

New Media in the Academy: Labor and the Production of Knowledge in Scholarly Multimedia

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Abstract

Despite a general interest in exploring the possibilities of multimedia and web-based research, the humanities profession has been slow to accept digital scholarship as a valid form of intellectual endeavor. Questions about labor, peer-review, and co-authorship often arise in academic departments' attempts to evaluate digital research in the tenure and promotion process. In this essay, we argue that these tensions stem from a general misunderstanding of the kinds of "work" that goes into producing scholarship in multimedia form. Multimedia work, we suggest, places scholars in an extended network that combines minds, bodies, machines, and institutional practices, and lays bare the fiction that scholars are disembodied intellectuals who labor only with the mind. We argue that while traditional ideas of what "counts" as scholarship continue to privilege content over form, intellectual labor over physical labor, and print over digital media, new media's functional (and in some cases even biological) difference from old media contributes to a double erasure, for scholars working in multimedia, of both their intellectual contributions and their material labor.

I construct, and I am constructed, in a mutually recursive process that continually engages my fluid, permeable boundaries and my endlessly ramifying networks. I am a spatially extended cyborg. [Mitchell 2003, 39]

Knowledge arises from the flesh — that intertwining of my body and the world, and my interactions with others. [Tuana 2001, 236]

Digital scholarship is not new. By the time the World Wide Web appeared on the screens of professors and students at academic institutions in the mid-1990s, a profound transformation was well under way. Digital preservation, spearheaded by the Text Encoding Initiative and other similar efforts to apply computing power to literary analysis and preservation, had become a well established, if somewhat marginalized, field of study. For literary critics interested in computing, text had morphed into hypertext. Still others recognized that multimedia, as a practice, was a promising new frontier; as a result, media studies quickly became new media studies. In many ways, the institution adapted: new journals, such as the *Electronic Book Review*, emerged as open-access e-journals. Print journals, such as *Genders*, followed suit and were reborn in cyberspace. Brave, forward-looking deans, provosts, and grant-giving agencies like the National Endowment for the Humanities and the National Science Foundation threw money at multimedia and web-based projects that promised to revolutionize the way that scholarly knowledge is presented and circulated.

This institutional interest in exploring the possibilities for digital scholarship, after an initial flurry of activity followed by something of a hiatus, seems to be gaining impetus again. We have recently seen the establishment of new granting initiatives (such as the NEH's Digital Humanities Start-Up Grants and the ACLS Digital Innovation Fellowship Program) as well as a general "buzz" about digital scholarship epitomized by recent articles in the *Chronicle of Higher Education* and elsewhere, culminating in a standing room only panels on digital humanities at the MLA conferences of 2009 and 2010, and the awarding of the MLA's 2009 first book prize to *Mechanisms* [Kirschenbaum 2008], a seminal book on new media forensics. Innovative work, such as that sponsored by the Maryland Institute for Technology in the Humanities (MITH), MediaCommons, and the journal *Vectors*, is gaining ground among a growing cohort of digital scholars. Despite these promising developments over the last decade, however, academia itself has been slow to respond to the changing face of scholarly practice when it comes to issues of promotion and tenure, peer-review, funding, and faculty development, and more broadly in recognizing the emerging importance of scholarly multimedia. In this respect, academia seems to suffer from its own version of technological obsolescence, seeing the emergence of scholarly multimedia as challenging the primacy of traditional humanities scholarship.

This article considers the historically important role that new media have played in configuring not just articulations of humanist subjectivity in general (a now well-trodden field in literary and cultural studies), but also the humanist *scholarly* subject. By placing the institutional tensions between traditional scholarly practice and new media within larger theoretical and disciplinary contexts, we can demonstrate how new media challenges the ways in which the traditional humanities scholar has been imagined as having a secure and stable position within institutionalized hierarchies of knowledge production. Furthermore, we can consider how scholarly multimedia threatens the very coherence of humanities scholarship by insisting on the re-embodiment of scholarly activity. In this respect, we hope to bring critiques of techno-scientific epistemologies coming out of new media and science studies to bear on humanities scholarship in order to follow through on Donna Haraway's call for interventions into all forms of knowledge production: "Knowledge-making technologies, including crafting subject positions and ways of inhabiting such positions, must be made relentlessly visible and open to critical intervention" [Haraway 2004, 236]. Our analysis will reveal the ways in which the production of scholarly multimedia has been hampered by two key obstacles: traditionalist definitions of humanities scholarship that still overwhelmingly determine the evaluation of digital works, and a narrow understanding of what the "materiality" of new media can actually come to mean. We hope to address both of these issues by foregrounding some of the material and intellectual potentialities revealed by scholarly multimedia.

