's "Dim O'Gauble" strikes us as a piece that would not be out of place in an art gallery. The exit tunnel sequence, with its backwards audio track and the purposeful blur of text and image, alone is one of the finest pieces of video art that we've yet encountered. Visually stunning, Campbell's story is framed around childhood drawings and is governed by a fragmentary postmodern dreamscape sensibility.

Campbell writes that "it feels energising and empowering to be producing original material that still requires some effort and tries to fuse together the incredible advances in new media with the power of the written word."

Unfairly, digital writing is often denigrated in supposed literary circles for the lack of craft given to its textual elements. The form, so says its detractors, favors bells-and-whistles techno trix over language.

It is Campbell's care with the written word that is so powerful.

When reading "Dim O'Gauble," we urge you to linger though each of the nodes. Text often rises to the surface where you least expect and, fitting to the faculties of dream and memory that Campbell explores, sometimes erases itself just as you rely upon it.

Davin Heckman and Jason Nelson's "Endings Eventually End: Twenty Five Doomsday Countdowns"

In 1989, Francis Fukuyama published an essay titled "The End of History." Subsequently expanded to book-length (*The End of History and the Last Man,* Free Press, 1992), Fukuyama argued that history had reached an end-stage development, crowning market-driven liberal democracy as the most advanced politico-economic system possible; evolution, at least in regard to forms of government, was deemed a closed project.

Fukuyama's assessment, coming after the collapse of Soviet-style communism, was the kind of irrational triumphalism, a kind of (dare we say) uni-dimensional paper idea, that passed for intellectual thought.

Nearly twenty years later, viewed through the lens of financial crisis and the ill consequences of imperialist adventures, the prognosis of history is less certain. Gone, thankfully, is the arrogance of presumption. In its place, Anxiety.

Davin Heckman and Jason Nelson's "Endings Eventually End: Twenty Five Doomsday Countdowns" reflects the contemporary moment's Anxiety. Heckman says,

> "While this particular piece, 'Endings Eventually End,' tends to focus on the fringes of American culture, it also speaks to more generalized eschatological anxieties brought about by the shrinking world and the notion of rapid cultural, economic, ecological, and technological change."

Heckman and Nelson's apocalyptic vision treads into the Absurd. Events that trigger the End Times include "The Birth of Mirth," lost shoes, and "Monster Goldfish." Instead of the "End of History," Heckman and Nelson write of "The End of Cheese."

Amidst this entertaining piece come hard questions: What happens when all possible doomsday scenarios have been imagined? When all possible musical compositions have been played? When high-speed random text generators produce all the possible textual variations that we can hope to create? Will the result be doomsday?

Michael J. Maguire's "Promise"

When we issued our call for submissions for this issue, we were looking for work "that merges place, history, and culture." What we had in mind was something like M.D. Coverly's exemplary work. Though we are astounded by the varied ways in which all our writers touch on our stated themes, Michael J. Maguire's "Promise" is closest to our original hopes.

Structured in four acts, Maguire offers a deeply personal—and deeply moving—narrative reflecting Ireland, its culture, and its myths.

Interestingly, Maguire (like Angela Ferraiola) is also a playwright. His interest in plays is amply demonstrated in this piece, most explicitly so within the context of his "Ham Let Loose" play-within-a-play.

While the skills necessary for playwriting and new media writing may not appear to overlap, Maguire admits that the playwright's focus on "structural awareness, characterization through dialogue, self belief, and knowledge of craft are the essential skills that enabled me to create 'Promise.'" (p…)

Despite Gallix's suspicions, electronic literature is not a stillborn or moribund form. He is not, to say the least, prone to good cheer. Nor is he blindly dismissive. Instead, he is sober in his assessment—which is healthy, if not necessary. We enjoyed his column for the difficult questions it posed about the form's state of development.

And this made us think. Absent something as crass as sales or distribution figures, how does a new form prove its relevancy? Are there critical or aesthetic benchmarks that we should strive for?

Grigar is quoted by Gallix as saying, "One of the most difficult aspects of e-lit is the ability to talk about it fast enough, so fast is the landscape changing."

Which brings us back to Coover's guarded yet hopeful keynote:

> That no such widely acknowledged masters have as yet made their mark on the digital landscape is hardly surprising. All previous masters of a form were born into its technology and environed by it and so far only for pre-teens is that really true today.
>
> The new computer technology of our age is still developing and may well need another half century to achieve some sort of maturity... meaning that even if digital novelistic masterpieces are improbably already being created, it will likely take at least that long for them to be widely recognized as such.

It took generations for the contemporary art institution to become as welcoming as it is today to aggressive experimentalism. Remember how the Impressionists, whose work seems positively quaint today, could not gain entry into officially-sanctioned salons; at the same time, James Abbot McNeil Whistler was being slandered in the London popular press by the age's most esteemed critic as being not an artist but a "cockney… coxcomb… flinging a pot of paint in the public's face."

Given the speed in which new technologies are being embraced in what Amerika calls our "daily practices," we are hopeful that Digital Literature's gestation period will not be as long as Coover suggests. Which is a good thing, for we believe that the writers presented in this current issue are close to delivering the "digital novelistic masterpieces" we all seek.

Nick Kocz & Manisha Sharma, Managing Editors
Blacksburg, VA
December 11, 2008

Three Addendums:

In preparing this issue, we've asked our writers to consider what draws them to digital writing and where they see the field moving in the coming years. Their comments are included within their contributor notes. We've taken the liberty of quoting from them in the above essay, but do please read them in their entirety. What you'll find are deeply thoughtful and at times intellectually challenging insights—a far better read in any case than the typical boiled-down CV that usually masquerades as a "contributor's note."

Andy Campbell's "Dim O'Gauble" will be shown in Beyond Hypertext: In Search of A New Digital Literature*, an upcoming exhibit curated by Alan Bigelow (*a former *New River* contributor) at Austin Peay State University. We're very excited about this exhibit and hope that many people will be able to attend. Austin Peay is in Clarksville, Tennessee (USA). The exhibit runs from January 15- January 30, 2009.

Lastly, but certainly not least, there are three people we wish to thank:

- Ed Falco for the patience and guidance he extended towards us while preparing this issue
- Jeremy Hunsinger for his help in uploading this issue
- Akshay Sharma for formatting and designing our new look!

Nick Kocz and Manisha Sharma, Managing Editors

January 28, 2009

(Fall 2008)

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Note from the editors

Current issue : Fall 2008

As I reflect on my time as editor of *The New River* I find myself still wrestling with the same questions I had when I signed up for the editorship four months ago. Now this lingering of questions could be due in large part to my own slowness, but I'd like to think it has more to do with the complexity of the answers these questions require.

1. What exactly is electronic literature?
2. Is there an inherent power dynamic (inferiority or superiority) between E-literature and print literature?
3. What is the role of E-literature?

Before I offer my thoughts on these questions I should pause to confess my newbie status in the world of E-Literature. I'm one of those cavemen who still composes first drafts on legal pads (admittedly an upgrade from wall carvings, but a far cry from the world of the E-Literature author). I've often joked that should I become famous I could be the first poet to be endorsed by the Pilot pen company; though I suppose we'll probably see Amy Winehouse espousing the virtues of sobriety before we see a famous poet, but I digress. I am a newbie, a novice, a virgin who has arrived at the E-literature orgy well after everyone else has disrobed. A year ago I hadn't even heard of electronic

literature. Attending a presentation by Stephanie Strickland changed that. I was enthralled by the woman and her work. I decided, despite my technological limitations, to find a place for myself in the world of E-literature that Strickland now embodied in my mind.

What exactly is electronic literature?

I've spent a lot of time with this question. The very basic answer is that it is literature that employs programs, applications, and computer codes that make a caveman like myself cringe with fear. I must confess that the process of selecting work for this issue included a call to technical support and several volleys of profanity launched in the direction of my laptop, but the fine work in this issue was well worth battling my technical limitations. I'm digressing again; back to the point: According to the results of my Google search electronic literature is, "a literary genre consisting of works of literature that originate within digital environments."

This definition is a great starting point, but it seems to imply something that I'm not entirely sure I agree with. The use of the word originate implies that electronic literature comes into being or is birthed in digital environments. This isn't true. I would say that electronic literature exists in digital environments, but I wouldn't agree that it is necessarily always born in those environments. I'll talk about this more when I discuss the piece “Forgetfulness.”

I've come to view electronic literature as literature that requires a digital environment to be fully experienced by the reader. The work can be born in any number of environments. It can even, sometimes, be pulled into the print world (as shown by Stephanie Strickland’s “WaveSon.nets”). You can waltz into Borders and pick up the book, sit down with a cup of coffee (or the reading beverage you prefer), and enjoy Strickland’s work (okay, you’ll probably have to pre-order the book, because none of the major book retailers have a good selection of contemporary poetry). Strickland’s book is an enjoyable read, but when you put the book down and log onto the website you’re treated to richer sensory experience. This is electronic literature: a full sensory emersion into the work. I think of electronic literature authors the way I think of playwrights: powerful and lucky, because they have a level of control over the audience experience that those working in print simply cannot match. What I admire about the electronic literature author is how much of this control they relinquish to the audience. The author controls what you see and hear when a specific button is pressed, but unlike the playwright, they have the ability to allow the audience to decide what buttons to press and when to press them. This results in work that exists as a constant dialogue between the author and the audience.

Is there an inherent power dynamic (inferiority or superiority) between E-literature and print literature?

Well this is a loaded question, isn't it? I'm sure if I polled most folks in English departments across the country print literature would be victorious by an overwhelming margin. I'm also sure those same folks would overwhelmingly vote for William Shakespeare as the greatest living playwright. Does this mean that William is truly the greatest? Some would say yes, but I'd say no. I'd say no, because popularity doesn't prove much. Shakespeare is the safe answer. It is a reflex. It is something English majors are programmed to say, because it is simply an accepted truth. Shakespeare has always been there, always been the best. The same is true of print literature. It dominates the landscape. I went through five years of undergraduate education roaming the halls of an English department and never once heard mention of electronic literature. My lack of exposure is most likely due to the fact that the professors I was working with had no exposure themselves. I would venture to guess that academia's efforts to enforce print literatures' superiority are due largely to a desire to avoid change and a reticence to embrace something new.

Humans are creates of habit. Were comfortable with what we know. We know books, with pages, that tell stories. Books and stories that exist in digital environments, that aren't linear, that require us to interact, aren't familiar.

What is the role of E-literature?

This is the question that most excites me. I think every so often we need the boundaries to be expanded. We need the old ways to be pushed aside. Print media has dominated the landscape for a very long time. It has been the only mode of expression of the literary artist. Electronic literature has changed that. E-literature has added another venue for literature types to express themselves. I like to think of E-literature as what happened when the kids from the English department started dating the computer science folks. E-literature authors are scientists telling stories. They're experimenting in a genre that is still in its infancy. It took print literature hundreds of years to engrain itself into popular culture. I cannot say that E-literature will follow the same trajectory. Perhaps the works in this issue and the other pieces of E-literature floating around in cyberspace are simply previews of the next evolution of literature. Perhaps works like these will die off and be replaced by some other form of expression. The one thing I can say for certain is that as long as there has been a dominant form of expression (print media) there have been those working outside that form seeking other ways of expressing themselves.

"What They Said" by Alan Bigelow

Every time I experience this piece I think of George Orwell's 1984. I spent most of eighth grade staying up way past my bed time to read that book by flashlight (I read it three times that year), so for me anything that makes me think of 1984 is especially exciting.

The screen evokes something both old and new: an old time radio manufactured in some alternate future. The first time I viewed it I went along the stations from right to

left (the instinctive reading order), but on later viewings I surfed around randomly like someone watching late night television struggling to find something worth watching. As I took in the slogans on each station I couldn't help but think that what Bigelow had created was the view screens from Orwell's nightmarish vision.

What I like most about this piece is that I was able to bring my Orwell reading to the experience. There is no note from the author directing me to that conclusion. I love that I was able to immerse myself in a sensory experience that mirrors something from a beloved book from my youth. I also appreciated that the content (both text and visual) offer important commentary on current events. I appreciate art that is saying something.

"i made this. you play this. we are enemies." by Jason Nelson

I was drawn to this piece because it added another dimension to my understanding of electronic literature. I was already operating with the understanding that E-literature allowed for and often required reader interaction, but this piece takes it to another level. Rather than simply activating the piece the reader is transformed into a player and the piece becomes a game. I have to confess that I found the piece both challenging and addictive. I spent several hours trying to beat the game.

After interacting with the piece several different times I found that there are really two ways of approaching it. The first is to play as a game and try to find the easy route to the next level. This proved to be a challenge, but I'm pretty awful at computer games. The second was to randomly explore each level and approach it less as a challenge and more as an exploration. I found this route far more rewarding (perhaps because it removed the pressure I felt when I approached it as a game to be beaten. When I fell and had to start over it was simply an opportunity to explore more of the level rather than a failure).

I wish more artwork invited us to play in the way that this piece does.

"Forgetfulness" by Ico Bukvic & Denise Duhamel

This piece is really exciting, because it shows a piece of poetry born in the print world making the transition into the digital world. It is work like this that makes me say not all electronic literature originates in a digital environment. This piece originated in the print world, but has become something different and extraordinary in the digital world.

As a long time fan of Denise Duhamel I was first exposed to this piece as "Mobius Strip: Forgetfulness" from her 2005 collection *Two and Two*. Despite the directions in the back of the book I still wasn't sure what a mobius strip was. The directions called for me to take scissors to the pages of the book, but being a severe bibliophile that simply wasn't an option. I lived in my state of ignorance until Duhamel came to read at Virginia Tech last November. She brought a copy of the poem in its mobius strip form and read from it. The mobius strip is like an infinity sign and the idea behind using it as a poetic form is that the poem has no true beginning or end. The reader can enter the loop at any point

and exit it at any point and come away with something. The print environment of *Two and Two* lacked the dimensions to allow the poem to truly be read in this passion. Books require the poem to have a first and last line.

By pairing Duhamel's words with the technical artistry of Ico Bukvic the poet's original visions has been brought to life. Well, that isn't entirely true. I haven't asked Denise this, but I don't think she had music in her head for this poem, so Ico has brought an additional level to the experience with the addition of his original composition, which augments the reading of the poem.

I believe this type of collaboration is truly one of the very exciting aspects of electronic literature. It allows writers who have been confined to the page to break free and share their work in ways previously not possible.

I believe each of these pieces displays the very exciting possibilities inherent in electronic literature. I hope you enjoy interacting with them as much as I have.

Thanks for reading.

This issue wouldn't be possible without the technical guidance of Jeremy Hunsinger, the patience and support of Ed Falco, and the contributions of the four talented artists who contributed to this issue. My thanks go out to all of them.

Regards,

Robert Walker
Managing Editor, *The New River*

Chapter 12
On the Origins of the Cute as a Dominant Aesthetic Category in Digital Culture.

D.E. Wittkower

Introduction

In theories of media prior to the digital age, it was imagined that a liberated or socialized media would result in a proliferation of communications for, of, and by the people. It would be possible for media to emerge directly from their publics, and to represent those publics in their fundamental or foundational values and projects. Many theorists, including John Dewey (1927), Hans Enzensberger (1970), and Ivan Illich (1973), gave grounds to expect the general availability of mass communications to be a boon for humanist politics, either democratic or socialist.

It is unsurprising, of course, that theorists and political philosophers will be concerned only with a certain subset of communications, and this should not be understood as a general prediction of the kind of communications that we could expect to be prevalent, or even dominant. In the same way, the authors of the United States Constitution protected free speech for its social and political value, but it would be wrong to think that they were unaware that speech would very often consist of communications having no such value.

This preoccupation with certain kinds of speech, however, is better for prediction than for observation, and if we wish to try to make sense of culture as we find it, we should not privilege those communications that we, as theorists, assume to have value, but should instead ask what valuation is found within the communications that in fact occur. If we are serious about understanding digital discourses and digital culture, we must take to heart the claim that "*homo sum humani a me nihil alienum puto*"—if we are to be serious in our inquiry, we cannot ignore that the subject matter is sometimes far from serious, and we must not think ourselves to be "too serious" to take the whimsical and silly seriously.

In addition to the social and political interests that might provide the basis of and motivation for communications, we should also expect communications arising from and catering to commercial and prurient desires, and indeed we have seen a steady rise in advertisements and pornography as media have become increasingly cheapened and pervasive. Furthermore, just as theorists hoped that increasing access to means of mass communication would result in social and political communications having less to do with the interests of centralized and established powers, and more to do with individual and particular needs and desires, so too have the interests represented in commercial and prurient communications become increasingly decentralized.

As communications shift from representing centralized power to representing individual interests, the content and nature of these communications has certainly changed as

well. Music in an age of radio and payola is different from music in an age of *YouTube* (http://www.jonathancoulton.com/), *MySpace* and *Twitter* (http://www.amandapalmer.net/) . Sales based on television and newspaper ads and brick-and-mortar storefronts continue to exist today, but new media have not only allowed smaller companies to reach a global market, but have also allowed for new kinds of commerce such as handcrafted goods on *Etsy (*http://www.etsy.com/search_results.php?search_type=handmade&search_query=*)* or barter economies on *craigslist* (http://sfbay.craigslist.org/bar/). Similarly, the prurient interest continues to be served by pornographic images, just as it was prior to new media, but new kinds of communication serving this interest have emerged as well, ranging from people creating and displaying their own images and videos (http://www.deviantart.com/#catpath=manga&order=9&q=ecchi) to writing homosexual Harry Potter fanfiction (http://www.thesilversnitch.net/) to negotiating RL sexual encounters through bulletin boards (http://newyork.craigslist.org/cas/).

What is consistent through these changes is the kind of motivation, interest, and desire that motivates these different forms of prurient, commercial, cultural, and political communications: sex, wealth, beauty, and freedom. What seems far less clear is why, when given access to the means of mass communication, it seems that a very significant portion of the online community is interested in creating, sharing, and enjoying cute pictures of animals, particularly cats. This trend may not appear "significant" but, for the same reasons that Adorno wrote about Donald Duck, we ought to take all topics that have a significant place within society and culture as having some sort of social and philosophical significance in their origin and basis, if not in their content or direct meaning.

There is a general consensus that the “cute” response is an evolutionarily established adaptive trait; one that was necessary to develop the large brain size of the human species. A larger brain size required a larger period of helplessness during infancy, and, in the absence of the “cute” response, our primate ancestors would not have put up with an infant’s inability to move, feed, and clean itself for a sufficiently long period. On this view, we would assume that the drive towards communications serving our interests in the cute would be similarly prevalent as those serving our interests in sex, wealth, and freedom. And yet, while communications based largely on our interest in the cute—especially when mixed with the funny, as in http://en.wikipedia.org/wiki/Mickey_mouse cartoons —certainly predates new media, it seems that there is a significant degree to which an emphasis on cuteness as a communicative motivation is peculiar to new media.

In the following, I will consider three possible explanations of the relative over-abundance of an interest in the cute within current new media communications, the first based on shifting demographics, the second based on human-computer interaction, and the third based on a process of desublimation. I will argue that all of these explanations are plausible and helpful in understanding the role that the cute plays in online culture.

Chapter 12
The Cat Lady Hypothesis

When considering the social impact of the increasing access to communications technologies provided by new media, most theorists and political philosophers are concerned with increased power given to those who have been previously under- or unrepresented in mass communications. This is surely not without reason. The most culturally and politically significant changes could be expected to emerge from the abilities of excluded voices to become efficacious, ranging from http://www.rawa.org/ the relatively early use of new media by Afghani women to publicize their subjugation to the currently expanding http://socialactions.com/ use of microphilanthropy to serve niche and underserved causes .

These groups, however, are not the only new voices we see reflected in new media. By concentrating on politically active populations and tech-savvy youth culture, we tend to ignore the large number of older and more casual users online. Furthermore, there is a strongly gendered component to those older and non-politicized voices previously underrepresented: In centralized mass-media production, non-politicized communications intended for women have often, perhaps predominantly been written or produced by men. One important aspect of the manner in which means of mass communication have recently become widely available, rather suddenly, is the significant and relatively sudden increase in the proportion of women involved in the production and popularization of content. If we consider that http://www.monmsci.net/~kbaldwin/mickey.pdf there may be a biological basis for the cute-response , we might expect that biological aspect to tend to be more strongly expressed within women. Regardless, it is certainly culturally encouraged among women in a way in which it is not among men. Either way, we should not be surprised if a disproportionately male group of producers of women's content would produce content different from that which this group of women themselves might produce and share once having gained access to the means of content creation and sharing.