Scholarly Multimedia: Defining an Emerging Genre

Scholarly multimedia in the humanities has, historically, gone by many names: digital humanities, humanities computing, and more recently new media scholarship. Each of these names points to the technological aspects of this new mode of scholarship, and thus acknowledges the vital importance of medium to scholarly activity. In literary studies, media scholarship has for the most part diverged into two basic fields of study. On the one hand, we have traditional text-based readings of innovative literary forms, usually referred to as *new media studies*. N. Katherine Halyes, among others, has pioneered this important field.^[1] On the other hand, we have digital reimaginations of or interventions into preexisting text manuscripts, such as the William Blake Archive and Emily Dickinson Electronic Archives. These works are usually gathered under the title of *digital humanities* or *humanities computing*. This division between analysis of new media and digital archiving has been accompanied by an equally notable split in tenure and promotion evaluation, wherein scholarship *about* new media, in the form of single-author monographs, "counts," while multimedia projects themselves, no matter how transformative, are viewed (if the scholar is lucky) as akin to producing a somewhat gimmicky scholarly edition — i.e. the "work" is primarily viewed as reformatting rather than as "original" scholarship. The important work of digital preservation of existing texts, itself a crucial field, is more likely to be considered the province of library science than that of Literature and the Humanities.

Spearheaded by the Electronic Literature Organization, scholars in the digital humanities are now starting to explore some of the technical and rhetorical problems of approaching and preserving "born digital" creative works — interactive Flash poems, hypertext novels, and the like — which never existed in print. But what about "born digital" *scholarship* — scholarship that never had a print analog? Very few theorists have attended to this category, being mostly concerned

with digital creative works as their object of analysis, rather than digitally rendered scholarly works. Thus the work of new media researchers in the humanities tends to get lumped into a single category rather than, as Cheryl Ball distinguishes, into the very distinct categories of scholarship rendered *in* new media and scholarship *about* new media [Ball 2004, 404]. Institutionally, this distinction is crucial for upcoming scholars, since much of the contention centers around *originality* of content: if the multimedia format of the work is absolutely essential to (and constitutive of) the argument it presents, where should it count — as a work of scholarship as fundamentally complex as a written monograph, or as a reworking of an existing argument (a *porting*, if you like — a term we borrow from software development practices)? Thus it is important to distinguish, as we do here, between the term *scholarly multimedia* and other terms frequently used in considerations of the role of new media in academic contexts. By *scholarly multimedia* we specifically mean critical scholarly works — interpretive and argumentative, as opposed to creative or archival — that are produced, and in some cases performed, in multimedia form. These works represent a new rhetorical genre of scholarship that is at once both discursive and embodied, and that differs from multimedia art or hypertext fiction (as artistic and literary genres) and from multimedia as interactive storage spaces for archival materials or critical resources.

The messy contention over how to define scholarly multimedia is symptomatic of the very old argument, played out continually in the academy, over a perceived split between form and content. Content is the essence of analysis, while form is merely the “matter” out of which it is made. But materiality matters — has always mattered — in the meaning-constitution of analysis. Digital machines, in all their undeniable physicality, confront us as a transformational tool in the same way that the printing press does. In this way, we see, from the earliest writings about the role of computers in humanities scholarship, an awareness of materiality. In the fields commonly known as “history of the book” or “print culture,” critics have devoted considerable attention to the materiality and visual spatiality of the scholarly artifact — the illuminated manuscript, the Concrete poem, the hypertext novel, etc. In the analysis of the many forms new media take, [Drucker 2002], [Hockey 2000], and [McGann 2004] serve as excellent examples, as does N. Katherine Hayles in her call for “media-specific analysis” and later “New Materialism,” a mode of literary criticism that takes seriously the material instantiation of the text as integral to critical interpretation ([Hayles 2002, 29]; [Hayles 2005, 142]). Critics have also attended to the body of the reader as an important locus of materiality, arguing, as Mark Hansen does, that readers engaged with new media experience the text/artifact in an embodied, post-representationalist way; that is to say, new media produces in the user/reader “affects” that cannot be separated from material embodiment [Hansen 2006, 223]. But the importance of the material conditions of multimedia *production*, i.e. the embodied and materially-mediated work of the digital author has remained drastically under-theorized.

Our goal here is to extend the discourse of new media criticism by addressing specifically the materiality of scholarly production, both in print and multimedia form. That is, we hope to attend not only to the bodies of the text and the user/reader, but also to the bodies of the authors/engineers and to the material aspects of scholarly activity itself. Crucially, we want to focus on the material and embodied aspects of multimedia production, rather than simply the rhetorical arrangements or rearrangements of information that are so often considered the primary labor of multimedia authoring. In this mode, it is important to distinguish between material labor and embodied labor.

For us, *material labor* is a broad term encompassing both physical movement and the kinds of “material” actions necessary to provide an infrastructure for digital media. On an immediate level, these actions can be thought of as a nodal network of bodies and machines in which machines *combine with* humans to perform tasks: the manipulation of software packages, the shooting and compression of video, the recording and recasting of audio. In addition, we have the even wider infrastructural support necessary for producing such media objects: the institutional search for grants, the subvention of copyright clearances, the securing of financial support for and mentoring of graduate students, and technical assistance provided by, variously, presses, contract programmers, videographers, and animators.