This is by no means intended to imply that all women are interested in cute content; that many men are not similarly interested in cute content; that the interest in cute content is limited to older and less politicized users; or that additional consideration of the demographic of older, less politicized female online culture is sufficient to explain the emphasis upon cuteness observed in online culture. This is presented only as a possible partial explanation, and, even as a hypothesis that seeks only to be one of several factors, it does not address all the relevant cases. For example, we might find that this often ignored demographic is likely to send cute email forwards, perhaps less likely to go to *The Cute Project* (http://www.thecuteproject.com/) or *BabyAnimalz.com* (http://www.babyanimalz.com/) , and less likely still to go to *Stuff On My Cat* (http://www.stuffonmycat.com/) or *Cats in Sinks (*http://catsinsinks.com/*)*.

New media lend themselves to communications that appeal to users across different demographics, especially when blending together genuine and ironic interests in a given subject matter. *Cute Overload* (http://cuteoverload.com/) and *Cake Wrecks* (http:/

/cakewrecks.blogspot.com/) are prominent blogs that exemplify this. I have observed frequent visitors of these sites enjoy the sites in a genuine manner (i.e. have direct interests in cute animal pictures or in cake decoration), and have observed other frequent visitors enjoy the sites in ironic or absurdist manners. Several cute-content-related sites encourage these dual modes of appreciation, as for example in the habit of Meg Frost, the proprietor and "Chief Cuteologist" of *Cute Overload* (http://cuteoverload.com/), of saying things like "That's so cute I could puke a rainbow" (http://cuteoverload.com/2007/04/19/thats_so_cute_i/); or the general approach of *Cute With Chris* (http://chrisleavins.typepad.com/), a website and very highly-ranked YouTube channel (http://www.youtube.com/user/cutewithchris), where Chris Leavins shows pictures of animals up for adoption and invites the viewer: "Let's all feel guilty together" (http://www.cutewithchris.com/2008/12/high-quality.html)—even as he intersperses cute animal pictures with comments about crazy cat ladies (http://www.cutewithchris.com/crazy_cat_ladies/), his teen viewership (http://www.cutewithchris.com/teens/) and their impending pregnancies, and absurdist humor involving plastic horses (http://chrisleavins.typepad.com/chrisleavins/2007/10/show-145-hit-th.html) and towels (http://chrisleavins.typepad.com/chrisleavins/2007/04/mondays_cutedow_1.html).

Sanrio creates a wide consumer base in a similar way; Hello Kitty is well-positioned to be desirable to girls as "cute," to adolescents as "cool," and to adult women as "camp" (http://mcu.sagepub.com/cgi/content/abstract/5/2/225 "McVeigh, 2000 , p. 225). Similar various and overlapping modes of enjoyment may be the best account of the wide audience found by icanhascheezeburger (http://icanhascheezburger.com/), where lolcats may be valued as cute or funny animal pictures (http://icanhascheezburger.com/2007/01/15/i-made-you-a-cookie/), as in-group humor employment of such pictures (http://icanhascheezburger.com/2007/10/31/leeeeeeeeeroy1/), or as a language game capable of reflective irony (http://icanhascheezburger.com/2008/03/07/funny-pictures-i-question-the-general/).

It seems to me clear enough that the cultural and communicative empowerment of demographics related to the stereotypical image of the "cat lady" play an interesting and unexpected role in the formation of online culture and new media communications—but this demographic is influential *in dialog with* other demographics, and is certainly neither the only source of, nor the only consumers and popularizers of cuteness-based communications.

The Alienating Technology Hypothesis

There is a relatively consistent attempt to introduce a cuteness or a coolness into product and user-interfaces of digital technologies. We might perhaps see a connection between these design efforts and the more general interest in cute content. One possible such connection is that there may be a perceived inhuman or dehumanizing aspect to digital technologies in general that we instinctively attempt to mitigate by the transformation of digital technologies into exemplifications of the cute, sleek, or cool.

We certainly see this in the blobject and squircle design trends that emerged in the late '90s and early 2000s. As others have written (e.g., Rashid, 2001; http://boingboing.net/images/blobjects.htm Sterling, 2004 ; Holt & Holt, 2005; Raven, 2008), blobjects and squircles give smooth, soft lines to hard materials, and produce an appealing effect, sometimes more "cool" or "sleek," sometimes more "cute." We might look at the iPod as on the "cool" end of the spectrum, at the New Volkswagen Beetle as on the "cute" end, and at the various iMac (http://commons.wikimedia.org/wiki/File:IMac.jpg) models somewhere in-between. USB drives (http://www.engadget.com/2006/06/18/usb-teddy-bear-holds-data-scares-children/) in particular have gone off the far end of cute (http://www.testfreaks.com/blog/information/usb-novelty-flash-drive-roundup-36-tested-and-compared/) into the "cutesy."

Graphical User Interfaces are certainly also interested in representations of this sort. It is remarkable that among Microsoft's most businesslike of business applications we see a cheerful talking paperclip (http://technologizer.com/2009/01/02/microsoft-clippy-patents/). This particular example shows how the use of cute imagery does not itself make digital technology (http://knowyourmeme.com/memes/clippy) any less potentially frustrating and alienating .

Still, it seems natural to think that rounded and soft design elements and cartoon anthropomorphisms would mitigate user perceptions of digital technology as foreign, cold, and uncaring. And so, similarly, it is not an unreasonable hypothesis that users may independently seek out such images as a form of self-medication when the forms of interaction encountered with the computer are too different, uncomfortable, or impersonal. *Boing Boing* (http://www.boingboing.net/) has initiated a practice employing 'unicorn chaser images' (http://www.boingboing.net/2005/07/11/and-now-we-pause-for.html) with exactly this therapeutic effect in mind, albeit with regard to specific disturbing stories or images rather than the emotional distance and coldness of life on the screen itself.

With the explosive growth of http://www.facebook.com/ *Facebook* , there has been renewed interest recently in the question of how digital communications alter interpersonal relations. Some have suggested that the speed and lack of context to communications prevents us from forming appropriate emotional responses (e.g. Immordino-Yang et al., (2009); others that friendship is in part dependent upon physiological signals, and that a fully online maintenance of friendship is simply not possible. If we put any stock in such claims at all, they would certainly support the idea that after a certain amount of very short-form mediated interaction with "friends," we would feel less emotional weight and connection than we would normally expect, and might therefore be driven to seek out images that are specifically aimed towards the creation of a feeling of warmth and closeness.

The aesthetic theory of cuteness has been little explored, but it is unambiguously clear that a central element of the sentiment corresponding to the cute is one of *being*

needed (http://www.flickr.com/photos/invisiblehour/2507092420). As Daniel Harris (2000) put it,

> Something becomes cute not necessarily because of a quality it has but because of a quality it lacks, a certain neediness and inability to stand alone, as if it were an indigent starveling, lonely and rejected because of a hideousness we find more touching than unsightly. (p. 4)

We see this in the infant-like attributes that tend to mark an image as cute, such as large eyes (http://faboarts.deviantart.com/art/Ardilla-47031794) and small ears relative to head size (http://www.flickr.com/photos/kubina/7601716/), and large head relative to body size (http://www.flickr.com/photos/erikveland/423038931/). Foreshortened limbs (http://www.flickr.com/photos/rizielde/383112178/) and a general tininess (http://www.flickr.com/photos/tambako/854582772/) are also relevant factors.

Another way in which we see the feeling of being needed as central to the experience of cuteness is in the proximity between the cute and the sad (http://cuteoverload.com/2007/07/14/no-i-didnt-enjo/). It seems the only circumstance in which an image of an injured animal would evoke a pleasant and warm feeling (http://cuteoverload.com/2009/09/20/casting-call/)—sadism aside—is within the context of feeling needed. Furthermore, the word cute itself originally meant cunning and manipulative, and seems to have acquired its present meaning in the early 20th Century as we increasingly accepted the idea that children should not be expected to behave, but ought to be indulged when they are sad, desirous, or petulant (Cross, 2004). The sad eyes of a child are a form of manipulation, but it is a form of manipulation that we culturally value and reward, and that we tend to enjoy being the object of (http://www.kopeikingallery.com/exhibitions/view/end-times).

And so, even though it is surely an inadequate explanation on its own, it is not an unreasonable hypothesis that the feeling of being needed that is evoked by cute images is a kind of supplement to the cooler and more distant experience of computer-mediated relationships.

The Desublimation Hypothesis

As mentioned previously, questions have been raised about the effects that the speed of new media communications have upon our ability to form appropriate emotional responses to news and events, even among people known to us personally. Another possible explanation of the prevalence of cute communications is that the cute is a category of expression requiring a minimal level of thoughtful engagement, and is for this reason an aesthetic having a natural fit with the speed of engagement on the part of the new media viewer.

If we compare, for example, the ornate and rich painting and music of the baroque period to the more dramatic romantic works, we see a change in the immediacy of response required of the audience appropriate to that time. Baroque artworks are not necessarily quiet or subtle, but they require more patience of the audience; their

intended emotional response takes longer to unfold. Romantic works, with their *Sturm und Drang*, are more immediately engaging and involving. This shift is consistent with a general speeding up of European life, where time, through industrialization and the growth of city life, became divided up into ever-smaller intervals, more specifically regimented.

And so, in the 18th and 19th centuries, the aesthetic ideal of the beautiful began to give way to the aesthetic ideal of the sublime, and the immediacy of emotional expressiveness increased. If we keep in mind particular artworks—most particularly Wagner's *Ring Cycle*—it will be clear that this is not a "speeding-up" of artworks in any literal sense. The point is only that the artworks become more emotionally immediate, appealing to stronger and more direct feelings, and perhaps passing over more contemplative and quieter expressive content. This is an overgeneralization, of course, and there are abundant exceptions, but there is on the whole a movement of this kind.

With the rapid speeding-up of everyday life brought about through new media—not dissimilar in degree of change from that of the industrial revolution—it may not be surprising if we see expressions that draw upon those most emotionally immediate responses. This is a process of desublimation,[1] where basic emotional drives are appealed to in an increasingly direct manner, rather than in more complicated and sublimated forms.

Online life, for many, is governed by the search for lulz, with relatively little social or self-regulation. There is a general move towards what we might describe as a simpler emotional palette made only of the brightest colors. Cute images are immediately engaging, similar to other categories of communications that have become prominent in new media, such as the hot(http://www.hotornot.com/) and the shocking (http://rotten.com/) and disgusting (http://www.alexa.com/siteinfo/stileproject.com) . Indeed, extreme images become objects of interest and appreciation for their very extremity, as exemplified by the popular awareness of the goatse image (http://knowyourmeme.com/memes/goatse), as well as outgrowths such as the "First Goatse" Flickr Photo Pool (http://www.flickr.com/groups/firstgoatse/pool/).

This process of desublimation in communications does not emerge simply from an increasing speed and subdivision of time, but is also a natural result of user choice empowered by pull-oriented media and online anonymity. When we decide for others what they will see, as do those in broadcasting, we take on responsibilities to provide media with some pretense to redeeming value, if for no other reason than that it is we who will shoulder the blame if we catered simply and crassly to the simplest and lowest viewer desires. Within a pull-oriented media environment, the unsatisfying defense of the broadcaster—"if you don't like it, change the channel"—does not even have to be given. If the viewer does not like what she sees, in most cases, it is her own fault for searching for it, or clicking on the link. And so, freed from the responsibilities of choosing for others, content creators have provided extreme content, and, granted

anonymous access, users have sought out extreme content (http://consumerist.com/2006/08/aol-user-927-illuminated.html).

The general movement towards extreme images may play a role in increasing the expectation in new media communications for immediately engaging and evocative content (http://www.youtube.com/watch?v=oHg5SJYRHA0), and so, even though the cute is very different from the hot, shocking, or disgusting, all may play a role in determining the speed and level of desublimation typical within new media culture.

Concluding Remarks

In this speculative discussion, I have attempted to outline some possible reasons why we have seen an unexpected concentration on the cute within online culture. Due to the nature of the question, any answer would necessarily be quite incomplete and unverifiable, but I hope that the primary hypotheses I have addressed might help us to begin to think about and understand this aspect of online culture and new media communications. Further questions of interest might include those of the strong influence of Japanese culture and *kawaii* over new media cultures; of the employment of cute imagery as a way of avoiding the uncanny valley; and of why cats seem to play a special role in online culture, rather different in distinctive ways from that of dogs, bunnies, pandas, or other animals.

Along the way, I hope that this discussion has lent implicit support to a kind of openness and holism in research on digital discourse and culture. Even the scholar interested in narrow issues—say, political and community engagement of depoliticized demographics—benefits from taking a broader view. If we are concerned with how best to mobilize and organize, and how political agency can be structured in our emerging communications contexts, the various actions and activities that people are in fact taking cannot be irrelevant. And the strangest and most unexpected— *Cake Wreck* "wreckplica" re-enactments (http://cakewrecks.blogspot.com/2009/09/about-last-night.html), pillow-fight flashmobs (http://www.pillowfight.info/), and the *LOLCat Bible Translation Project* (http://www.lolcatbible.com/), to name a few at random—may be the most revealing of these social-political structures, even when the immediate end of such organization and action is nothing that is itself concerned with social or political ends.

Chapter 12
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1. In using this term, I do intend to refer to, but not to use, Marcuse's notion of repressive desublimation (1964). For the purposes of this discussion, it is not necessary to ask whether this desublimation is part of the same process Marcuse was concerned with, or whether this form of desublimation is repressive at all.

Chapter 13
Culture, Media, Globalization

Mark Poster

In *The Cultural Contradictions of Capitalism* (Bell, 1984) Daniel Bell, as early as 1976, discerned a new importance to culture as a social question, placing it high in the category of dangers, threats, and disruptive forces. Bell noticed recent changes in culture that implied a departure from the individualism of the rational self that grounded the culture of modernity since the Enlightenment. Youth were moving away from the modern figure of the individual as autonomous and centered toward avenues that Bell perceived only dimly but nonetheless did not like. Culture for him had become a general social problem. Others soon followed his lead in decrying the drift from rationality that was widespread and growing, notably Christopher Lasch in *The Culture of Narcissism* (Lasch, 1979). The question of culture was thereby considerably raised in stature on the agenda of sociology, given the prominence of Bell as a leading social theorist. I believe Bell got it right in his perception of a deep change in culture, but perhaps not for the reasons he gave, nor for the negative value he placed on the phenomenon. Surely the great theorists who founded sociology – Max Weber, Auguste Comte, Emile Durkheim – all considered culture as central to their domain of inquiry. Yet Bell was on to something new and distinct from the earlier theorists. I cannot trace in detail these changes in the discipline of sociology as they pertain to the question of culture, however important this project may be. Instead I will focus on three large trends that I believe have, in distinct but interrelated ways, altered at least for the time being and probably well into the future, the way sociologists consider the question of culture. The three trends I shall discuss are the linguistic turn, globalization, and new media.

The first trend is theoretical and refers to what is often called "the linguistic turn" in philosophy. I argue this is best understood, from the standpoint of sociology, as a "cultural turn"[1] since it conceives the individual as constituted by language, implying a new understanding of the cultural figure of the individual in society. The second trend is globalization. Here the persistent and massive crossing of cultures disrupts the sense of the local, the stability of any one culture. Finally the rise and spread of new media, a third trend, transforms both the process of the cultural constitution of the self in language, as in the first trend, and the character and dynamics of globalization of the second trend. New media, I shall contend, position the individual in relation to information machines, altering the long-standing relation of humans to objects in the world.

In the social sciences, culture is often regarded as the body of meanings embraced by individuals in a given society. More broadly, the term is often distinguished from "nature" and understood as the sum of practices through which humans build their societies or worlds. The Oxford English Dictionary, for instance, gives this as one of its definitions of the noun culture: "The distinctive ideas, customs, social behavior, products, or way of life of a particular society, people, or period". In a more restricted sense, culture often refers to refinement of taste or to the fine arts or to farming

practices. In the discipline of sociology the term has been deployed in numerous ways and on countless objects of study, in far too many varieties for me to enumerate or analyze in this short paper. For my purposes I shall highlight one aspect of the question in particular: Culture has become a chief problem for sociologists increasingly since the latter part of the twentieth century, continuing with ever more intensity in the current century. In the earlier period, say from the eighteenth to the mid-twentieth century, culture in Western societies was mainly naturalized under the sign of human rationality. The study of society did not focus sharply on culture because it was assumed to be a universal aspect of humanity, grounded in individual reason. After the discovery of reason as the essence of man by the *philosophes* in the eighteenth century, the question of culture was subordinated to more pressing issues. These were chiefly the formation of democratic nation-states and the development of industrial economies, two phenomena that preoccupied students of society until well into the twentieth century.

After World War II the assumed universality of culture came into question, especially in France, but more widely in the West and finally in the rest of the world as well. Certainly the collapse of European empires contributed greatly to a new uncertainty about the naturalness of Western culture and its unquestioned supremacy but also the atrocities of the War—Nazi exterminations and the devastation caused by American atom bombs dropped on Japan—were part of the picture. If American science and the "rational" organization of German institutions were so deeply flawed, how could one argue for the universality of Western culture? Indeed, was not Western culture itself open for and in need of a thoroughgoing examination and critique?

Many intellectual currents contributed to this critique but the most comprehensive and convincing of them was no doubt the movement that came to be known, especially in the United States, as poststructuralism and sometimes called, especially in Sociology, postmodernism (although I prefer the former term). Poststructuralism began in France and quickly spread to the United States and later more widely around the world. Its leading thinkers included Jacques Derrida, Michel Foucault, Jean-François Lyotard, Gilles Deleuze, Jacques Lacan, Louis Althusser, Pierre Bourdieu, Jean Baudrillard, Michel de Certeau – a list that could be extended. These poststructuralists, whatever their sometimes considerable differences, developed an analysis of culture in which the rational, autonomous individual of the West was understood not as a value to be treasured, defended and justified but as a problem, a question to be pursued to define its limitations, restrictions and confusions. In this way a path might be opened to construct a superior and less constraining vision of possible future cultural formations. Poststructuralists deepened and extended the insight of Ferdinand de Saussure that language was not simply a tool to be deployed by a fully conscious individual but that, on the contrary, to a considerable extent, language constructed the individual (Saussure, 1959). There was thus conceptualized a form of *unconsciousness* pervading the individual as he or she engaged in language practices.

For the discipline of sociology, poststructuralist arguments concerning the relation of language to the cultural construction of individuals opened a new project, a new manner of understanding and investigating cultural formations, and a new way of theorizing culture in relation to society. In Britain, this task was quickly taken up by Stuart Hall, a sociologist at the Birmingham School of Cultural Studies (Hall, 1996); in France by Michel de Certeau and Pierre Bourdieu; in the United States by Larry Grossberg and many others.[2]

The poststructuralist concept of the cultural construction of the individual enables sociologists to avoid imposing Western notions of individualism, assuming their universality, and projecting them throughout global cultures. For many groups are disadvantaged by Western precepts: women, ethnic minorities, working classes, children, and of course the non-Western world. Armed with a poststructuralist sense of the construction of individuals through languages and practices, sociologists study the historical formation of Western individuals as well as the formation of cultural groups outside the aegis of Western society. While it is true that the pioneers of sociology such as Max Weber experimented with cultural analysis (Weber, 1958), they often fell into universalizing positions in part because of the absence of language theory in their work.

The second trend urging a repositioning of the problem of culture is globalization. Exchanges between cultures, even long-distance trade, characterize human society as far back as scholars have been able to determine. As transport and communications systems improved, such encounters only increased. In the wake of World War II along with the ensuing overthrow of Western imperialist states and finally with the emergence of neo-liberal demands for unrestricted global trade in the 1980s, the process of globalization expanded exponentially. As late as the 1990s some economists cautiously pointed to the relative low percentages of global trade compared with intra-national movements of goods (Carnoy, Castells, Cohen, & Cordoso, 1993). But by the turn of the new century no one convincingly denied the prominence of an economically interconnected world. From the integration of major stock markets to the industrialization of Asian economies, from the instantaneous communication of news events by satellites circling the Earth to the startling unification of oil markets, globalization was recognized as a permanent and rapidly increasing feature of human society. At the economic level, globalization not only of commodity markets but of labor markets as well. Workers in one sector of national production now competed with others around the planet.

Economic globalization, whatever its benefits, also produced numerous discontents and resistances (Sassen, 1998). Political responses to economic globalization have been and continue to be complex and in many ways unprecedented. From attacks on MacDonalds outlets to the Seattle protests of 1999 against the meeting of the World Trade Organization, to the world-wide opposition movements against the Bush administration's war in Iraq in February 2003, globalization has not been greeted warmly by all groups. As a suggestion for further research, despite the often nationalist

aspirations of some of these movements, one might find in the protests an emerging form of planetary political culture. Although it is tempting to understand contemporary globalization as yet another example of Western imperialism—and certainly George W. Bush's rhetoric about bringing democracy to Iraq lends itself to this interpretation—find it too simple to reduce economic globalization to a new form of Western domination. If one limits oneself to that perspective, one would have to explain the eagerness of some nations especially in Asia to enter the global economy. Al Qaida and China arguably form two opposite poles on a continuum of responses to Western aspects of globalization. The former presents an absolute resistance (although al Qaida adopts Western originating technologies like the Internet and the video camera when it suits their purposes); the latter constitutes a creative adaptation of Western economic practices, attuned to Chinese ways of doing things.

At the cultural level, globalization propelled images, sounds, and texts around the globe. Before the twentieth century, European colonialism as well as regional movements of groups established contacts and encounters between peoples of different cultures (Pratt, 1992). New spaces were created in ports, border towns and elsewhere at which cultures confronted one another in face-to-face encounters, most often with unequal resources and disastrous results. Humans seemingly had great difficulty cognitively and emotionally when confronted by others, by those whose appearance, beliefs, languages and practices were strange and incomprehensible. With more recent globalizing trends these mixings multiplied enormously, perhaps to the point that the coherence of individual cultures became no longer possible. In the late twentieth and early twenty first centuries trans-cultural encounters extended beyond face-to-face contacts to include flows of images, texts and sounds in numerous media forms. (Morely & Robins, 1995; Castells, 1996; Soares, 1996) Sociologists would now have to account for culture

not only at the level of individual societies but also at that of cultural contacts and exchanges, at the level of transnational, national, and international cultural phenomena and global cultural flows.

The third trend of a new sociology of culture follows perhaps from economic globalization: that is, the globalization of media. Texts, sounds and images now flow across the globe with an unprecedented intensity and density. Trillions of bytes of information circulate continuously if unequally to every corner of the planet, with a full one-sixth of the human population using the Internet, not to speak of television broadcasts and film audiences. Manuel Castells refers quite appropriately to this phenomenon as "the Internet Galaxy" (Castells, 2001). It no longer comes as a surprise that instantaneous reception of news and other forms of information are an everyday occurrence. What may be less understood is that scientific knowledge, like the genome project, also is part of this global flow and indeed, as Eugene Thacker argues, is essential to the success of genome research (Thacker, 2005). The circulation of genome data, he argues, is an essential condition for its development and use. In his words, "… the processes of globalization form a core component of biological knowledge and

practice…" (p. xvii). From financial markets to peer-to-peer file sharing, from scientific research to social networking, from online gaming to consumer buying, the global aspect of culture is now and increasingly so an integral part of human culture.

The chief question for the sociology of culture that takes the global flows of information into account is to theorize and analyze the specificity of different media forms in the process. At the same time, the relation of local cultures to the new media is also of critical importance. Compared with analogue, broadcast media-like print, television, radio and film, the Internet certainly provides an entirely different relation of the consumer/user to the producer. The online receiver is also at once a sender, the consumer a producer, the audience an author. What is more, the user/consumer is attached to an information machine in new ways. The human and the machine are integrated as an assemblage or ensemble so that the old Western individual no longer is configured as a "subject" over against a relatively inert "object." Further, the Internet is the first medium of cultural exchange that consistently violates political borders. The posts that the nation state established—paper mail, export control of book, magazines, film and television—are bypassed to a great extent by the global network of computers.

Although new media introduce new cultural configurations as a consequence in good part of their material structure, they also interact with social phenomena that are not per se new media. Two aspects of the relation of new media to culture that I discuss below, however briefly, are the nation state and the corporation, and adaptations of new media by non-Western cultures. First, the institutions that predate the Internet, especially the nation state and the industrial economy, appropriate the new media and attempt to shape it in their own image. China notoriously censors web sites, for example, attempting to retrofit the Internet to state control of cultural dissemination. Corporations attempt to control the reproduction of cultural content, from software to music, film, and television. These actions form one end of a continuum of response by older institutions. A second level of adaptation of new media to older ways of doing things is cultural. Anthropologists have studied how some cultures extend existing practices and attitudes to the Internet (Miller & Slater, 2000). The innovative features of networked computing are in this case minimized. Older cultural patterns are simply brought to the Internet evaporating the opportunity for new patterns while reinforcing existing values.

Another and very distinct way that new media are adapted at the cultural level is one that makes fewer compromises with pre-digital worlds. Here the users throw themselves into the new domain, attempting to explore the differences it affords from analogue cultures. Massively, multiple online gaming, creating web sites, engaging in peer-to-peer exchanges of content, artist experiments with digital culture, and so forth, are not simply substitutions for pre-existing behaviors (such as Skype for the telephone) but innovations in basic conditions of culture. Of course these individuals and groups remain participants in their local cultures and are by no means born anew in their exploration of new media. Yet, especially the younger generation around the world is less socialized

into analogue media forms than older generations and is perhaps more open to experimenting with new media.

These three large trends in the relation between global media and culture, as well as countless variations between them, open the salient political question of their resolution: Which model will prevail? Will the Internet become a mere extension of older social and cultural forms? Or will its innovative features emerge in relief, becoming the basis of new cultural configurations in the context of wider aspects of globalization? Perhaps as a consequence in part of global media "man," as Foucault says, will disappear. Or perhaps as Freud (1930) says at the conclusion of *Civilization and Its Discontents* some new, unforeseen and unforeseeable cultural form will arise in conjunction with global media, completely altering our sense of what is possible. The tasks are truly daunting for the sociology of culture in accounting for the impact of new media while at the same time giving due recognition of the multiple contexts of their dissemination.

One issue that, if pursued, might lead to some clarification of the question of a sociology of culture is that of media and self-constitution and this is my main concern in this essay. While the relations between the three trends affecting culture (the linguistic turn, globalization, and new media) might be studies in detail and are already being looked at, to be sure, my interest lies elsewhere. I mean the problematic developed with especial force by Michel Foucault throughout his works: the need to place the Western figure of the individual in question, in particular, in historical question. Unless we understand how the self in the West is constituted by discourses and practices, we inevitably naturalize and universalize that self and consequently approach the context of globalization and multiple cultures with serious handicaps, blindness, and misrecognition of the others, of those with significantly different cultural figures. Of course this problem holds not only for the Western figure of the self but for all cultures. Yet the Western individual is the cultural form that accompanied the spread of Western power across the globe over the past half millennium and is therefore especially implicated in the issue. If this problematic is accepted as pertinent, then one can focus on the role of media in the complex processes of self-constitution. One can move to this question without any sort of ontological privileging of media, any reliance on media determinism, but simply with the recognition that information machines have been and continue to be positioned in relation to human beings in such manner that their imbrication is undeniable (McLuhan, 1964). Man and machine are now and surely will continue to be joined at the hip, so to speak. Their relations are essential to a sociology of culture (Latour, 1979).

The next step in the argument is to explore the question of media specificity: How are information machines implicated differently in the question of self constitution? Do typewriters (Kittler, 1986); print machinery (Johns, 1998); telegraph (Carey, 1989); telephone (Marvin, 1988); film (Crary, 1992); radio (Brecht, 1979-1980); television (Dienst, 1994); and the Internet (Poster, 2006) create the same or different cultural forms, i.e., space/time configurations, imaginary registries, body/mind relations? How

do these media interact with other everyday practices, with ethnicity, age, gender and sexual preference? How do they interact in different national and regional cultures? How do they interact in different historic epochs? Without detailed analyses of these issues the sociology of culture cannot contribute much to an understanding of our global, postmodern condition. Nor can it contribute much to a clarification of the important political matters that confront us. It is time then to take information machines—media—seriously into account in a developing and changing sociology of culture.

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Chapter 13
Notes

1. Fredric Jameson titles a collection of essays with this term but does not define it or discuss it. See Jameson (1998).

2. See Jacobs and Hanrahan (2005) for a comprehensive interrogation of the question of culture for sociologists.

Chapter 14
Barack Obama and Celebrity Spectacle[1]

Douglas Kellner

In the contemporary era of media politics, the role of image and media spectacle has played an increasingly important role in presidential politics and other domains of society. As corporate journalism became increasingly tabloidized, the line between news and information

and entertainment blurred and politics became a form of entertainment and spectacle. In this context, presidential candidates become celebrities and they are packaged and sold like the products of the culture industry. Candidates enlist celebrities in their election campaigns and are increasingly covered in the same way as celebrities, with tabloidized news obsessing about their private lives.

Celebrities are mass idols, venerated and celebrated by the media. It is indeed the media that produce celebrities and so naturally the most popular figures in media industries become celebrities. Entertainment industry figures and sports stars have been at the center of celebrity culture, employing public relations and image specialists to put out positive buzz and stories concerning their clients, but business tycoons and politicians have also become celebrities in recent years. Chris Rojek distinguishes between "ascribed celebrity," which concerns lineage, such as belonging to the Royal Family in the United Kingdom, or the Bush or Kennedy families in the United States; "achieved celebrity," won by outstanding success in fields like entertainment, sports, or talent in a particular field; and "attributed celebrity," fame achieved through media representations or spectacle, as in scandals or tabloid features (Rojek, 2001, p. 17ff), with Paris Hilton an obvious example of this category.

Celebrity is dependent on the media and the implosion between entertainment, news, and politics, and the proliferation of media outlets has created an ever more intense and diffuse celebrity culture. Celebrities are the most popular figures in their field and publics seem to have insatiable appetites for inside information and gossip about their idols that fuel media searching for profit in a competitive market to provide increasing amounts of celebrity news, images, and spectacle.

Indeed, celebrity culture is such that there are a class of faux celebrities who are largely famous for being famous and being in the media (think Paris Hilton), largely through tabloid media that are becoming ever more prevalent in the era of the Internet, new media, and social networking sites that circulate gossip. In this context, it is not surprising that politicians, especially political leaders often in the media spotlight, become celebrities with publics wanting news, information, and gossip about their private lives and public images and actions.

In addition, politics in the United States and elsewhere in global culture have become propelled in recent years by media spectacle. The mainstream corporate media today in

the United States increasingly process events, news, and information in the form of media spectacle (see Kellner 2001, 2003a, 2003b, 2005, 2008). In an arena of intense competition with 24/7 cable TV networks; talk radio; Internet sites and blogs; and ever proliferating new media like Facebook, MySpace, and YouTube, competition for attention is ever more intense, leading the corporate media to go to sensationalistic tabloidized stories, which they construct in the forms of media spectacle that attempt to attract maximum audiences for as much time as possible, until the next spectacle emerges.

By spectacle, I mean media constructs that are out of the ordinary and habitual daily routine that become popular media spectacles by capturing the attention of the media and the public. They involve an aesthetic dimension and often are dramatic, bound up with competition like the Olympics or Oscars that feature compelling images, montage, and stories. Media spectacle refers to technologically mediated events, in which media forms like broadcasting, print media, or the Internet process events in a spectacular form. Natural disasters are presented as media spectacle as Breaking News! Highly dangerous hurricanes, tsunamis, fires or other natural events that come to dominate the news for some time, as did the Asian Tsunami of 2005 and Hurricane Katrina in 2005, are processed as media spectacle. Global pandemics can also become major media spectacles as with the SARS spectacle of 2003 or the so-called Swine Flu crisis of 2009.

Examples of political events that became media spectacles would include the Clinton sex and impeachment scandal in the late 1990s, the death of Princess Diana, the 9/11 terror attacks, and the meltdown of the United States and perhaps global financial system concurrent with the 2008 presidential election and new presidency of Barack Obama. Celebrity spectacles include the O. J. Simpson trial that dominated corporate media news in the mid-1990s (Kellner, 2003a); the ongoing Britney Spears saga; or, most significant, the spectacle of the life, death, and aftermath of Michael Jackson, which is becoming the most enduring and far-reaching media spectacle of all time.

In this study, I suggest some of the ways that the logic of the spectacle promoted the candidacy of Barack Obama and indicate how he has become a master of the spectacle and a global celebrity of the highest order. I will discuss how he became a supercelebrity in the presidential primaries and general election of 2008 and utilized media spectacle to help win the presidency. Finally, I will discuss how Obama has in the first months of his presidency deployed his status as global supercelebrity and utilized media spectacle to advance his agenda.

Media Spectacle and Politics: The Democratic Party Spectacle

Looking at the 2008 Democratic Party primaries, we see exhibited once again the triumph of the spectacle. In this case, Barack Obama and Hillary Clinton--the first serious African American candidate vs. the first serious woman candidate--generated a compelling spectacle of race and gender, as well as a campaign spectacle in incredibly hard-fought and unpredictable primaries. As a media spectacle, the Democratic Party primary could be read as a reality TV show. For the media and candidates alike the Democratic primary has been *Survivor*, or *The Apprentice* ("You're fired!"), with losing

candidates knocked out week by week. With the two standing candidates Obama and Clinton, it as been the *The Amazing Race*, as well as *American Gladiator* and *American Idol* rolled into one, with genuine suspense concerning the outcome.

The primary was also a celebrity spectacle as Hillary Clinton is one of the major celebrities in U.S. culture, as well as a former First Lady and New York Senator, while Barack Obama, a community organizer, Illinois state legislator and then Senator was emerging as one of the major celebrity figures in U.S. and even global politics.[2] The spectacle of race and gender in a major U.S. party primary was unprecedented as presidential politics have previously largely been the prerogative of white males. As Jackson Katz argues in a forthcoming study, masculinity and presidential packaging of the candidate as the strongest leader, a protective father and a true man, has been a major determinant of presidential elections in the media age. A woman and African American candidate thus breaks with the dominant code of Great White Leader, and as we shall see, Barack Obama came to challenge dominant conceptions of presidential masculinity as well as race.

From the first primary in Iowa where in January he won a startling victory, the Obama spectacle emerged as a spectacle of Hope, of Change, of Color, and of Youth. In addition to his campaign speeches on the stump everyday that mobilized record crowds, during every primary election night, Obama made a spirited speech, even after his unexpected loss to Hillary Clinton in New Hampshire, proclaiming: "'Yes we can' was the call of workers who organized, women who reached for the ballot . . . and a King who took us to the mountaintop and pointed the way to the promised land."

Obama gave a compelling Super Tuesday victory speech that was the most watched event of the primary season in its first weeks, and the most circulated speech on the Internet that week, in which Obama pulled slightly ahead in delegate count on a multi-state primary night. Obama then won 11 primaries in a row.[3] He made another striking speech after the Wisconsin primary where he took over airways for about an hour, providing a vision of the United States coming together, mobilizing people for change, carrying out a progressive agenda, getting out of Iraq, using the money spent there to rebuild the infrastructure, schools, health system, and so on. Even when Obama lost primaries, he gave inspiring and impassioned speeches.

There was also an impressive Internet spectacle in support of Obama's presidency. Obama raised an unprecedented amount of money on the Internet, generated over two million friends on Facebook and 866,887 friends on Myspace, and reportedly had a campaign listserv of over 10 million email addresses, enabling his campaign to mobilize youth and others through text-messaging and emails.[4] Videos compiled on Obama's official campaign YouTube site were accessed over 11.5 million times (Gulati, in press, p. 195), while the YouTube (UT) music video "Obama Girl," which has a young woman singing about why she supports Obama with images of his speeches interspersed, received over 5 million hits and is one of the most popular in history.[5]

Indeed, grassroots campaigns for Obama illustrate the impact of YouTube and Internet spectacle for participatory democracy. Among the enormous numbers of Internet-distributed artifacts for the Obama campaign, Will.I.Am's *Yes, We Can* music video manifests how grassroots-initiated media artifacts can inspire and mobilize individuals to support Obama. This MTV-style UT music video breaks with conventional ways of producing music video, as Will.I.Am assembled a variety of artists' grassroots participation in its production. In his words:

I wasn't afraid to stand for "change"... it was pure inspiration... so I called my friends... and they called their friends... We made the song and video... Usually this process would take months... but we did it together in 48 hours... and instead of putting it in the hands of profit we put it in the hands of inspiration....[6]

In addition to this video made by professional musicians, there emerged grassroots-based videos made by ordinary people who have produced their own videos and narratives to support Obama, collected on a YouTube (UT) website.[7] Traditionally underrepresented youth and people of color vigorously utilized UT-style self-made videos as an innovative platform for grassroots political mobilization. These videos contain their personal narratives and reasons why they support Obama for President in order to inspire and consolidate potential Obama supporters on and off-line.

Obama art posters have appeared throughout major cities like Los Angeles, and all over the city--on stop signs, underpasses, buildings and billboards--there are hundreds of posters and stickers depicting Obama's face with the word HOPE emblazoned across. Even street artists have been doing Obama graffiti and urban art in public places with Obama's image competing with Hollywood stars, sports figures, and other celebrities as icons of the time (Linthkicum, 2008).

So in terms of stagecraft and spectacle, Obama's daily stump speeches on the campaign trial, his post-victory and even defeat speeches in the Democratic primaries, and his grassroots Internet and cultural support have shown that Obama is a master of the spectacle. As for Hillary Clinton, she simply was not as good as Obama in creating spectacles, although she became proficient as the primaries went along, and near the end of the presidential primaries the spectacle of **Hillary the Fighter** emerged as she relentlessly campaigned day and night and was just barely beaten by Obama.

Refusing to give up, Clinton campaigned tirelessly and gave rousing speeches to her hyped-up forces, so that in the two weeks before the Ohio and Texas primary we had a new phenomenon, the Hillary the Fighter spectacle that competed fiercely with the Obama spectacle and helped win her those primaries. Hillary Clinton had mobilized an army of highly motivated, largely women, supporters, aided by politicos associated with Bill Clinton and Democratic party professional operatives. Hillary the Fighter became quite a spectacle herself, going on the attack in the Texas debate; criticizing Obama on the stump and in ads; and going on popular TV shows like *Saturday Night Live* (*SNL*) and *The Jon Stewart Daily Show*, the most popular comedy and news satire shows, to

promote her policies and "likeability." Hillary was a fireball of energy, campaigning daily to impressive crowds, appearing on every imaginable TV show, and getting on the cover of *Time* magazine on May 17, 2008, with a dramatic cover picture of The Fighter.

With momentum going her way, Clinton won three party primaries in early March and the media started to become more critical of Obama after a satirical *SNL* skit spoofing how the media was hyping Obama relentlessly and promoting him as "The One." Clinton referenced *SNL* coverage and made the complaint in a debate that the media was totally uncritical of her opponent, just as *Saturday Night Live!* demonstrated. Media pundits and Clinton accelerated daily attacks on Obama, putting him on the defensive and giving the appearance he was losing his momentum in the two weeks before the Texas and Ohio primaries, both of which Clinton won, making it a tight and exciting race.

The Clinton forces mobilized a celebrity spectacle for Hillary with Jack Nicholson making ads for her, as younger stars went on the campaign trail in Ohio and Texas. After these big primary losses the *New York Times* had an article, "Lesson of Defeat: Obama Comes out Punching" (March 6, 2008), and a new Obama the Fighter emerged, supplementing Obama the Visionary, the Charismatic, the Redeemer, and JFK reborn. Obviously, Obama had to become more aggressive and become a fighter in response to Hillary's fierce attack-dog mode.

As noted, usually the spectacle of masculinity is decisive in U.S. presidential elections (Katz, forthcoming). George W. Bush bought a Texas ranch so that he could wear cowboy boots and cut brush, images mocked by Michael Moore in *Fahrenheit 9/11*. In 2004, John Kerry went hunting, smeared rabbit blood on himself to project the spectacle of Kerry the Hunter, but the Bush-Cheney campaign played images of John Kerry wind-surfing on a boat, an aristocratic sport, and used the images of him sailing; moving from one side of the boat to another to illustrate the flip flop motif against Kerry.

Against Obama, Hillary had become increasingly masculine, positioning herself as the Fighter, the Commander-in-Chief, the aggressive campaigner, assuring white working class voters that "I'll fight for you." One of Hillary's surrogates said only she had "testicular fortitude" to do the job, while another praised her, saying that "She makes Rocky Balboa look like a pansy" (Leibovich & Zernike, 2008, para.). In Pennsylvania, Clinton even played the gun card, recalling how her grandfather had taught her respect for guns and how to shoot them, leading Obama to joke that Hillary Clinton "thinks she's Annie Oakley."

In March, as the campaign rhetoric heated up, with each team trading insults, Clinton played the fear card with her ad proclaiming that it's 3:00 a.m. and we need a Commander-in-Chief to deal with the crisis. In mid-March, Obama was subjected to especially nasty attacks concerning his Chicago associates, particularly his pastor Jeremiah Wright whose inflammatory speeches were circulating on YouTube and through the media and Internet. In response, Obama's remarkable March 18 race speech became one of the major spectacles of the primary season. TV network

commentators were immediately comparing it to MLK's "I have a dream" speech and were saying it was the most important political speech on race since King's earlier landmark. Pundits, including conservative ones, gushed in praise of the speech that dominated TV , Internet and print media in the days following (for an overview of commentary, see Howard Kurtz, 2008).

But perhaps Obama's low point came when he told a group of supporters at a fundraiser in Marin County California that he was having trouble getting white working class support in Pennsylvania because small town residents were "bitter" and "clinging to guns and religion." The Clinton and Republican response teams attacked Obama as an elitist, out of touch, and contemptuous of guns and religion, but he continued to hang on to his lead in the delegate count and won primaries on May 5 in Indiana and North Carolina, and eventually Obama eked out a close win in the Democratic Party primary after a close and momentous battle of the spectacle.

Celebrity and Election Spectacle

Hence, Barack Obama eventually secured the Democratic presidential nomination, setting himself to run against John McCain as the Republican Party candidate. Following Obama's impressive performance on the stump in the Democratic Party primaries, coverage of both the party conventions and general election were dominated by the form of media spectacle. While the McCain camp engaged in petty anti-Obama ads and attacks in summer 2008, Obama went on a Global Tour that itself became a major media spectacle as he traveled from Afghanistan and Iraq to Europe. Obama gave a rousing speech in Berlin that attracted hundreds and thousands of spectators and a global TV audience, and was shown meeting with leaders in all of these countries, as if he were the presumptive president, establishing him as a global celebrity.

Since Obama had become an extremely effective creator of political spectacle, McCain presumably had to produce good media spectacle himself, or anti-Obama spectacles. From the time Obama cinched the nomination, McCain largely attempted to create an anti-Obama spectacle through TV ads, planting anti-Obama stories in the press and circulating them through the Internet, and eventually attacking Obama everyday on the campaign trial.

Although Obama benefited significantly through his supporters' Internet and other cultural productions, he was temporarily put on the defensive in the summer with the YouTube released videos of the inflammatory speeches of the Reverend Jeremiah Wright, the Chicago pastor of his church.[8] The deluge of Republican and then mainstream media circulating the Rev. Wright speeches and Wright's appearances on television and his making highly controversial speeches led Obama to break with his pastor. However, Obama gave what many believed to be a brilliant speech on race in Philadelphia, another spectacle that became a major cultural event on both the Internet and mainstream media.

Underneath the spectacle on the broadcasting media, a Republican campaign circulated through the Internet claiming that Obama was really a Muslim, was like Rev. Wright and anti-American, and even an Iranian agent.[9] In addition to these underhanded sneak attacks, parallel to the Swift Boat attacks against John Kerry, the McCain campaign released TV ads equating Obama with Paris Hilton and Britney Spears as an empty celebrity, leading Paris Hilton to create an ad attacking "the wrinkly old white dude" (i.e., John McCain) and arguing why she'd be a better president; her YouTube video received over one million hits in a single day.[10] Quite obviously, the Republicans did not understand that Obama's rising celebrity status was helping him become more popular, getting him more attention, support, and eventually votes from a population that is generally attracted by celebrity status and culture.

In another ad, McCain attacked Obama for high energy prices and ridiculed Obama's proposal to inflate your tires, as if this were all of Obama's energy program. Obama was able to counter that he had a much more sophisticated energy program and that John McCain had voted against many of the alternative energy sources that he supported. Desperate for attention and needing a little spectacle of his own, John McCain appeared with his wife Cindy at Struges Biker Festival with Kid Rock. As the bikers roared their engines in approval, McCain engaged in blustering, if often incoherent demagoguery, shouting that Washington is broken, that while the country is in crisis the Congress is on vacation, insisting he would make them come back to work during the summer to the roar of the motorbikes. He received his loudest cheers and shouts of approval as he offered up his wealthy trophy wife Cindy to enter the beauty contest the next day, perhaps not knowing, as the TV images of past contests made clear, that this involved nudity and offering his wife as a sex object before a drunken crowd.

As the campaigns neared their party conventions, traditionally great TV spectacles of the campaign, the presidential race seemed to be establishing once again the primacy of TV democracy where the election is battled out on television— although print media, Internet, and new media are also significant, as I have been suggesting. Following the great spectacle of the Democratic convention in late August with memorable speeches by Obama, Al Gore, Bill and Hillary Clinton, and a moving appearance by Senator Ted Kennedy, McCain desperately needed compelling spectacle and got it in spades when he announced and presented his Vice-President candidate, Sarah Palin, who generated one of the more astounding media spectacles in U.S. political history.

The Curious Sarah Palin Spectacle

Palin, a short-time Governor of Alaska and former small town mayor, who few knew much about when McCain selected her as his vice-presidential candidate, was a genuine surprise pick. It turns out, however, that Palin gives good spectacle: she's a gun owner and NRA activist and footage all day showed her shooting guns. She was also a high school basketball star so there was footage repeated endlessly of her playing basketball (although Obama could probably beat her one on one). Palin's husband was a snowmobile champion so you got more good sports spectacle throughout the media

spectacle introducing the Palins. In addition, Sarah Palin was a beauty contest winner, triumphing in local contests and coming in runner-up as Miss Alaska, so there were a lot of images of her as a pin-up girl that first day, which introduced her to the American public. Gov. Palin's a mother with five children, so you had great family pictures, including a newborn baby with Down's syndrome. After her initial speech with McCain introducing her, her family and the McCains went shopping and she was shown as an enthusiastic shopper marking her as a typical American.

One might think this is all pretty stupid, but American elections are often won on image and spectacle and obviously Sarah Palin provided good spectacle. Republicans initially hoped that she would get Hillary Clinton voters and women, because she's a woman, but since Palin opposes abortion rights, is militantly antiabortion, has a poor record on environmental protection, and believes environmental crisis is not man-made, she appears to have never picked up substantial support among Democratic party women. Furthermore, Palin supports drilling oil everywhere without environmental regulation, preaches teaching creationism and religion in the schools and taking offending books out of libraries, and is militantly anti-gay, so any true Hillary Clintonites who would vote for this rightwing ideologue have taken leave of their senses….

Then on Labor Day, September 1 a tabloid-besotted media revealed that Palin's 17 year old daughter was pregnant and unmarried, so we had sex scandal spectacle all day and debates whether a mother with all these problems should run for Vice President and submit her family to media scrutiny. More seriously, many political scandals involving Palin herself came out: she had fired state employees who would not do her bidding and had appointed unqualified high school friends and cronies to state jobs; she had supported corrupt politicians, had lied about her record, and had consistently taken positions to the right of Dick Cheney, so Sarah Palin suddenly became a spectacle of scandal as well as adulation by the Christian and Republican Right.

The Republicans were forced to postpone their convention because of another spectacle, the Hurricane Gustav spectacle which was said to be twice as dangerous as Katrina, but turned out to be relatively minor in effect. Once the Republicans got their convention started, it turned out that Sarah Palin gave an electrifying speech that mobilized the rightwing Republican base and a new star was born. For a couple of weeks after the Republican convention Sarah Palin was the spectacle of the day and the media buzzed around the clock about her past and her record, her qualifications or lack of them, and her effect on the election.

The Spectacle of Economic Crisis and the 2008 Presidential Campaign

The Stupid Season in the campaign was over, however, on Monday, September 15, 2008, when the collapse of the Lehman Brothers investment company helped trigger what appeared to be one of the great U.S. and global financial crises in history. Suddenly, the election was caught up in the spectacle of the possible collapse of the U.S. and global economy so economics took front and center. In two wild weeks of campaigning, McCain first insisted that the "fundamentals" of the U.S. economy were sound, and when

everyone ridiculed him, he recognized the significance of the crisis and said that as president he would fire the head of the SEC (Security Exchange Commission), although this official does not serve directly under the president, and everyone from the *Wall Street Journal* to the television networks admonished McCain for trying to scapegoat someone who experts knew was not responsible for the crisis. Zigzagging wildly, McCain thundered one day that he was against federal bailouts and when the Bush administration announced the biggest bailout in history that was allegedly necessary to save the whole shebang, McCain flipped into support, resorting at the end of the week to blaming Barack Obama for the crisis, since he was part of a corrupt Washington establishment (overlooking that McCain's top economic advisor Phil Gramm had been instrumental in pushing deregulation of the economy through Congress and that top lobbyists were running his campaign, including McCain's campaign manager who was instrumental in lobbying for the failed FreddyMae and FreddyMac financial institutions that some in the McCain-Palin campaign were trying to blame for the economic meltdown and present as a Democrat party debacle).

Obama seemed to gain the initiative during the economic crisis as he made measured and intelligent statements on the economy, and so the Republicans desperately began a strategy of the Big Lie, endlessly distorting his tax proposals, accusing him of crony relations with disgraced federal officials who he hardly knew, and making ridiculous claims about Obama's responsibility for the economic mess. It was becoming apparent that the Republicans were pursuing the Karl Rove/George W. Bush strategy of simply lying about their opponents, trying to create an alternative reality.

For instance, from the beginning Sarah Palin's candidacy was arguably based on Big Lies, as McCain introduced her as the woman who had stopped the Bridge to Nowhere in Alaska and was a champion of cutting "earmarks," pork barrel legislation to benefit special interests in one's district. Palin repeated these claims day after day, but research revealed that she had supported the Bridge to Nowhere from the beginning, had hired a public relations firm to get earmarks for her district and her state, and had in fact received more earmarks per capita than almost anyone in the country.

With the September 22, 2008, economic meltdown, however, when it looked like the U.S. economy was in a freefall collapse and the Bush-Cheney administration proposed a multibillion dollar bailout package, John McCain embarked on one of the truly incredible political spectacles in U.S. history, trying to position himself as the savior of the economic system and then making an utter fool of himself as day after day he engaged in increasingly bizarre and erratic behavior. Just before the first presidential debate on September 26, McCain announced he was suspending his campaign, was going to Washington to resolve the financial crisis and would stay until it was resolved, threatening to miss the presidential debate. After a lot of negative publicity he showed up for the debate, viciously attacked Barack Obama in probably the most thuggish debate performance in U.S. political history, and his website declared him the winner

before the debate even took place (subsequent polls showed that Obama got a bounce from the debate and the candidates' performances in response to the financial crisis).

Over the weekend, McCain came to Washington, claiming he was bringing together Congressmen to resolve the financial crisis and attacked Obama for staying on the campaign trial. The morning of the Congressional vote on the debate, McCain and his surrogates claimed it was John McCain alone who had brought Democrats and Republicans together to resolve the financial crisis and continued vicious attacks on Obama. When, hours later, it was revealed that the bailout package pushed by the Bush-Cheney administration and supported by McCain, Obama and the Democratic and Republican party house leaders, failed because two-thirds of the Republicans, who McCain was supposed to be leading, voted against it, McCain had more than a little egg on his face as the stock market plunged in the biggest one-day drop in history.

Trying in the face of his buffoonish spectacle to keep the initiative, McCain said that this was not the time to engage in partisan behavior, but to pull the country together, and then blamed the failure of the bailout bill on Obama and the Democrats — surely a partisan claim!

The Sarah Palin spectacle momentarily took focus off of McCain's erratic efforts to take advantage of the booming economic crisis and the unpopular trillion-dollar-plus bailout, when the Vice Presidential candidate debated the Democrats' Joe Biden. The lead-up to the debate featured daily sound-bites of Sarah Palin's interview with CBS's Katie Couric in which she was unable to mention one specific newspaper or journal that she read, could not think of a Supreme Court decision she opposed beyond Roe vs. Wade, and generally could not complete a coherent sentence, let alone provide a clear answer. During the debate she proved herself to be a good script performer as she acted out the predigested sound-bites to each question, winked and talked folksy if she wanted to distract the audience, and generally played cutesy rather than actually debate the questions with Biden, who provided coherent answers to questions and criticism of John McCain, which Palin ignored.

Palin's conservative base loved her down-home hockey-mom performance and so Palin was unleashed as the attack dog on the campaign trail, as a desperate McCain, with polls indicating that votes were going Obama's way in key states, decided to attack Obama's personal character as a last-ditch way to try to win votes. After the *New York Times* published an article on Obama and former Weather-underground member Bill Ayers, Palin started referring daily to "Obama's pallin' around with terrorists," and John McCain began personally attacking Obama, raising the question "who is the real Barack Obama," with the audience screaming "terrorist!"

Throughout the second week of October, Palin and McCain continued to make the Ayers connection in their campaign rallies, media interviews, and TV ads, personally attacking Obama, and the frenzied Republican mob would scream "Kill him!," "Traitor!, "Bomb Obama!" When one confused woman in the Republican mob told McCain that she

"didn't trust Obama" because of things she'd been hearing about him, stammering "he's an Arab!," it was clear that the Republicans' lies and demagoguery had led their rabid rightwing base to believe that Obama was an Arab, a Muslim, a terrorist, and not an American. It was also clear that Palin and McCain had stirred up significant levels of mob fear, ignorance, and violence that was becoming extremely volatile and dangerous.

Investigative reporters indicated that Obama had only a casual relation with Ayers, whereas Palin and her husband were involved in an Alaskan secessionist party whose rightwing and anti-semitic founder had a long history of outrageous anti-American ranting, racist ramblings, and ultra-right politics: Palin's husband belonged to that party and Sarah Palin had addressed their party convention wishing them "good luck." Another investigative report linked Palin to a number of extreme rightwing groups and individuals who had promoted her career (McCain, too, it was revealed, had been associated with an unsavory lot).[11] But Palin's week of infamy came to a proper conclusion when the Alaskan Supreme Court ruled on October 10 that a report into the "Troopergate" scandal could be released and the report itself pointed out that Palin had "abused her authority as governor" and violated Alaska's ethics regulations. Thrown off her moralistic high horse, Palin nonetheless continued to be McCain's attack dog and raise controversy on the campaign trial, even claiming that the Court had claimed that she had not abused her authority or violated ethical regulations, when clearly the court ruled otherwise.[12]

It was clear that Republicans were playing a politics of association to feed their media spectacles, just as the Bush-Cheney administration had associated Iraq with 9/11, Al Qaeda, and "weapons of mass destruction," connections that were obviously false, but the associations worked to sell the war to their base, gullible Democrats, and the media. Republicans had long marketed their rightwing corporate class politics to voters by associating the Democrats with gay marriage, abortion, and secularism. Would the public and media wake up to the Republicans' politics of lying and manipulation or would they continue to get away with their decades of misrule and mendaciousness?

The Joe the Plumber Spectacle

Economic news got worse by the day as the stock market continued to plunge and the global economy appeared to be collapsing, and in this atmosphere the McCain-Palin spectacle of distraction appeared increasingly appalling. With a backlash against Palin's rabble-rousing and McCain's negative campaigning, The Two toned down their attacks on The One, although their direct mailings and robocalls continued to associate Obama with Bill Ayers and terrorism and to raise doubts about his character. In the final presidential debate on October 15, McCain had a chance to bring up Obama's associations to his face, which he did in a generally aggressive debate in which Obama coolly and calmly answered the alleged radical associations and easily dismissed them.

But the major theme of the debate pushed by McCain, which remained a touchstone of his campaign, was how Obama's answer to Joe the Plumber proved that he was going to raise taxes on small business. In an Obama campaign event the previous weekend, the man who McCain referred to as Joe the Plumber told Obama that he had been a

plumber for fifteen years and was trying to buy the business he worked for -- and since it cost over $250,000, he would be forced to pay higher taxes since Obama's tax reform proposal would increase taxes on those making over $250,000 and lower those making less. It turned out Joe wasn't the dude's first name, whose real name was Samuel J. Wurzelbacher; that he was not a licensed plumber; that his income the previous year was around $40,000; and that he owed over $1,000 in back unpaid taxes.[13] These paltry facts did not stop McCain and Palin who continued to extol Joe the Plumber in every campaign stop and were obviously making it the major theme of their campaign to generate an opposition between Obama the tax-and-spend liberal who would raise your taxes and McCain and Palin who took the side of Joe the Plumber, Ted the Carpenter, and a daily array of allegedly working class people who opposed Obama, leaving out only Rosie the Riveter.[14]

The McCain-Palin "Joe the Plumber" tour narrative, however, was interrupted daily by a scandal or juicy news story that tends to dominate news cycles in the era of media spectacle. It was revealed that the Republicans had spent over $150,000 on the Palin family wardrobe and that Palin's stylist was paid twice as much in early October as McCain's major campaign consultants; in her first policy address on the need for spending on special needs children, Palin denigrated research spent on studying fruit flies, which is a basic tool of genetic research and has helped produce understanding of autism, among many other things. Palin's campaigning was interrupted the same day by the need for her and her husband Scott to do another deposition in the so-called Troopergate scandal; and Palin's negative rating continued to rise, as did numbers that claimed she was a drag on the McCain campaign.[15]

The same week went bad for the McCain campaign as well: a young woman who worked for the McCain campaign argued that a big black man had raped her and carved a "B" for Barack on her face; these allegations led to a bevy of rightwing attacks on the Obama people when the McCain campaign released the information, but the police quickly questioned her and by the next day the young woman admitted she made it up, a rather scandalous incident of race-baiting that the McCain campaign encouraged and did not disavow or apologize for. And to top the week of October 20 off, John McCain's brother, Joe McCain, called a 911 number to report a traffic jam he was stuck in, and when the operator retorted that it was not proper to use the number for this purpose, Joe the Brother said, "Fuck you," and hung up!

Signed, Sealed, Delivered

As the two campaigns entered their last week of campaigning before the November 4 election, Obama made speeches with his "closing arguments" hoping to "seal the deal." During September, Obama raised an unprecedented $150 million, much of it from small Internet and personal donations, and also received soaring poll numbers, showing him pulling ahead nationally and in the significant battleground states. As he entered the last week of the campaign, Obama presented the spectacle of a young, energetic, articulate candidate who had run what many considered an almost flawless campaign and

attempted during the election's final days to project images of hope, change, and bringing the country together to address its growing problems and divisions -– exactly the message that Obama started off his campaign with.

The McCain-Palin camp seemed to close with the same basic argument with which most Republican candidates end their campaign: the Democrats want to raise taxes and spread around the wealth, an accusation increasingly hyped by the rightwing base and McCain and Palin themselves that Obama was really a "socialist." McCain continued to raise questions about Obama's experience and the risk that the country would undergo with an untried president, while Obama retorted that the real risk was continuing with more of the last eight years of catastrophic economic policies and a failed foreign policy.

There were also signs of disarray and defeat in the Republican camp. McCain insiders were presenting Palin as a "Diva" who had gone "rogue," failing to reproduce the campaign lines that they wanted, suggesting she was out for herself and positioning herself for a 2012 presidential race. One McCain operative even dismissed her as a "whack job." Meanwhile Palin complained about the McCain campaign giving her the $150,000 worth of clothes that had become a media obsession, insisting she got her own clothes from thrift shops, and was often ignoring the McCain handlers who were trying to keep her from the press and script her speeches and comments.

As the campaign came to a close, Obama tried to seal the deal with a multi-million dollar infomercial played on major networks during prime-time just before the World Series game on October 29. In a Hollywoodesque production, the Obama spectacle came together with "American stories" about hard times and struggles and how Obama would deal with these problems and help people; an acknowledgment of the seriousness of problems with the economy and what Obama would do to deal with the crisis; a reprise of his story, highlighting his biracial heritage and close relations to his white mother and grandparents; testimonies from a variety of individuals concerning Obama's experience in community, state politics, and the national level; and highlights from some of Obama's greatest moments of his speeches.

This event was followed by a live appearance with former president Bill Clinton in a midnight campaign rally in Florida, his first campaign event with the one-time president and husband of his primary campaign rival Hillary Clinton. Bill enthusiastically endorsed Obama, indicating that Obama was regularly calling him for advice concerning the economic crisis and praising Obama's reaching out for experts on the issue, suggesting that the Clintons and Obama had made up, at least for the present. Obama returned the compliments with praise of Clinton's presidency and a comparison between good times under Clinton and the Democrats contrasted with the messes of the past years under the Republican Bush-Cheney regime, which Clinton and Obama both claimed John McCain would basically continue.

As the presidential campaign entered its final days, it was clear that contemporary U.S. presidential campaigns were organized around the production of daily media spectacles

that embodied narrative themes of the campaign. In a hard fought Democratic Party primary, the Obama Spectacle of youth, change, hope, and a new multicultural America narrowly bested the spectacle of Hillary the Fighter, potentially the first woman president, as Obama was potentially the first president of color. This spectacle gripped the nation and the global media, and set up intense interest in the spectacle of young Obama going up against war hero and veteran Senator John McCain in the general election.

Barack Obama continued to draw large and adoring crowds throughout his fall campaign, but also consistently tried to present an image of himself as cool, calm, competent, and presidential on the campaign trail and during media interviews and the presidential debates. Unlike the McCain-Palin campaign, he avoided dramatic daily shifts and attention-grabbing stunts to try to present an image of a mature and intelligent leader who is able to rationally deal with crises and respond to attacks in a measured and cool manner, giving him the current moniker "No drama, Obama."

The spectacle of masculinity also played out in the election in novel ways. Barack Obama represented a cool, hip, black urban masculinity, in tune with popular culture, breaking with the tough father and defender masculinity typical of most previous presidential candidates, especially Republicans (Katz, forthcoming). Obama was a devotee of basketball, but not working class sports like bowling or hunting, and was highly sophisticated and multicultural. Hillary Clinton played the gender card against Obama unsuccessfully in the primary, claiming she was the true man and fighter, while in the general election both Sarah Palin and John McCain tried to unman Obama, presenting themselves as tougher, more masculine, and better able to protect the country in a mean world. Palin constantly talked about hunting and sports, was a highly aggressive campaigner, and mocked Obama relentlessly. McCain in turn represented a military macho masculinity, constantly playing up his military background and toughness in foreign affairs. But for the first time, an electorate were not significantly swayed by the gender or race card, as we discovered on election night.

The Election Night Spectacle

Election night is always a major political spectacle when the country, and parts of the world, watch the election results come with maps flashing new red and blue colors on the states, with the exciting swooosh of Breaking News!, followed by results and trends of the election in the inevitable countdown for a candidate getting the magic number of votes to gain the presidency.

All day long the television networks provided exciting spectacles of record turnouts all over the country, with images of people patiently waiting in line to vote, the candidates making their last electoral stops and pitches and then voting, followed by the period of waiting for polls to close so that the networks could release vote tallies and determine the winner.

The November 4, 2008, election night started slowly with Obama getting the predictable Democratic party states in the Northeast and McCain getting predictable Republican Southern states. Excitement mounted when Obama was awarded the plum of Pennsylvania, which McCain and Palin had campaigned hard for, and when an hour or so later Obama was given Ohio it was clear that he was on the way to victory. At 11:00 pm, the networks opened the hour with the banner heading "Barack Obama Elected 44th President of the United States," or just "Obama Elected President." His sweep of the West Coast states of California, Oregon, and Washington, plus the bonus of Hawaii and the hard-fought southern state of Virginia sealed it for Obama who was on his way to a big win.

But on the television networks, spectacle trumped analysis as John McCain took the stage in Phoenix with his wife Cindy and Sarah and Scott Palin by his side to make an extremely gracious concession speech, laced with appeals to his followers to support Obama and the country in times of troubles. Some of the Republican base in the Phoenix ballroom did not like this message and McCain had to repeatedly silence their booing and screaming.

Meanwhile, in Grant Park in Chicago—the scene of the spectacle "The Whole World is Watching" during the Democratic convention in 1968, when the police tear-gassed antiwar spectators, and the site a year later of the Weather Underground abortive "Days of Rage" spectacle—a peaceful assembly of a couple of hundred thousand spectators, mostly young and of many colors had assembled to celebrate Obama's historical victory. In the crowd, close-ups appeared of celebrities like Jessie Jackson, tears streaming down his face, a jubilant Spike Lee, a solemn and smiling Oprah Winfrey, and other celebrities who joined the young crowd to hear Barack Obama's victory speech. The park hushed into silence as John McCain gave his concession speech and the audience nodded and applauded respectfully, suggesting that the country could come together.

When Obama, his wife Michelle, and his two beautiful girls took stage the place went wild and the eyes of the world were watching the spectacle of Barack Obama becoming president of the United States. Television networks showed the spectacle of people celebrating throughout the United States, from Times Square to Atlanta, Georgia, and even throughout the world. There were special celebrations in countries like Kenya and Indonesia where Obama had lived and his former residencies in these countries were becoming national shrines that would be tourist destinations. Barack Obama had become a global spectacle and his stunning victory would make him a world celebrity superstar of global media and politics.

Politics of the Spectacle in the Contemporary Era

In this article, I have focused on the dimension of U.S. presidential campaigns as media spectacles and have described the spectacles of the 2008 presidential election, surely one of the most exciting and fascinating political spectacles in U.S. history. While I have argued that presidential campaigns in the United States and elsewhere are primarily orchestrated as media spectacles, I do not want to suggest that this is the most

important aspect of determining who wins an election, or the master key to victory. Obviously, money plays a major part in presidential elections and often whoever raises the most money wins. In a media age, money allows candidates to produce their own spectacles in the form of TV ads and they need millions to raise money to orchestrate campaign events and produce an organization. Obama had raised an unprecedented amount of money, including record donations from small contributions and a record amount of money raised through the Internet.

People also vote because of political affiliations and ideology, their economic interests, and sometimes even because of issues and substance, no matter what the spectacle of the day has to offer. While serious political analysts have not yet fully explained Obama's victory and no doubt there will be debate over this for years, I would suggest that certain resonant images and media spectacles importantly contributed to Obama's victory. People obviously wanted change and hope, and Obama offered a spectacle of both since he was the first candidate of color and also represented generational change. The Obama campaign pushed daily the spectacle of the connections of John McCain with the Bush administration, in TV ads, daily rallies, the debates, and other forums with TV news playing endlessly pictures of Bush and McCain embracing and graphics showing that McCain had voted with the most unpopular and failed president of recent history 90% of the time.

The global collapse of the financial markets and crisis of the U.S. and global economy produced one of the major media spectacles of the campaign and the McCain spectacle of erratic pronouncements and daily stunts to exploit the crisis obviously turned voters off, while Obama remained cool and rational during this spectacle and time of danger, showing he was more presidential and better able to deal with crises.

During this difficult period in U.S. and global history, voters obviously reacted against the politics of distraction with the Republican spectacles of daily attacks on Obama backfiring and the negative spectacle of Republican crowds screaming "terrorist," "traitor," "kill him!" and the like produced an extremely negative spectacle of a Republican mob, stirred up by McCain and Palin and seeming to inspire rational voters to line up, for hours if necessary, to vote for Obama and a new politics.

Thus campaign spectacles can backfire and while the Sarah Palin spectacle did not alone destroy the Republican campaign it certainly did not help recruit many independent voters, although it made Palin a darling of the Republican extreme right and a media superstar.[16] I might note that in the last weeks of the election, Bill and Hillary Clinton invested their star and spectacle power into the Obama campaign and the midnight rally in Florida in the last days of the election with Obama and Bill Clinton providing a memorable spectacle, and one that might have unified the Democratic Party and brought Clinton supporters to Obama in swing states like Florida and Ohio, where the Clintons had campaigned.

During the last weeks of the presidential campaign, there was intense speculation concerning how the race factor would influence the outcome of the election and whether the so-called "Bradley effect" would kick in, referring to African American candidate Tom Bradley who in a run for governor of California in 1982 appeared to be ahead in the polls, but narrowly lost the election. Commentators suggested that although white voters might tell pollsters that they would vote for popular African American candidates, racism kicked in while in the voting booth and they would vote for white candidates.

Preliminary surveys indicated that there was no Bradley effect in the 2008 presidential election. While there was much discussion of whether the so-called "Bradley effect" would kick in against Obama, who was leading in the polls going into the election, there was no evidence that white voters who had said they would vote for Obama voted against him in the polls. The results put in question the utility of the "Bradley effect," and suggested that there was a post-racial dimension to the Obama phenomenon.[17]

Media Culture and Presidential Spectacle

Thus, the possibility emerges that Obama was helped by his ethnicity. In *Camera Politica*, Michael Ryan and I (1988) claimed that popular Hollywood films of the late 1970s anticipated the election of Ronald Reagan, with a plethora of conservative hero films and yearning for deliverance from evil forces like communism, statism, and liberal malaise. There were in the 2000s many anticipations of the yearning and acceptance of a Barack Obama in television and Hollywood films of the contemporary era, and one could argue that media culture helped prepare the conditions to elect a Black president.[18] The country was arguably made ready to think about a president of color and became familiar with black presidents from Hollywood film and television. As early as 1972, James Earl Jones played a black president in *The Man*, although posters for the film read: "The first black president of the United States. First they swore him in. Then they swore to get him" (Harlow, 2008). More recently, Morgan Freeman played a calm and competent president in the 1998 disaster movie *Deep Impact* and Tommy Lister played president in *The Fifth Element* (1997), while Chris Rock took on a role of hip hop president in the comedy *Head of State* (2003).

Perhaps, however, it is Dennis Haysbert's popular David Palmer on the TV-thriller *24*, however, who is the most well-known black president in media culture. Playing a competent and charismatic leader for over five seasons, Haysbert himself believes that: "Frankly and honestly, what my role did and the way I was able to play it and the way the writers wrote it opened the eyes of the American public that a black president was viable and could happen... It always made perfect sense to me. I never played it like it was fake" (Braxton, 2008).[19] To Haysbert's dismay, his character was assassinated and his younger, more inexperienced brother Wayne Palmer ascended to the presidency (D.B. Woodside), and his reign was marked by insecurity (not surprising on *24)* and uncertainty.[20]

The most astonishing anticipation of Obama's election can be found in the popular TV series *The West Wing* (1999-2006) that featured Martin Sheen as president and dramatized adventures with his White House staff. A *New York Times* article indicated that one of the West Wing script-writers, Eli Attie, called David Axelrod, one of Obama's key advisors in 2004, and asked him to tell him about Barack Obama. After Obama's stunning address to the 2004 Democratic National Convention, Axelrod and Attie had discussions about Obama's refusal to be defined by his race and his desire to bridge partisan and racial divides. As *The West Wing* unfolded during its final 2004-2006 seasons, there were anticipations of Obama in a Latino Democratic Party presidential candidate Matthew Santos (Jimmy Smits). As Santos/Smits pursued the race for the presidency, the parallels between the fictional TV-candidate and Obama were startling: both were coalition-building newcomers who had not served long in Congress; both were liberal and sought a new politics; both were very attractive and had very photogenic families; both were fans of Bob Dylan and, of course, both were candidates of color.

Even more striking, the Republican candidate in the fictional *West Wing* election campaign during the 2005-2006 season was modeled on John McCain, circa 2000. The fictional Republican Arnold Vinick (Alan Alda) played a maverick California Senator who broke with his party on the environment, had strong foreign policy credentials but was more liberal than his party on social issues, and he chose a conservative Governor to serve as Vice-President to shore up the base. Santos talked of hope and change in his election campaign and declared that: "I don't want to just be the brown candidate. I want to be the American candidate" (Stelter, 2008)[21]

Morgan Freeman's film trajectory in the 2000s shows how the American public is both able to perceive individuals in a multiracial mode and accept powerful black men in positions of authority. After playing president in *Deep Impact*, Freeman has played God in *Bruce Almighty* (2003) and *Evan Almighty* (2007), as well as playing a Voice of God narrator in films like *War of the Worlds* (2005), *March of the Penguins* (2005), *Feast of Love* (2007), and other films of the decade. In Rob Reiner's *The Bucket List* (2007), the Freeman character finds himself in a hospital cancer ward with an irascible billionaire played by Jack Nicholson. When they discover that they have six months to live, Freeman proposes that they make a "bucket list" of what they would like to do before they die (i.e., kick the bucket), and since the Nicholson character is superrich there is no limit to their possibilities. The Freeman character is once again the moral center of the film, and calmly, intelligently, and with good humor allows the unlikely pair to achieve their goals, at the end helping the Nicholson character unite with his long estranged daughter.

All of these films tend to present the Freeman character bonding with people of different races, ages, and classes, showing a propensity in contemporary U.S. culture to accept African Americans in a variety of roles, and to respect and accept people of color in terms of their personalities and admirable qualities. Furthermore, according to the

Internet Movie Database, Freeman has acted in at least 36 films in the years 2000-2008, playing roles from the moral center of wisdom in the films mentioned, to playing narrator and a key moral figure in Clint Eastwood's *Million Dollar Baby* (2004). But Freeman has also played detectives, criminals, assassins, and assorted characters in a wide variety of films and genres, as well as serving as a popular narrator for a large number of films.

Denzel Washington has emerged as a major player in Hollywood as well, acting and directing films and playing starring roles on Broadway. In the 2004 remake of *The Manchurian Candidate*, the Washington character rescues the polity from corporate and political conspiracies, as he did earlier in Alan J. Pakula's *The Pelican Brief* (1993) and Edward Zwick's *The Siege* (1998). Receiving three Golden Globe awards and two Academy Awards for his work, Washington is recognized as one of the most acclaimed and popular actors of our time.

The recent trajectory of Will Smith also shows how a man of color can play roles previously reserved for white actors. As Jan Stuart points out, in recent films Smith has erected "a gallery of Olympian everymen," playing an off-beat superhero in *Hancock* and a homeless overachiever in *The Pursuit of Happyness*, which embody, in Stuart's words: "canny exemplars of the divinity next door with warts and all." *Seven Pounds* (2008) "rounds out with those two films a kind of trilogy of self-deification," with Smith playing a character who, like the star of the 1950s TV series *The Millionaire*, randomly chooses individuals to "dramatically change [their] circumstances," exactly as Obama advertised he would try to do in his TV-infomercial on "American Lives" in the run-up to the November presidential election and which many people fantasize that Obama will do (Stuart, 2008).

Further, in a recent poll among theater owners in the annual survey run by Quigley Publishing, Smith was named the number one box office attraction of 2008, and as of January 2009 had grossed an astonishing $2,511,011,862 globally in his 19 films (see "Will Smith," 2009).[22] I am not arguing that Hollywood film or any TV-series directly helped elect Barack Obama; rather it was his highly effective campaign and candidacy that was decisive, as well as the major economic crisis which drove people to question Republican laissez-faire market economics. I am arguing, however, that film and television anticipated having a person of color as president and may have helped make the possibility thinkable.

In addition to black superstars, there are many representations of people of color in contemporary U.S. film and television that are presented in a post-racial register, in which their race does not play a significant narrative role and is often unacknowledged. This is not to say that racial oppression and racism has disappeared in U.S. film, culture, and society, and one can easily cite many examples of continued racial stereotypes and blatant racism. It does suggest, however, that the culture at large is ready to accept and

even affirm people of color in high starring and real-life executive positions, even the president of the United States.

The Obama Era

Following Obama's election, there was no question of his unique celebrity status. Obama's face appeared on the cover of every news magazine, and nightly television coverage of his vacation to Hawaii after the election and then return to home in Chicago was covered by a paparazzi horde perhaps never before equaled. Pictures of Obama shirtless on the beach in Hawaii and walking hand in hand with his daughters in Chicago became iconic of the handsome young man who had ascended to the pinnacle of political power.

The pre-inaugural spectacle in January was memorable and perhaps unparalleled in recent U.S. history. Following a precedent of Abraham Lincoln, Obama took a train ride from New York to Washington, stopping in Philadelphia to make a speech and to pick up Vice President Joe Biden and his family in Wilmington, Delaware and do some speechifying and photo ops with the Bidens. Along the way, large crowds assembled in train stations to greet Obama and there were even cheering crowds along the track en route to the capital city.

Monday, January 19, 2009, happened to be Martin Luther King's birthday and a national holiday and fittingly a day of memorials and a major concert at the Washington Mall featuring Bruce Springsteen, Stevie Wonder, and an A-list of musical performers who entertained large crowds. A record one million or more people were already in the nation's capital and the festive mood was palatable, as the television networks covered the day's festivities and the joyous crowd, which itself became a spectacle of celebration and happiness.

The Obama inaugural spectacle was as well-planned and performed as the primary and presidential campaign. An unprecedented two million people braved the cold and the crowds to come to Washington for the transformative event of inaugurating Obama as president of the United States. Never before has the country seen such a massive number of happy, celebrating people from all walks of life and parts of the country be part of the traditional inaugural ceremony, marred only by the bumbling conservative Supreme Court Justice John Roberts, who bungled the oath of office throwing Obama off stride momentarily. The spectacle included the last four presidents and their families and Dick Cheney coming up in a wheelchair after allegedly throwing out his back from lifting boxes in his new home. While Obama's traditionally short inaugural speech did not have the lofty and soaring rhetoric and crowd-pleasing chants of his most memorable discourses, its recognition of the severity of the crisis confronting the country, the need for fundamental change in politics and values from the Bush/Cheney administration, and determination to confront the problems satisfied the crowds and most serious observers.

Seeing the Bushes leave the White House by helicopter after the ceremony and Cheney being lifted from his wheelchair into his getaway car was an aesthetic delight and spectacle for members of the TV audience who could observe the least popular president and vice-president in history leaving town in disgrace, signaling that a new era had truly begun.

Obama's first 100 days were highly ambitious in pushing through emergency measures to try to get the economy back on track, ramming through a $787 billion stimulus (described as a "recovery and reinvestment") plan; a bank bailout package involving controversial legislation that constituted government take-over of bank "toxic" assets; a housing recovery program; an expansion of the Federal Reserve; and a budget geared to stimulate the economy, rebuild the infrastructure, and create jobs. Obama made good on his middle class tax cut and promised a radical overhaul of the health system, Congressional spending, and even military spending. Further, President Obama transformed policy on stem cell research, women's reproductive and labor rights, the environment, and national security through executive orders. To be sure, Obama's hopes for bi-partisan politics were dashed when Republicans voted unanimously against some of his economic programs and budget proposals and partisan division seems as heated as ever.

President Obama also launched a highly ambitious reversal of Bush/Cheney foreign policy and took multiple new foreign policy initiatives. He promised to close down the prison at Guantanamo Bay and to bring the prisoners there and elsewhere to justice, who had been held without trials, as well as to stop illegal torture, rendition, and wiretapping. After wavering and declaring that CIA and other agency operatives who carried out torture policies during the Bush/Cheney era would not be prosecuted, Obama opened the door to prosecute administration who set the policies and ordered their implementation.

Obama's world tours during his first 100 days and meetings with European, Global, and Latin America leaders show how he has become a major global celebrity and how celebrity politics and spectacle is normalized as an important, perhaps key, segment of global and regional politics. On his visits to England, France, and the G-20 summit, Obama received rock-star reception from people in all the countries he visited, who lined the streets for a glimpse of him, and Obama's image dominated the media in coverage of his meetings with foreign leaders.

Thus, on the terrain of foreign policy, Obama has used his supercelebrity status to engage in public diplomacy for his agenda and to promote U.S. interests. In part, his phenomenal popularity, after bitter anger throughout the world at the Bush-Cheney administration, is a positive antidote to rising and dangerous anti-Americanism, and also provides leverage as a global diplomat to promote his agendas. After Obama's recent trips to Europe, the UK, France, Trinidad & Tobago, and other places it may be the case the Obama is the world's major super global celebrity bar none.

It remains to be seen if Obama's celebrity status can help him solve the overwhelming economic problems and reboot the U.S. economy, and make progress on difficult global issues, or if old Washington partisan politics and the overwhelming challenges the Obama administration faces on multiple fronts will undermine Obama's popularity and efficiency as leader. Spectacle and celebrity are certainly important tools of governing in a media age, but it remains to be seen if Obama and his administration can effectively deal with the multiple crises of the contemporary moment.

In conclusion, I want to offer some remarks on the importance of learning to read, understand, and deconstruct the spectacle in order to become an informed and intelligent citizen and participant in a democratic society.

Deconstructing the Spectacle

I have argued that presidential campaigns have been constructed as media spectacles, particularly since the rise of cable television with its 24/7 news cycles and partisan networks like Fox News, which can be seen as a campaign adjunct of the Republican party, and MSNBC, which had several shows in 2008 that were blatantly partisan for Obama. A PEW journalism report released about two weeks before the 2008 presidential election studying positive and negative representations of the two dominant party's presidential and vice-presidential candidates revealed that McCain received strongly negative coverage with more than half of the stories about him casting the Republican in a negative light, while fewer than one-third of the stories about Obama were negative, about one-third were positive and one-third were neutral. About two in five of the stories about Palin were negative, whereas about one-third were positive and the rest neutral; Joe Biden was the invisible man of the group, receiving only 6% of the coverage with more negatives than Palin and almost as many as McCain.[23] Commentators noted that this did not necessarily denote media bias, as the conservatives incessantly claimed, but rather reflects that many stories are devoted to polls, so the leading candidate, in this case Obama, received more positive representations from these stories. Analysts also noted that McCain's negative stories were largely concerning his response to the dire financial crisis for which Republican policies and market fundamentalism were strongly blamed (see Rainey, 2008).[24]

As Robert Draper (2008) noted in an article on "The Making (and Remaking) of McCain"the McCain campaign has run five sequential narratives--all bolstered, I would add, with media spectacle: 1) The Heroic Fighter vs. the Quitter (think Iraq); 2) Country-First Deal Maker vs. Nonpartisan Pretender; 3) Leader vs. Celebrity (see my discussion above of McCain ads linking Obama with Paris Hilton and Hilton's rebuttal); 4) Team of Mavericks (i.e. John and Sarah) vs. Old-Style Washington (i.e. Senators Obama and Biden); 5) John McCain vs. John McCain (i.e., the honorable McCain who said he did not want to engage in gutter-snipe politics vs. the last weeks of the campaign with his nasty attacks on Obama). The *New York Times* article seems to have left out McCain/Palin's last narrative, which pitted Joe the Plumber, who the Republicans invoked to oppose tax-

and-spend liberals, the usual Republican line when they run out of ideas and attack strategies.

As the election results came in and the results predictably followed major polls, it appeared that a long presidential campaign orchestrated by competing media spectacles and presidential narratives had already shaped people's opinions and determined their voter behavior. It was a momentous election, one marked by stunning media spectacle, but both sides appeared to have firmed up during the economic crisis, which David Axelrod, Obama's chief strategist, said during election night was the turning point of the campaign when people decided Obama would be the better president and better able to confront the serious problems that the country faced.

Hence, to be a literate reader of U.S. presidential campaigns, one needs to see how the opposing parties construct narratives, media spectacle, and spin to try to produce a positive image of their candidate to sell to the American publics and to critically decode how the media present political events and candidates. In presidential campaigns, there are daily photo opportunities and media events, themes and points of the day that candidates want to highlight, and narratives about the candidates vying to win the support of the public. Obama's narrative from the beginning was bound up with the Obama spectacle, representing himself as a new kind of politician embodying change and bringing together people of different colors and ethnicities, ages, parts of the nation, and political views. Obama has effectively used media spectacle and new media to promote his candidacy and generally been consistent in his major themes and story-lines, although the Republicans tried to subvert his story with allegations of close connections with radicals like the Rev. Jeremiah Wright and Bill Ayers.

An informed and intelligent public thus needs to learn to deconstruct the spectacle to see what are the real issues behind the election, what interests and ideology do the candidates represent, and what sort of spin, narrative, and media spectacles are be used to sell candidates. This article limited itself to describing the media spectacle dimension of the 2008 presidential campaign and Obama's first 100 days in office. I do not want to claim that media spectacle alone is the key to or essence of presidential campaigns which also depend on traditional organizing, campaign literature, debate, always proliferating new media, and getting out the vote, the so-called "ground game." But I would argue that media spectacle is becoming an increasingly salient feature of presidential and other elections in the United States today and that the Obama spectacle has emerged as a defining moment of contemporary culture and politics.

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Notes

1. An earlier pre-election version of this paper, with links to images and videos discussed in the paper, appeared as "Media Spectacle and the 2008 Presidential Election: Some Pre-election Reflections," *Mediascape* (Fall 2008) at http://www.tft.ucla.edu/mediascape/Fall08_Kellner.html. I have revised this version in light of the actual election results, post-election analysis, and Obama's first months as president.

2. In this study I am ignoring Obama's earlier pre-celebrity history; he first came to national attention through his dramatic keynote speech at the 2004 Democratic Party convention where he emerged as a rising star; he has set out his own political trajectory and philosophy in two-well written best-selling books (Obama, 2004, 2008).

3. For an insider look at the daily events of the primaries and general election by a savvy reporter who closely followed the Obama campaign, see Wolffe (2009). The book, however, provides no analysis of Obama's mastery of the spectacle, little on how the campaign enthused and organized youth, and almost nothing on how the campaign deployed the Internet to raise money and organize supporters, and thus misses completely the Obama spectacle that I am depicting. I will periodically use Wolff, however, to confirm my version of the campaign events. Likewise, the studies in Larry Sabato's edited book *The year of Obama: How Barack Obama won the White House* fail entirely to engage the role of media spectacle in the election.

4. On Obama's mobilization of the Internet, see Soheil Rezayazdi (2009); Girish J. Gulati (in press) and Michael Cornfield (in press). Although the latter two articles by political scientists provide detailed analysis of Obama's use of new media and social networking sites, neither engages the Obama spectacle that was the content of the Obama campaign. Diane Owen (in press) claims that the majority of people polled claimed that they depended on conventional media, especially television, for their news and information on the election, although significant age-related differences in media appeared "leading to speculation that a dual media system may be developing in response to the preferences of older and younger audiences."

5. See the video "Crush on Obama" at http://www.youtube.com/watch?v=wKsoXHYICqU.

6. See http://www.hopeactchange.com/creators/song

7. See the DipDive "Yes We Can" video compilation (#2 to 30) at http://www.dipdive.com/dip-politics/ywc/ For detailed analysis of the YouTube videos assembled there, see Kellner and Kim (2009).

8. For a detailed analysis of Rev. Wright's "God damn America" speech, see Wolffe (2009); for the inflammatory videos circulated by the Republican Party and endlessly played in the media and circulated on the Internet, see http://www.youtube.com/watch?v=nH5ixmT83JE.

9. See "Obama's Secrets" (2008) and "An Attack That Came out of the Ether" (2008).

10. For the Paris Hilton for President Video, see http://www.youtube.com/watch?v=k4WDjuiQmxA&feature=PlayList&p=D2B5F8D06FBBD2B7&playnext=1&playnext_from=PL&index=25

11. On Palin's unsavory connections, see Max Blumentahl and David Neiwert (2008). On John McCain's radical right associations and involvement with the corrupt Savings and Loan tycoon Charles Keating that won him ethical rebuke in the Senate, see Alex Kooperman (2008a).

12. In her first unscripted and uncontrolled appearance after the release of the Troopergate report, Palin was roundly booed at a Philadelphia Flyer NHL hockey game where she threw out the first puck; see Alex Kooperman (2008b).

13. For a dossier of articles on Joe the Plumber, see http://topics.nytimes.com/top/reference/timestopics/people/w/joe_wurzelbacher/index.html?inline=nyt-per ; for a video in which he exposes his rightwing views, see Rohter & Robbins, 2008).

14. Elizabeth Bumiller (2008) reported that McCain was on a "Joe the Plumber" tour. 4As it turns out, Obama's grandmother, who he visited near the end of the campaign and who died the night before the election was a "Rosie the Riveter," working on [in?] factories during World War II, when the men were overseas fighting.

15. *Salon*'s "War Room" daily tracks the daily campaign trail of both camps at http://www.salon.com/politics/war_room/

16. Palin's startling resignation as Governor of Alaska on July 3, 2009, on the eve of traditional Fourth of July celebrations, created a media spectacle that temporarily put aside the ongoing media spectacle of the death of Michael Jackson and its aftermath, generating intense speculation as to what was behind Palin's surprise resignation and what her future would hold.

17. Elizabeth Drew notes that no evidence appeared concerning a "Bradley effect" in the 2008 presidential election and claimed that: "Some of the smartest political analysts I know had already dismissed the Bradley effect as a myth. And there was no evidence of such a phenomenon in this election. In fact a considerable number of whites said that they voted for Obama *because* he is black". See (Drew (2008)

18. This analysis of how representations of African Americans in U.S. media culture helped prepare the country for a black president is based on research for a forthcoming Blackwell book titled *Cinema Wars: Hollywood Film and Politics in the Bush/Cheney Era*.

19. In another interview, Haysbert noted: "My role helped prepare the way for Obama, opening the eyes of the American people [so] that they felt they could vote for a black president without triggering the apocalypse" (Harlow, 2008,).

20. As an aside, I might note that the sinister and treacherous president on *24* who succeeded Palmer, Charles Logan (Gregory Itzin) can be read as an amalgam of George W. Bush, Dick Cheney, Don Rumsfeld, and other sinister figures in the Bush/Cheney administration, although he also

appears to be modeled after Richard Nixon.

21. Another article claims that Obama's new chief of staff Rahm Emmanuel was anticipated by the West Wing fictional deputy of staff Josh Lyman (Bradley Whitford); see Hannah Strange (2008).

22. For Smith's cumulative box-office, see http://www.boxofficemojo.com/people/chart/?id=willsmith.htm.

23. See the PEW Research Center report at http://www.journalism.org/ [incomplete URL; home page, not report]

24. An earlier survey by FAIR, however, suggested that major tropes such as "Straight-Talking Maverick" for John McCain, and "Barack Obama, Elitist Snob" created a positive narrative for McCain and negative representations of Obama; the studies' examples, however, were from earlier in the year and were arguably overtaken in the final few weeks of the campaign, as were what the article suggested were largely positive tropes for Sarah Palin, who had overwhelmingly critical media coverage in the last weeks of the campaign (see Hart, 2008).

Chapter 15
A Short History of the Center for Digital Discourse and Culture

Jeremy Hunsinger

The Center for Digital Discourse and Culture occupies a theoretical and productive position that is somewhat different in terms of research centers. Our work centers on the pragmatics of research and scholarly production in the digital age. We place ourselves across many domains of research, but we perform infrastructurally as much as productively in support of that research. Throughout the years we have written software, archived materials, published non-print academic and artistic works, and generally pursued our agenda of promoting the digital discourse and culture throughout the academy. Centrally though, we provide the infrastructural base for research and teaching by providing free access to useful web resources. By that we mean that we that the resources that we provide freely on the internet are used by millions of people each year. Beyond that, these resources are well cited, the Center is cited in over 500 research publications from textbooks, to encyclopedia, to research papers. The Center is a part of the center of a cloud of scholarship, and in that cloud, we are have become the crucible through which scholars can pursue their own goals within their own communities. Our success, then, is not the success of just the people who work at the center, but the successes of the communities it serves, their growth, and their inventiveness in the digital arena.

However successful we are, the Center is still a fairly small institution, most of the time we are only the co-directors, but we do have assistants on occasion, and some specialists on infrequent occasion. At most the Center has actively employed six graduate students and two undergraduates. We have occupied various spaces also, from a 2100 square foot lab shared with the Center for Applied Technologies in the Humanities to a 180 square foot. office. That belies the fact that our real home is on the internet, and we have had a wide variety of systems in that regard too, from large Sun servers running Solaris given as grants, to an Apple G3 server which ran our website for almost 8 years, all the way to our current system running on a Apple Mac Pro and Raid Array. We have around three terabytes of online storage capacity and that does not go to waste as our server serves around fifteen to eighteen terabytes of data to the world per year. The gross effects of this distribution of digital materiality are unpredictable in the end, but what is easy to see is that people are using digital content in their scholarship, and our research center aids enough of them to make a difference.

The technics and their reach only partially define the nature of the Center for Digital Discourse and Culture. From another perspective, our nature is our history and our history is centered on people, their projects, and the trajectories of digital scholarship over the last ten years.

The Early Years

The Center for Digital Discourse and Culture was founded after I graduated with a Master of Arts Degree from Political Science at Virginia Tech in 1998. Timothy W. Luke asked me to

take over as Director of VTOnline (http://www.vto.vt.edu), Virginia Tech's new online instruction program that worked with State Council of Higher Education of Virginai (SCHEV) to provide access to our classes through a variety of websites and portals. VTOnline was a fledgeling enterprise and I continued to be with political science at Virginia Tech where I had helped develop the On-Line Master's of Political Science (OLMA) (http://www.olma.vt.edu) degree. VTOnline and OLMA took a good deal of time, but there was some time left over. Tim Luke, Len Hatfield and I launched the Center for Digital Discourse and Culture (CDDC) in 1998/1999 with Tim and Len as Co-directors and I was manager and lead developer. As a project the CDDC was loosely parallel but with different aims from David Silver's Resource Center for Cyberculture Studies (RCCS) that he founded at the University of Maryland and he closed in 2009. Other efforts also had influence in the founding of CDDC, such as Voice of the Shuttle, Ctheory.com, www.theory.org.uk, and Sara Zupko's Popcultures.com, the latter which eventually closed when her efforts went into PopMatters.com which operates today. Each of these efforts proved the web to be a vital and important place for publishing academic materials online.

In 1998, there were numerous examples of scholarship appearing on the web, and it was not really new. The traditions of digital scholarship had been around in the social sciences and humanities since the 1940's and they have had various boom/bust periods cycles since then. In 2009, we see to be in a boom cycle again, as we were in 1998. There were huge projects underway to put classes and coursework online and make them freely available. There were real questions about whether bricks and mortar institutions would survive the new digital age of education. However, while those debates flourished in public media, in academia there was, once again, concern about the nature of the digital artifact of scholarship as it compares to the book, or the research article. These tensions were becoming highlighted as various people who had made their name in digital media, digital poetry, and using computers and the internet in a variety of disciplines were coming up for tenure, which of course put a strain on the ideological systems of knowledge production which relied on valuations and comparisons of physical objects. The tension between physical and digital still exists, but most people now can see that it is a false binary being held in place of the real scale of valuable contributions to the scholarly community. The Center for Digital Discourse and Culture wanted to confront this tension by providing tools to resolve some of the central issues, such as peer review and scholarly publication.

While scholarly websites like RCCS were part of the inspiration for CDDC, before VTOnline, Virginia Tech had Cyberschool (http://www.cddc.vt.edu/cyber) in the College of Arts and Sciences. Cyberschool brought a different perspective on the possibilities of CDDC, through the work of my co-editor Timothy W. Luke and our colleague Len Hatfield formerly of the English Department at Virginia Tech. Cyberschool was a clear predecessor of VTOnline and CDDC. Professors Luke and Hatfield penned the Cyberschool Policy Recommendations (http://www.cddc.vt.edu/cyber/docs/whitepapers/execsumms.html), which were a series of whitepapers that covered the possible directions that Cyberschool should take in the next few years. Several of those whitepapers had a direct impact on the development and direction of the CDDC. Similarly, many of those policy recommendations have had broad

effects as early statements in the fields of e-learning, digital scholarship, and electronic publication.

Of the twelve recommendations, CDDC embraced the ideas to develop a Cyber-Assistants program, a Digital Publication Center, and Re-Thinking Faculty Rewards: Net Work. The Cyber-Assistant program was first manifested in the College of Arts and Sciences through the CDDC as a program that trained undergraduates to work with faculty on e-learning and other digital projects. We hired several undergraduates and trained them in a wide variety of e-learning and digital technologies as projects manifested themselves. We developed a curriculum for the cyber-assistants that traced several possible paths of knowledge acquisition, aiming some of the material at back-end and infrastructural development, and other parts toward design and implementation, hitting most of the major technologies of the time. Overtime, with administrative changes in the College, the Cyber-assistant's program faded into the background and became CDDC assistants. They now help us complete projects as they arise. Several of our Cyber-Assistants and CDDC assistants have gone on to very successful careers using information technology.

Digital publishing has always been a central issue for the CDDC. For over 10 years, we have encouraged digital publishing and peer review of digital projects across the disciplines. Our efforts garnered mention in the universities 5 year plan which included a digital press enterprise with print-on-demand capabilities and a significant annual budget, but the commitments in the plan never materialized. Our efforts in digital publishing have not flagged, though they have not grown rapidly due to the labor intensiveness of producing high quality digital content. We have several major works and projects, plus many minor ones. One area that we have tried to build upon is the archiving and dissemination of scholarly works and over the years the materials in our archives have been used in over one hundred courses at the university level worldwide, including citations in several hundred books and several hundred more journal articles. The CDDC hosts around 1.5 terabytes of information and transmits several terabytes each year to users around the world. Granted much of this information is freely available from other sources, but some of it is only hosted at the CDDC and in that hosting we provide for digital publishing and dissemination of scholarship to a large community of users.

Throughout the early years of CDDC, we have worked to extend and develop many areas of research and scholarship. We have worked collaboratively with the Center for Applied Technologies in the Humanities(http://wiz.cath.vt.edu) here at Virginia Tech and with other centers and colleagues around the world. This collaborative atmosphere has allowed us to develop connections and projects that span the globe dealing with a wide variety of projects spanning the areas of internet research; digital arts and literatures; archives and preservation; games and virtual worlds; and virtual learning.

Our efforts at Net:work or recognizing faculty work in digital environments have also been a successful endeavor. We have provided reviews for tenure cases of digital publications since 1998. We have produced and promoted digital publications across many domains, even albeit rarely, funding projects. In providing reviews, we actually have invested considerable

efforts for several people; we have found and certified the knowledge of people in the field of research who have done similar projects in the past, as many people producing digital media are not always aware of the long tradition that stands behind them in their own field. Unsurprisingly, the people who have taken on major projects in the past are usually tenured professors and leaders in their respective areas. By searching for and providing access to experts to review materials and providing that information to review committees, we have helped many cases go forward. We have also provided similar reviews to national and private granting agencies in the U.S. and around the world. In these cases, I should admit that we are not advocates in any sense of the word, but we evaluate the practices, the research, and the outcomes in relation to standard scholarly outcomes and follow the guidelines of the granting agency. That said, the need for a pro-active Net:Work capacity across many fields, many colleges, and research institutions is growing, though we tend to get fewer requests for tenure reviews than we once did. We think this indicates that there are more and more acceptable possibilities for digital media as high quality scholarship than there once was and that more institutions recognize the value in it.

Similar to the processes of vetting and reviewing digital work, we have consulted on more projects than we can remember. Occasionally a project will receive national attention, like the Guantanamo project in Second Life or the Marxists.org archive, but usually these efforts are mostly unrecorded. From our earliest days, we have contributed to a myriad of projects, from developing computer games, to enabling archiving for dissertation projects, to providing material for digital library class projects. Those are just a few of many of projects that pass through our email each year. We have leveraged our technologies internationally also, helping groups in Australia and India develop their projects. Faculty Net:work is a global phenomena and the CDDC tries to stay engaged on that scope, as well as locally.

Besides pursuing the three Cyberschool ideas, the CDDC has also performed other services for a wide variety of groups over the years. Besides writing early peer review systems, journal publication systems, and encyclopedia management systems, we have developed blog engines, knowledge management systems, and even a textual analysis system. All are now sadly outdated, as they were designed in the late '90s and early 2000s. Each system and each attempt at a system, because some of the ones not mentioned, such as our faculty outreach frequently asked questions system which never really worked, contributed to the capacity of the center and the confidence in what we could do, when we had resources. Some of the other projects and groups we have worked with are listed below.

Internet Research and Internet Hosting

The CDDC has worked in the area of internet research since it worked on the first conference of the Association of Internet Researchers in 1999 and 2000.

At that point in time, we were developing online peer reviewing tools for conferences and journal publications. Under the mantra of keeping tools simple, our programs were meant to do the bare minimum that would allow people to accomplish their tasks in reviewing materials. The CDDC had our tools in development and applied them to the AoIR, Internet

Research conference for several years. During which time, we also hosted and managed various other services for AoIR, including the website, listserves, etc. We now provide the same service to several other organizations such as: Sigcis and Hopos, both use CDDC's services, while AoIR now is hosted elsewhere.

In regards to internet research, we host archival copies of materials of AoIR including the material from the first Internet Ethics Working group, the first conference, and the first and only Virtual Graduate Seminar that AoIR produced. Various specific objects have arisen in the field of internet research that the CDDC has worked on including a virtual research center from 2000-2003 that never really took off, but was an excellent learning experience in scientific collaboratories in online environments and the challenges of community building.

The CDDC also hosts research projects on digital fordism, digital governance and feminist theory, all of which are original to their creators and continue on the internet and contain research on or about the internet.

Digital Arts and Literatures

Over the years, the CDDC has pursued many projects in digital literatures and arts, mostly through our hosting and publication program. We have hosted the electronic journal New River, which is a premiere publishing outlet for digital art and literatures. New River is discussed elsewhere in this volume.

Beyond New River, we host a myriad of electronic art and electronic literatures. We acquire and curate these through our Call for Proposals for unique digital works. We host materials archives of materials from Deena Larsen and Joel Weishaus, and we also hold copies of the digital exhibitions of Technophobia and the 404 art group. We also have specific examples of digital art and literature in Mez's Dressed in Skin C.ode, David Tomas's Encoded Eye, and Roy Robbin's Invisible Sounds.

These materials were all peer reviewed before acceptance and represent, we think, some of the most interesting works of digital art and literatures of their time. As digital arts and literatures continue to expand, we will continue to support it.

Archives and Preservation

The mission of the center is publication, but the majority of our activities center around archiving materials. With over 1.5 terabytes of material and another terabyte of capacity, our servers hold materials from around the world. We maintain copies and originals of several archives of scholarly significance. From the Situationist International Online, to the Marxists Archive, and to the Feminist Theory website, our materials serve a wide array of social, political, ethical, and cultural theorists. Beyond those materials, we have copies of repositories such as Project Gutenberg.

The April 16 archive (http://www.april16archive.org/), and the frontpages archive (http://www.april16archive.org/frontpages) are two of the newer archives that CDDC holds. Created by Brent Jesiek, now an Assistant Professor at Purdue, while he was managing the

CDDC, these archives related to the April 16 tragedy at Virginia Tech. The primary archive contains digital materials created or found by students, faculty, alumni, and the public who wanted their contributions to be publicly accessible. The archive holds over one thousand submissions. The frontpages archive holds images of newspaper frontpages dealing with the April 16 tragedy. The archive covers every inhabited continent and most major countries, regions, and cities. Collected and contributed to the CDDC the frontpages combined with the archive combine digital memories with their representation in the news to provide a rich and meaningful means of interpreting the tragedy for years to come.

Our commitment to disseminating and preserving the archives as they exist and maintaining current mirrors of many other materials on the web provides many research opportunities at Virginia Tech and elsewhere. People use our archives on a daily basis and we receive millions of hits each year on many of them. By making knowledge and information open and access through our archive servers, we hope to contribute to the open infrastructure needed for future research.

Games and Virtual Worlds

From contributions to open source gaming environments, to hosting game servers, and developing curriculum, the CDDC has participated in a myriad of uses for games and virtual worlds over the years. We have contributed across a variety of platforms, from Neverwinter Nights, to Second Life, to various beta and open source platforms, our work has to provide both a research environment and a learning environment using virtual environments

For several years 2001-2003, we ran an experimental game server based on Nevewinter Nights(tm) that hosted discussions and explored various persistent worlds popularly available for that game. Mostly we hosted a world based on Terry Pratchett's city of Ankh Morpork, with its myriad of characters. This persistent world provided a rich vein of research for collaboration and problem solving in world. We never had many users, but the users we had were international and clearly enjoyed playing in this experimental virtual environment.

More recently, since 2005, we have been exploring various persistent virtual worlds, primarily Second Life(tm), which is where our major investments of time have been in this arena. Second Life is a 3 dimensional persistent world based on a 2dimensional grid of 'ownable' space, where people can build and share whatever they wish. In this world, we have worked with Games for Change, Creative Commons and Joi Lab to develop areas, open content, and provide support for communities in world. Our efforts were primarily focused on the island of Kula from 2006-2009, which was the home to many of these projects. Kula launches many significant artistic works into the world, some of which have won acclaim, grants, and news coverage.

Beyond the community development, and support for digital arts and literatures in world, CDDC members have taught in world, consulted on teaching in world, and developed a community of educators and learners in world that develop immersive and experiential learning spaces in world. Similarly, CDDC members have collaborated on several workshops

on Second Life in learning and research, and have published work on topics on virtual worlds.

Virtual Learning

Our work in virtual worlds is tied to our longstanding support for virtual learning at Virginia Tech and elsewhere. Over the years we have contributed everything from our own Apple and Webstar 4.1 based Course Management System using an esoteric scripting system that we later attempted to migrate to Lasso and then to Frontier, to a massive wiki-like knowledge-object system written in PHP and MySQL. We even developed an open source encyclopedia system years before Gnupedia, Nupedia, and Wikipedia, but we never found the community for it. Those systems were all based on promoting virtual learning.

In 1998, at Virginia Tech there was the conference Learning On Line (http://www.cddc.vt.edu/lol/), and in 2000 there was Learning 2000 (http://www.cddc.vt.edu/learning), the CDDC participated in both and hosts the archives of both conferences. Following the learning conferences from 2002, we ran a virtual community centered on re-imagining the virtual university. This community was one of our more successful virtual communities and lasted over three years until we closed it down in 2005, when its software became too outdated to upgrade and too insecure to maintain.

Our efforts have developed in part from the support of the On-Line Master of Arts in Political Science. OLMA and the support of other university programs over the years has centered much of our work in this area. We tend to be more eclectic than most in that area with our *Extraordinary and Eclectic Distance and Distributed Learning Library* (http://www.cddc.vt.edu/eeddll/) amongst other efforts. The effort to push the edges and interests of digital learning and digital learners provides us with much of the emphasis that CDDC has on virtual learning.

Policy and Political Engagement

From its earliest days, the Center and its members have been engaged across a wide variety of policy and political domains. We have even managed to engage in some engineer and design domains. Our efforts have mostly been with international bodies. We participate in several groups related to internet governance, from the Internet Society (ISOC) and the Internet Engineering Task force to ISOC's short lived Internet Societal Task Force and the Internet Governance Forum and the World Summit on the Information Society, the Center for Digital Discourse has been present, participating and occasionally even some of our members have been elected to lead in these organizations.

We have also contributed to UNESCO discussions on Virtual Universities, E-learning, and Learning with Open Source Software. The OECD also has engaged us on discussions of Open Educational Resources. These international consultations were populated by experts around

the world and led to publications by their sponsors and policy decisions by a myriad of countries around the world.

Our work in this arena is ongoing. We are making contributions as we are able within our budgetary, time, and intellectual constraints, but we see these engagements as valuable parts of what we have done over the years.

Open Content, Cyberwars, Legal Issues and Institutional Support

This history should not be taken to say that our progress has been easy over the years. Developing software is not easy, nor is maintaining servers, developing grants, and collaborating with colleagues here and around the world. Some incidents have been more challenging than others. In 1998-2000, for instance, several of our servers were under constant attack from internet addresses around the world attempting to gain access to the content thereon. This constant probing and attempted entry allowed us to develop some knowledge of system security and advanced system administration. This expertise came into play in 2007 when Marxists.org came under a denial-of-service attack that apparently originated from China and attempted to deny access to the content on those sites. In the end, the last server operating was the mirror at Virginia Tech, which thanks to colleagues in Network Services and diligent work of several members of the staff, never completely went down. The attempt went on for some time though, and that the archive, CDDC, and Virginia Tech weathered it without anything more than increased learning, demonstrates the capacity of several informed individuals to accomplish good things when necessary.

We have not won all of our battles, several of our machines have been 'cracked' over the years, but worse than cracking has been legal threats. We removed two whole archives from our servers because of legal threats. The archives are still available elsewhere, and likely can be found in the Library of Congress and Archive.org amongst other places, so the takedown did not really remove the materials. It did likely limit the ease of finding certain aspects of those archives, some of which may be a good thing. However, materials still get challenged, though we've not had any challenges in a few years, we have had polite requests to remove things for various reasons and we have removed material from public access if appropriate.

In almost all reasonable cases, we have removed content as appropriate, but in some cases the claimant clearly had no claim, so we did nothing after asking counsel. Legal challenges and technical challenges are both problems of professional competence, and we generally have access to the capacity to deal with such things in appropriate ways. Our guiding principle in such disputes has been to attempt to keep the information available if at all possible.

Institutionally, the University and administration were not always supportive as one would expect from a center that is not quite always the same as other centers on campus. There have been promises to do more with us that never came to fruition, and even an attempt to close us down that caused quite a stir in the academic communities that we serve. That was during a dire budget year, but we recovered from that quite well. We ended up generating a letter writing campaign and through the support of that campaign and our Dean we were

allowed to continue and a few years after that we arranged an annual budget that sustains us currently. In recent years, our efforts continue to be recognized as contributing to the community and Virginia Tech and we look forward to continuing as the Center for Digital Discourse and Culture for as long as support lasts.

Conclusion

As a history of the Center for Digital Discourse and Culture this document is always going to be somewhat lacking, I have tried to provide a history that documents our presence in the world and our contributions to the larger scholarly arena. On the one hand, we have led or participated in so many projects and movements over the years that recounting them all would likely take a longer book than this, but then that has never really been the point of the Center for Digital Discourse and Culture. The point was not to make history, the point was to engage with the digital present, to transform the digital discourse through our own actions, and through enabling others. Our history is less of a history about us, than it is a history of any number of groups and users in a scholarly community that work in digital environments. We put this document forth then less as a document of what has been done, then as a way for our audience to see that they can engage and they can through engagement make a difference. We though could not have engaged alone, we had a university community, a college, supportive deans, a body of international scholars, other research centers, and the support of innumerable other institutions and people that all come together and allow us, and can allow other groups to legitimately work to produce, disseminate, and improve digital scholarship. In the end, this is less of a history of the Center than a document of where we were, and statement that we are still here.

Chapter 16
Digital Research and Tenure & Promotion in Colleges of Arts and Sciences: A Thought Piece

Theodore R. Schatzki

The suffusion of electronic media through academia is patent. Most professors use these media as means to long-standing ends, for example, the production of traditional research, the dissemination of information, the coordination of activities, grading, and the submission of reports and applications. Besides subtending traditional research production, however, electronic media offer alternatives to and novel venues and forms for work that is indistinguishable from, similar to, or of uncertain relation to the traditional print products of research. The flood of new possibilities raises issues about the tenure and promotion process that departments, colleges, and universities are beginning to ponder.

This thought piece addresses the treatment of electronic work of a clearly or possible scholarly nature in the tenure and promotion process of arts and sciences colleges. It pertains most directly to institutions with significant faculty research expectations and must be modified to fit institutions with lesser such expectations. The primary audience for the piece, moreover, is departments and colleges, not scholars invested in and already thinking about digital work. I write this, in addition, as a dean of faculty who is concerned with the integrity of the tenure and promotion process and the role it plays in the dynamics of research and scholarship. I am also by training a humanist and have not myself done electronic research. I write nothing, finally, about the use of electronic media in teaching. The pedagogical use of electronic media—Web pages, Blackboard, electronic textbooks/workbooks, discussion forums, distance/on-line learning, collaborative wikis, ePortfolios—is widely welcomed, and innovations are applauded. This cannot be said of electronic work of a clearly or possibly scholarly character. Departments and colleges need encouragement, assistance, and points of reference if their collective evaluative judgments are to do justice to developments in digital work. This work, moreover, needs to be valued and supported.

Background

The pertinence of digital work to the promotion and tenure process is expanding. In some areas of the natural sciences, for example, the preponderance of publication today is already digital, often in open access venues (in mathematics, entirely). Only the most hidebound humanist, moreover, will have missed the spread of digital archives. In 2000, discussion of the treatment of digital work in the promotion process received a powerful impulse in the humanities when the Modern Language Association published its oft-cited "Guidelines for Evaluating Work with Digital Media in the Modern Languages" (http://www.mla.org/guidelines_evaluation_digital/). Today, many department and college tenure and promotion guidelines mention electronic scholarship, and sundry

academic conferences and organizations consider the proper treatment of such scholarship. There is need, however, for much more discussion.

In the meantime, a world-wide economic recession has hit. This development has only fueled threats to the print medium. To be sure, the once common prognosis that book readership would plummet in the brave new electronic world has proven premature. Still, the current economic landscape is likely to quicken, among other things, the steady demise of the newspaper industry. For their part, university and commercial academic presses will have to operate in an environment of at least smaller subsidies, increased library traffic, and a more vibrant used book market. It is hardly risky to opine that the future prospects of scholarly print publishing is uncertain.

In the last twenty years, moreover, electronic networking has progressed in leaps and bounds both inside and outside the university (think Facebook). As more and more material is moved onto electronic platforms, and as a greater proportion of human communication and connectedness transpires through electronic media, people are likely to be increasingly networked electronically. As, concomitantly, more of the work of higher education transpires via electronic media, academic research, too, will likely increasingly utilize and be disseminated in electronic networks that link legions of scholars—despite vexing issues such as the relatively short lives of some electronic technology and media.

These facts might seem trite. I mention them because they suggest, not merely that departments and colleges should attend to the treatment of digital work in the tenure and promotion process, but that they soon will have no choice but to do so. Indeed, academics are already producing electronic work that stretches or confounds traditional intuitions and judgments about what a professor must do to be worthy of tenure and promotion. This document aims to goad departments and colleges to begin thinking about the issues.

This aim dovetails with a February 2009 declaration issued by four leading associations in higher education calling for universities to take greater control of the dissemination of knowledge ("The university's role," 2009)http://www.arl.org/bm%7Edoc/disseminating-research-feb09.pdf). As the declaration recognizes, the reconsideration of tenure and promotion criteria, which today still privilege print publication, is essential to this effort.

To illustrate implications of the changes underway, consider one sector of the burgeoning arena of digital sites, viz, electronic journals. Electronic journals are the least controversial of the existing types of digital work because they closely resemble their print brethren and can employ identical peer review processes. The proliferation of such journals affects, however, one of the criteria by which the worthiness of academics for tenure and promotion is routinely judged: the contribution that a professor has made to his or her discipline. How is this contribution measured? Perhaps the most familiar measure is citations. Citation indexes are widespread in many disciplines (despite issues concerning self-citation and their lack of comprehensiveness).

A second criterion is numbers of readers. This gauge is intractable because it cannot be measured. It is revealing, however, that studies show that the typical journal article is read by relatively few human beings (five, in one estimate). Essays published in "prestigious" journals are read more often, but the numbers are still low. Does this imply, incidentally, that many professors make insubstantial contributions to their disciplines?

As established journals set up electronic counterpoints and increasing numbers of new electronic journals—especially open access ones—come on line, accessibility to articles will increase. It is plausible to think that, as articles become more accessible, citations and reader numbers will increase. At a minimum, essays in less prestigious outlets, especially open access outlets, are likely to be read and cited more often than before. This likelihood will only increase if a conscious migration occurs away from print and electronic journals sponsored by commercial publishers and toward on-line venues sponsored by nonprofit organizations such as university libraries and, in some instances, disciplinary organizations (some such organizations solicit paid subscriptions to their journals and partly support themselves from the revenue). New measures of a professor's contribution to the discipline also arise. The most prominent new criteria at present are numbers of hits and, especially, numbers of downloads (hits as a criterion suffer from the problem of self-hits). These measures are not the same as numbers of citations and numbers of readers, but what they capture clearly relate. Since the new measures are quantified, they are also more tangible than reader totals. The emergence of these new measures, together with the new citation patterns that are likely to follow greater accessibility across the journal universe, changes how contribution to the discipline is operationalized—and understood. Of course, editors, publishers, and advocates of prestigious print journals, including those who have electronic versions, are likely to argue, not unreasonably, that publishing in their journals counts most in determining a professor's contribution to his or her discipline. Will, however, the advent of electronic outlets slowly change which journals are prestigious, how prestige is judged or measured, and the role that presently venerable journals play in both the dynamics of research and the tenure and promotion process? Could marginalized corners of disciplines gain at the expense of establishment cores? Could scholarship become more democratic? In addition, in so far as digital publication promotes interdisciplinarity, could the expansion of such publication slowly erode the significance for tenure and promotion of a professor's contribution to the discipline?

Disciplinary establishments and differential prestige affect how articles are written, the themes researchers address, and the ideas they offer about them. These matters, too, could evolve with greater access to and additional publication outlets. Today, of course, an untenured faculty person is well advised to publish in prestigious establishment journals and not at all, or at best minimally, in electronic alternatives (or tertiary print outlets). This advice could change. The pertinence of parallel advice for the tenured associate professor eyeing promotion to full might likewise diminish in a changed journal

landscape. It is clearly a good idea for departments and colleges to begin attending to this changed landscape—as well as to the wider variety of digital work.

Electronic work today already takes a variety of forms. Because the relations of these to evaluating suitability for tenure and promotion vary, it is best to enumerate types before turning to the issues. I stress that the below categories are porous, not mutually exclusive, and subject to change.

Digital Journals and Presses. These are electronic counterparts of print outlets, in theory publishing the very same documents, just electronically. These outlets can avail themselves of the same peer review processes that print outlets use. They are also pioneering peer review systems not hitherto employed by print outlets.

Open Access Sites. An open access site is one at which anyone, or any member of a certain group, can access material free of charge. The regulation of what is deposited on such sites varies. Peer review is one gateway mechanism. Appropriateness to the site's subject matter is another. Sometimes there is no real such mechanism. Depositors sometimes pay fees, which are used to maintain the site.

Electronic Archives. Some archive websites house primary documents or materials pertaining to some subject matter. Others contain preprints, working papers, or data sets ("research repositories"). In the humanities, the documents and materials that archives house are often annotated or interpreted. A person's collected works, for instance, might be archived on a website, as might documents pertaining to a particular historical event. Academics usually build such sites with the intentions of (a) increasing the availability of materials, findings, or data or (b) calling attention to subject matters. Archives can also embrace multiple media, words, images, and numbers being the most prominent types.

Professional Websites. This is a grab-bag category. Current prominent types of professional websites are (a) informational clearing houses or "gateways" that house commentaries, announcements, links, databases, discussion forums, mirrors of other websites, and tools for facilitating research (e.g., tools for accessing or linking disparate information, data sets, or labs); (b) websites put up by individuals, groups, or organizations that house sometimes multimedia and sometimes user-interactive combinations of texts, images, podcasts, animations, auditory material, and so on that pertain to some subject matter (say, a painter's oeuvre, an astronomical phenomenon, an aspect of the psyche, or a historical event); (c) virtual sites where users can explore, for instance, architectural designs or the cityscapes of past metropolises; and (d) community sites where members can interact about chosen topics or issues. The specific possibilities are endless. The motley category of professional website is likely to be the scene of great energy, creativity, and diversification in coming years.

Tools and Specifications. Tools and specifications are the technical instruments and techniques with which materials are encoded, represented, analyzed, or created electronically. Some tools (e.g., encoding algorithms) are employed by people who

construct websites or manage data; others (e.g., tools for analyzing patterns in texts or for constructing tables, virtual realities, or time-dynamic charts) are used by scholars at specified websites or as downloaded on office or home computers. Good examples of tools of the second sort can be found at the TAPoR site (http://tada.mcmaster.ca/view/Main/TAPoRware), the TimeMap site (http://www.timemap.net/index.php?option=com_content&task=view&id=19&Itemid=166), and the semantic web, (http://www.w3.org/2001/sw/).

Tenure and Promotion Issues

Much digital work is collaborative. Some **collaboration** is inevitable because academics usually lack the technical know-how required to construct platforms and sites. Some sites, moreover, are expressly set up to house or enable collaborative research. It is worth noting that collaborative work is generally increasing at the academy, not so much in the natural sciences where it has been the default arrangement for decades now, and not just in those areas of the social sciences that conceive of themselves as sciences, but also in the humanities and "soft" social disciplines. Electronic media facilitate this development, though it derives from other sources as well.

A second issue is, **Is digital work research, or scholarship?** The issue is straightforward: does electronic work count as research or something else (teaching, service)? A particular piece of electronic work might, of course, count as both research and, say, teaching. In the following, however, I focus on whether electronic work does or does not count as research, setting aside as what else particular instances of it might also qualify.[1] A closely related issue is whether—as some believe—properly classifying electronic work as research and/or something else requires rethinking what research is. Lying behind this second issue are (1) the fact that faculty learn what counts as research in their disciplines through graduate training and subsequent experience and (2) the possibility that present circumstances differ from those under which faculty understandings of research were formed. The issue is freighted by the fact that, on many campuses, research outweighs teaching and service in evaluations of worthiness for promotion. Of course, standards and conceptions of research evolve with generational and disciplinary change. Because, however, abandoning the above two issues to such change might snare faculty in time lags, it behooves departments and colleges to confront them now.

Many definitions of research, or scholarship, exist.[2] Here, I will work with the following definition: Research, or scholarship, is the production and peer reviewed or vetted presentation of new ideas and knowledge that are based on considerations and evidence and that, once disseminated, add to the stock of ideas and knowledge belonging to a community of like-minded individuals. Some might dispute making peer review or vetting partly definitive of research. I believe, however, that peer recognition is essential to the research enterprise: Research yields knowledge and valuable ideas,

not just beliefs and favored ideas. Without review/vetting (and evidence/considerations), far too much can be affirmed or claimed. It is important to add, however, that review and vetting can assume many forms (see below). Note that the above definition also makes membership in a community of researchers essential to scholarship. Research and scholarship are ultimately possessions of a community, regardless of how much they are produced by individuals or teams. The above definition also encompasses most, though not all, instances of what Ernest Boyer (1990) distinguished as the scholarships of discovery, integration, and application.

A third issue is the appropriate **criteria for judging digital research** when evaluating individuals for promotion and tenure. I mentioned that one traditional measure of research strength is a researcher's contribution to the discipline. Others are quantity of research, quality of research, and the promise of future research. If electronic work might pressure current understandings of what research is, might it also challenge common understandings of the criteria with which research prowess is judged? Perhaps the basic criteria will not change. Perhaps considerations of creative design and communicative power will loom larger. It might also happen that expectations regarding traditional criteria evolve. For instance, expectations about quantity of print publications might not hold for types of electronic work other than final publications in electronic journals and presses (e.g., working papers, preprints, data sets, simulations).

Another issue is: In the face of changing research and service, **Who should do the work of providing evaluations** of electronic work? Should disciplines, perhaps their national organizations, provide evaluations of these new electronic media and forms (as argued, for example, by Gary Olson in the June 6, 2008, issue of the *Chronicle of Higher Education*)? Should subdisciplinary organizations and existing journals provide reviews of them à la journal book reviews? Should departments do this work themselves? My belief is that no one sort of group ought to do this work. Someone, however, will have to do it. One message that I want to convey in section three is that departments themselves might have to do some of the hard work entailed by evaluation.

I want, finally, to mention a matter that will not be presently pursued but will be of great importance to certain faculty. The pursuit, recognition, and reward of so-called "engaged scholarship" is increasingly, once again, an issue today. By "engaged scholarship" is meant scholarship carried out in partnership with extra-university groups for the sake of the common or greater social good. To count as engaged scholarship, academic work needs to meet criteria for scholarship. Engaged scholarship differs from the nonengaged variety, however, in addressing issues that are pertinent to or identified by extra-academic communities instead of by academic groups, and in doing so for the sake of the common social good, not for the sake of uncovering truth, gaining control, or whatever one thinks the goal of the research enterprise is. The point I presently want to make is that digital formats are propitious forums for disseminating the results and products of this scholarship, for this format enhances community access and the ability of extrauniversity agencies and groups to explore data and results. Issues of engaged

scholarship are more complicated than this brief rendition might indicate, but the basic point is clear: Because engaged scholarship calls for digital publication, as more academics become interested in pursuing this type of work, and as institutions of higher education become willing to recognize and reward such work, increasing attention needs to be paid to the evaluation of electronic work. This need is all the more acute because the work involved must engage two audiences: scholars and nonacademic groups.

Tenure and Promotion Recommendations

The following recommendations are offered for the present. They do not propose an ideal treatment of electronic work in the tenure and promotion process, which would be chimerical in any event. Departments and colleges need prodding today to begin adjusting to the changing landscape.

The overall message is that, unless your department or college is already doing so, it not too soon to start thinking about digital work and how it should be treated in the tenure and promotion process. More specific recommendations follow.

Portfolios. In disciplines where digital work is still relatively rare and thus exotic and the possible object of suspicion, candidates must present their digital work to their department, college, and university colleagues. Faculty need to be educated about what the candidate is up to, and no one is better positioned than the candidate to do this. By "presentation" I do not mean an oral presentation, though an oral presentation, too, could be useful. I mean, instead, a portfolio. In departments where a colleague presents the candidate's credentials to the faculty, the candidate can still put together a digital research portfolio that the colleague presents to the faculty (perhaps joined by the candidate).

This portfolio should address points such as the following. Information about these points will educate faculty who are unfamiliar with digital work and enable them to form an informed, though not expert, opinion about the value and merits of the work in question.

(1) Why the person chose to do digital work (as opposed to work in print, say),

(2) What the digital work accomplishes: for instance, the ideas, points, or arguments it conveys or subtends, or how it enhances discovery or presents information and findings in new ways,

(3) What the leading examples, if any, are of the sort of work this digital site accomplishes,

(4) What, if anything, the electronic work accomplishes that could not be done in other media,

(5) Who the audience of the work is,

(6) What the virtues of the digital aspects of the work are, for example, the technical innovations it contains,

(7) What collaborations went into the work and what the specific contributions of the candidate were,

(8) What theories or theoretical ideas informed the content and form (form = perceptual appearance) of the work,

(9) How the digital work relates to other digital works, and what electronic links exist between this and other work, and

(10) How the work upholds standards of intellectual rigor.

In addition, the candidate might (a) suggest external reviewers who are qualified to evaluate his or her digital work and (b) explain the relation of the work to research, service, and teaching if this is not clear. The portfolio might also contain still shots of the digital work. As many have insisted, however, colleagues must view the work as it was intended to be viewed and engaged, i.e., electronically. No collage of stills can substitute for the experience of looking at and interacting with a website.

Some professors have a baneful habit of claiming that they cannot evaluate the work of colleagues that lies outside their own, often narrowly defined, specialties. Digital work is likely to receive much the same treatment, though in some disciplines some types of it also confront the danger of perfunctory dismissal. Portfolios of the above sort might prove to be more effective in forestalling dismissal than in inducing colleagues to form their own evaluative judgments. However that might be, portfolios educate. Portfolios will also enable faculty better to understand and interpret external letters about candidates' digital work.

Evaluation. Predictably, evaluating digital work varies with the sort of work involved. Before considering this, recall my definition of research/scholarship: the production and peer reviewed or vetted presentation of new ideas and knowledge that are based on considerations and evidence and that, once disseminated, add to the stock of ideas and knowledge belonging to a community of like-minded individuals. For present purposes, there are two key components of this definition: (1) peer review or vetting and (2) the grounding of new knowledge and ideas in considerations and evidence. Only if electronic work effects or is subject to both can it count as research.[3]

Publications in **electronic journals**, by **electronic presses**, and on **open access sites** are usually peer reviewed. They can be treated on a par with peer reviewed print publications. When materials on open access sites (e.g., preprints, working papers, databases) are not peer reviewed, they do not count as research, even though they and their production are usually part of the overall research process. As indicated, however, peer review can take unfamiliar forms (see below). In particular, one should note the spread of complex electronic, open access publication systems embracing successive stages of publication, on each of which what is available for examination has received

additional peer review, often open access interactive peer review provided by editor-chosen referees and other interested scientists and scholars (see Pöschl, 2004, pp. 105-13; and for a more general discussion, Van de Sompel et al., 2004). [4]

Issues that attend evaluating the quality of print journals also attend the evaluation of digital ones. What might make things seem different is the newness and unfamiliarity of electronic venues. The quality of the latter can, however, be gauged at least as well as it can for print journals. I put things that way because judgments of journal and press quality are sometimes informed by reputation, which notoriously can lag behind and never catch up with reality. Highly-reputed journals are also often allied with disciplinary establishments and fail to publish particularly innovative work. Facts such as these suggest that rigorous measures of quality have severe limitations. They are, however, practically unavoidable One widely accepted measure of journal quality at present is circulation or subscription rates. These numbers are inflected by reputation (and journal costs), but they do reflect interest in a journal and judgments or perceptions of the quality of the articles published there. Subscription rates characterize electronic journals in the way circulation rates characterize print ones, though reputation differences presently make comparisons between print and electronic outlets difficult. Two other measures are submission acceptance rate and impact factor (which has many versions). Reputation plays a role in determining acceptance rates because it affects where people submit articles. Because of this, the fact that an electronic journal has a higher acceptance rate than a venerable print one does not—at present—automatically imply that the latter is superior to the former. At the same time, if an electronic journal has an acceptance rate similar to that of a print one, this fact supports the inference that the journals are of similar quality. These observations will be rendered moot, however, if the development of new peer review systems for electronic journals changes the significance of acceptance rate in judging journal quality.[5] With regard to impact factor, print and electronic journals are on closer footing, though reputation can steer busy academic eyes to print outlets instead of electronic ones. It is of some note, consequently, that as early as 2004 studies showed that in many disciplines electronic journals had begun to rank highly on this measure.

Electronic journals, meanwhile, admit of measures, not of quality, but of the visibility of or interest generated by a journal or article: the number of hits and number of downloads (cf. the so-called Reading Factor). As research increasingly appears in electronic outlets, these measures will assume greater importance. Some feeling for possible trends is conveyed by the Social Science Research Network (http://www.ssrn.com/). The SSRN is a vast electronic archive of texts composed of subnetworks in particular fields. These subnetworks contain items of two sorts: (a) abstracts of forthcoming and working papers; and (b) electronic versions of working papers, preprints, and published articles. The networks also compile lists of the top papers, authors, and institutions as measured by downloads. Contrasting opinions

about the present-day significance of such ratings notwithstanding, networks such as these are increasingly prevalent.

In the humanities and humanistic social sciences, **electronic archives** are multiplying. An archive that simply houses documents and texts, perhaps supplemented by images and diagrams, re-presents materials and information that exist or were unearthed elsewhere. The aims of such archives can include drawing attention, enhancing accessibility, and subtending teaching. Archives of this sort do not qualify as research. They are better understood as service[6] (and/or teaching), with the beneficiaries being academic and extra-academic communities. A similar conclusion applies to the data depositories increasingly found in the sciences even though data sets and their collection are part of the overall research process. However, to the extents that archive contents are sufficiently annotated, analyzed, explained, and overlain with a scholarly apparatus; or treated in a developed form such as a working paper or preprint with hypotheses, explanations, and the evidence that supports them, they begin to qualify as research. Of course, peer review is still required. It should be added that the forms that annotation and interpretation take in digital media can differ from the essay, footnote, and marginalia familiar from print documents. Whenever annotation and interpretation, or analysis, evidence, and explanation, are not obvious, it is incumbent on candidates to point out and explain them in their portfolios.

Evaluating whether **professional websites** qualify as research is challenging. Professional websites are sufficiently new that adequate peer review, or any peer vetting at all, can be difficult. Peer reviews of such websites are beginning to appear, however.. For example, NINES, 19th-century studies online (http://nines.org/), publishes reviews of professional websites written by established academics. It also provides instructions to potential reviewers who are new to writing such reviews. Similar reviews are available on-line at the website of the *Journal of American History* (www.journalofamericanhistory.org/submit/websitereviews.html). It is easy to imagine organizations and journals in many fields and disciplines adopting this practice. Another form that peer review can take is expert evaluation at the time of promotion and tenure (where is it written that peer review must precede publication?); that is, departments and colleges can solicit external reviews from experts who are able to evaluate the candidate's website(s). Good suggestions about finding reviewers can be found at the end of Geoffrey Rockwell's very helpful document, "Short Guide to Evaluation of Digital Work" (http://www.philosophi.ca/pmwiki.php/Main/ShortGuideToEvaluationOfDigitalWork). As Rockwell (n.d.) points out, professional organizations exist that can assist in the search for reviewers; candidates, too, can suggest names. Expert consultants also exist who can evaluate the technical aspects of sites. Evaluating a P&T dossier that includes digital work might require enlisting more than the standard number of external reviewers as well as reviewers from outside disciplines.

Departments will have to work to find appropriate evaluators. As suggested, moreover, they will also have to do extra work both scrutinizing the promotion and tenure dossiers of colleagues who produce digital work and thinking about the treatment of such work in the tenure and promotion process. Departments need to embrace this extra work lest their colleagues who do digital work are inadequately evaluated and they themselves forsake opportunities to hire such individuals. This extra work, simply put, is the price of coping with changing academic practices. More positively, the added work can be welcomed as an opportunity to learn.

The familiar peer review is not the only form of peer vetting.[7] For instance, did the candidate receive grants or other funding to develop the website? The more support, the more the site has been professionally vetted and affirmed. Has the candidate published articles or reports—or better, invited articles and reports about the project? Whatever peer review these articles and reports receive qualify as at least indirect peer review of the website. Invited pieces also signify professional acknowledgment. Is the candidate's website discussed or cited elsewhere—on websites, in archives, in books and journals, in online discussion forums, on syllabi, and in other teaching contexts? Do other professional websites contain links to the candidate's website? The greater the number of links, the more a relevant community has expressed confidence in the website. Has the candidate made invited presentations about or presented papers at conferences—face-to face or virtual—about the website? Such activities expose the work to criticism and discussion and thereby provide a modicum of review and vetting. By virtue of the website, moreover, has the candidate been drawn into connections and collaborations with other academics? Such collegial expressions of interest amount to affirmation and thus a form of ex post review. How high, finally, is the site's visitor count or number of hits? The higher the total, the greater the interest the site has generated. See Rockwell (n.d.) for additional detail on some of the above ideas, and for questions departments can ask about candidate's' professional websites[8].

The future will presumably bring further possibilities. A current website called *ThoughtMesh* (http://thoughtmesh.net/) links articles published on different sites by tagging key words and allowing users to trace these words through archived articles. In February 2009, it began allowing users to post open access comments about articles. Unlike standard discussion boards or websites that allow users to leave remarks, the comments are weighted by a reliability index tied to the credibility of commentators. This index is based on the treatment that earlier comments of commentators received from other users. Such a weighted comment system is probably too new and untested to qualify as reliable professional vetting. But it is getting nearer. A preceding example is *The Pool* (both sites were launched by the New Media Department at the University of Maine). *The Pool* is a sort of on-line clearing house where people can upload new media projects (art, text, and software development), evaluate one another's projects, and find collaborators. Project evaluation is plotted on a two-dimensional graph: The more reviews a project receives, the more it moves toward the right, and the more favorable the reviews, the more the project moves upward. As in *ThoughtMesh*, the plotting

program factors in the credibility of the reviewers as measured, for instance, by the scores that his or her own projects have received. Since June of 2008, moreover, *The Pool* has been open to the public.

A different experiment is the "blog-based peer review" project recently carried out by Noah Wardrip-Fruin (2009) on the group blog *Grand Text Auto.* The experiment consisted of posting a new section of a draft book manuscript each workday morning on this group blog, subsequently—and in tandem—responding to posted comments about the sections and rewriting the manuscript. This process resembles the interactive peer review system mentioned above. From Wardrip-Fruin's description of it, however, the process seems to me an exercise more in community input than in peer review. Nonetheless, one can easily imagine forms of distributed group peer review growing out of experiments such as this.

In short, considerable opportunities for something different from, though convergent with, traditional peer review already exist. Consequently, I am skeptical, notwithstanding the present evolution of research practices, that changes in current definitions of research are presently required either on intellectual grounds or in order to give digital work its due. As electronic works and research practices evolve, perhaps it is less the definition of research, and more how it is reviewed and vetted (as well as produced), that will change. As review and vetting mechanisms become more informed and reliable, professional sites will increasingly qualify as research/scholarship.

By the same measure, **blogs** do not qualify as research. There is no review or vetting of the comments people post. Maintaining a blog is, instead, service (or teaching)—however, this qualifies as service only if the blogs are regular, known sites for discussion by members of an academic community. I will turn to tools and specifications below.

I have been concentrating on the first of the two above highlighted characteristics of research, namely, peer review and vetting. The second highlighted characteristic is that research yields new knowledge and ideas based on considerations and evidence. Professional websites do not always document or explain the considerations and evidence that underlie the ideas or materials they present, the analyses, commentaries, or accounts they offer, or their perceptual appearance. Suppose that an archive of a writer's works lacks the scholarly apparatus that typically accompanies collected writings in print. The absence of that apparatus is presumably determined by the needs and interests of the archive's intended audience—nonscholars. This archive does not qualify as scholarship. In order to be research, an archive must include a scholarly apparatus or some sort of equivalent that presents the considerations and evidence underlying the ordering, presentation, and interpretation of the collected writings.

Form (perceptual appearance) of presentation raises further issues. Some websites present already existing information or ideas in new contexts. Such sites do not prima facie qualify as research: research must always contain something new or original (although a new overview is one possibility). Often, moreover, there is nothing

particularly innovative about how the information or ideas involved are represented. The perceptual appearance results from the use of already available software that might have been used to generate informational displays in sundry contexts. Under these circumstances, the form of presentation does not count as research. It is true that the decisions designers make in working out how to represent and present ideas and information amount to a kind of editorial interpretation. Not all editorial work, however, is scholarly. These decisions might also be intellectual and be informed by ongoing discussions about and practices of digital representation, but even this does not qualify them as scholarship.

Suppose, however, that an academic develops software that supports novel or innovative presentations of ideas and information, new or old. Suppose, furthermore, that this software reflects or embodies new ideas or even theories about digital representation. Accompanied by an explanation of the ideas, considerations, and theories that lay behind the development of the software and its use on the website, the software would probably best be treated as research. The software would embody new ideas that are grounded in considerations and evidence (in this case, ideas and theories). To qualify, the software would also have (1) to be subject to peer review or vetting (including via papers and conference presentations by its creator) and, under appropriate conditions, (2) to become part of the stock of tools of an academic community. This means, for example, that the work required to implement the Research Portals and Browsing Model Project envisioned by the faculty committee designing a new library at Stanford University could count as research (see Drucker, 2009).

The promotion and tenure candidate who has created or worked on professional websites must include in his or her portfolio an explanation of the above matters, especially if there is a chance that colleagues will not understand the sort of peer review or vetting to which the site has been exposed, the new knowledge or ideas it contains or embodies, or the considerations and evidence at work.

Discussion of software points toward a further sort of digital product, **tools and specifications**. Tools and specifications are the technical means with which electronic work is created and designed. Their creation is a type of software development. Even though software development is the fashioning of means with which information, ideas, images, and the like can be presented, I tend to think of it as research. Some commentators claim that software development is research because it advances particular sides in theoretical disputes. I cannot offer an informed opinion about this. Nor, however, can most academics. Once again, therefore, (1) a candidate who develops tools and specifications must explain them, clarify their significance, and indicate which of their features qualify them as research and (2) departments and colleges need to begin examining these issues and to be open to soliciting external evaluations when they are uncertain.

Some departments are likely to resist classifying tools, and many a professional website, as research.[9] In many such departments, in fact, claims that electronic work changes the

nature of research are likely to be met by counterclaims that much such work is obviously not research. There is a way to avoid this clash, though it, too, requires changes. Academics inclined to dismiss certain sorts of electronic work as research are likely to be willing to classify them as service (or, in certain cases, teaching). The clash can be avoided, accordingly, by treating these sorts of digital work as service (or teaching) and making a more flexible use of distribution of effort (DOE) agreements and expectations.

In many departments, most tenured and tenure track faculty have similar distributions of effort. All departments, however, have colleagues with DOEs different from the norm, for example, department administrators and directors of extradepartmental centers. Given the deluge of new electronic outlets and forms, why not allow academics who have interests in software development and in the design and construction of digital sites have a larger service load than is normal, with a corresponding decrease in research? Doing this will require their colleagues to accept both a new sort of departure from the typical DOE and modulations in the expectations that underlie judgments about suitability for promotion and tenure. I am confident that departments can make these shifts. It is in their interests, moreover, to do so, lest they become disconnected from changing practices. Of course, some faculty will bemoan the diminished quantity of research that would be produced in departments that follow this suggestion, while other faculty will take such laments as their cue to argue that people's understanding of research needs to change. This resurrection of the underlying clash suggests that it is probably time—given that the changes underway will not go away—to expand departments' appreciation of the range of skill sets and knowledge bases that they can and should encompass: Expanding the faculty does not just mean covering more pieces of a discipline's subject matter. In any event, faced with a battle between changing people's understanding of research versus making more flexible use of the DOE, I vote for the latter in the hope that the former will occur on its own.

Allowing some professors to have larger service loads should not be understood as a diminution of respectability. Software and website development have an intellectual rigor of their own that can be gauged by reference to formulable standards.[10] Designs and software can display more or less rigor, just as they can display more or less creativity and exploit well or badly the potentialities of a medium. Judgments, accordingly, can be made of better or worse. In wondering whether they should embrace digital work, departments should be worried less about loss of intellectual respectability and more about advancing the work of the university. It behooves the academy, and will promote its survival in the 21st-century, to recognize and award digital work and give it a secure place in the tenure and promotion process.[11]

Chapter 16
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Chapter 16
Notes

1. Some thinkers believe that properly appraising digital work in the tenure and promotion process requires overhauling the familiar triumvirate of research, teaching, and service, under which professors' activities are classified. It is certainly possible that the increasingly digitalized and networked character of academic work will usher in an alternative classification system. I do not, however, see this happening anytime in the near future. It could be, moreover, that this triumvirate will be the basis of whatever new classification system emerges.

2. In this paper, the words "research" and "scholarship" are used interchangeably. According to my linguistic intuitions, the distinction between research and scholarship is one between sorts of work done in the sciences and humanities, respectively.

3. For an alternative definition of research and a divergent discussion of digital work and the tenure and promotion process, see the thoughts of Mills Kelly beginning at http://edwired.org/?p=313. [see my note in ref. list]

4. For discussion, see Ulrich Pöschl, "Interactive journal concept for improved scientific publishing and quality assurance," *Learned Publishing* 17, no. 2 (2004): 105-13. Also, and for a more general discussion, Herbert Van de Sompel et al., "Rethinking Scholarly Communication," *D-Lib Magazine* 10, no. 9 (September 2004). [delete note; info added to text.]

5. Ulrich Pöschl (2004) [or "In Ulrich Pöschl's 2004 essay, he" –to use language similar to author's] speculates that the open interactive peer review system that some electronic journals have adopted will increase *both* acceptance rates and the quality of published articles.

6. I use the term "service" capaciously. It essentially names everything that is not research or teaching, thus not just, for example, committee work, review activities, and occupying an official role in an organization, but also some forms of engagement and of outreach (other forms are research) and miscellaneous contributions to profession, department, or university.

7. This document has now been folded into the MLA-HASTAC wiki, which is devoted to offering guidance on the evaluation of digital work: http://www.philosophi.ca/pmwiki.php/Main/MLADigitalWork, or http://wiki.mla.org/index.php/Evaluation_Wiki.. For a parallel presentation, see this Nebraska site: http://cdrh.unl.edu/articles/promotion_and_tenure.php.

8. See the just mentioned Rockwell document for additional detail on some of the following ideas; this document also suggests questions departments can ask about candidate's professional websites. This document has now been folded into the MLA-HASTAC wiki, which is devoted to offering guidance on the evaluation of digital work: http://www.philosophi.ca/pmwiki.php/Main/MLADigitalWork. For a parallel presentation, see this Nebraska site: http://cdrh.unl.edu/articles/promotion_and_tenure.php.

9. This attitude should be contrasted with that of some media departments, for example, the New Media Department at the University of Maine. Its 2007 statement on tenure and promotion criteria is suggestive regarding future possibilities more broadly, http://newmedia.umaine.edu/interarchive/new_criteria_for_new_media.html ; a more recent version is found at http:/

/scholarship20.blogspot.com/2009/04/university-of-maine-promotion-and.html.

10. For an informative example of formulated standards for 3-D visualizations on cultural heritage websites, see the London Charter, www.londoncharter.org. This Charter is discussed in Jessop (2008).

11. I wish to thank Leonidas Bachas, Phil Harling, and, especially, Mark Kornbluh for observations, suggestions, and criticisms regarding earlier versions of this thought piece.