By *embodied labor*, more narrowly, we mean the physical actions (often disciplined by machinic interactions) that go into interacting with machines — the focusing of the eye on the screen, the repetitive hand movement, the response of the ear to input, and the performative bodily movements when interacting with machines as physical objects. This distinction will be crucial when we come later in the article to a discussion of the most radical forms of scholarly multimedia currently being conducted in the academy — performative scholarship.

Purification and the Problem of Material Rhetorics

A host of binary oppositions emerges when we reflect on the unusual space scholarly multimedia occupies within the academy, particularly within the humanities: content versus form, information versus materiality, multimedia versus print, collaboration versus single-authorship, nodal or networked “writing” versus linear academic prose, word versus image, and so on. These binaries are often cited as arguments for the line we draw between print and new media as well as between intellectual labor (often seen as pure information) and bodily labor (often rendered transparent) in the process of producing scholarly works. But such binaries are by no means sustainable, and lead to a proliferation of hybrids, in the Latourian sense, as the labor practices of academics who work in multimedia have become more and more visible as embodied material practices.

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In Bruno Latour’s articulation of the modern constitution, he offers *purification* as a term to describe the institutional practice of vigorously separating the domain of the social from the domain of nature. But this practice of purification is met with resistance as there continue to arise objects (and by extension practices) that refuse to be easily contained within one or the other of these purified domains. Modernity attempts to subsume such unruly “quasi-objects” or hybrids by characterizing them as “a mixture of two pure forms,” so that rather than tearing at the fabric of modernity’s stable ontology, they reinforce the purified domains of the material and the social that constitute modernity [Latour 1993, 78]. The consequence of this dual process of purification and mediation (Latour also calls this mixing of domains “translation”) is a frustration with modern philosophy’s incapacity to account for the proliferation of hybrids other than by resorting to a pernicious relativism at the expense of more nuanced accounts of the relationship between materiality and cultural productions. Within the academy we see these processes of purification and mediation at work, producing and maintaining the distinction between intellectual labor and material labor, both of which are essential to multimedia production.

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The distinction between intellectual and material labor is pervasive throughout scholarly criticism and evaluation of media forms. But usually these oppositions amount to a debate over genre in terms of *rhetorical* construction, rather than its material conditions. In addition, any discussion of scholarly activities in multimedia format are usually elided in favor of literary texts, which can be safely analyzed using traditional tools of critical analysis. Thus early criticism of hypertext, for example, focuses on its rhetorical difference as a reading and writing practice. However, critics of this early celebration of hypertext generally point out the ways that print conventions have *always* been associative, non-linear, and intertextual, citing footnoting and indexing as examples of the always already hypertextual nature of print. Richard Grusin, for one, demonstrates how ascribing revolutionary qualities to electronic writing is tantamount to a technological fallacy whereby we ascribe agency to technology itself rather than attending to the ways in which writing is always produced in particular historical, social, and technological contexts. In this way, he asserts, rather paradoxically, that electronic authorship is the same as print authorship only different: “To then imagine that current technologies of (and like) writing are destabilized by pointing out that they have histories is only to suggest that since things used to be different, they could be again” [Grusin 1996, 52].

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Some attempts have been made to reintroduce the material world into new media texts. In a reexamination of literary “cybertexts,” for example, [Aarseth 1997] attempts to reconcile the “new/old” contradiction pervasive in media criticism. Aarseth’s project, he claims, is to create a space within literary theory that can account for new media technologies. At the same time, however, Aarseth dismisses new media technologies as “not important in themselves” in order to favor a reader/user-centered approach to cybertext that disregards media-specific rhetorics and aesthetics, both of which, implies Aarseth, are superficial: “The ideological forces surrounding new technology produce a rhetoric of novelty, differentiation, and freedom that works to obscure the more profound structural kinships between superficially heterogeneous media” [Aarseth 1997, 14]. By focusing on the role of the reader in the construction of meaning, regardless of the medium in which meaning is delivered, and by redefining writing itself as a “material machine” (and therefore only superficially different from new media) Aarseth dismisses arguments for cybertexts’ newness as being premised on extraneous distinctions [Aarseth 1997, 18–24]. In this way, Aarseth levels the field between digital and non-digital literary objects and redefines *cybertext*, not in material or technological terms, but as “a *perspective* on all forms of textuality” [Aarseth 1997, 18]. This view fails, however, to account for actual material and technical differences between media, as well as the material-social differences (i.e. in the skills and knowledges required to produce such

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works) that necessitate a more nuanced account of new media as facilitating new rhetorical modes.

More recent criticism has begun to grapple with the idea of media writing as a practice that is embedded in *both* rhetorical and material networks of machine and institution. Mary Hocks and Michelle Kendrick consider the “modern constitution” in terms of the purifying impulses that “dichotomize our experiences with visual and verbal communication systems” [Hocks & Kendrick 2003, 3]. The binary that emerges within the humanities between word and image points to a larger constitutional dichotomy between old modes of scholarly practice and new modes. This dichotomy, often described in critical discourse as a contest among media^[2], produces two contradictory purification narratives, the first being overstated claims of new media’s radical newness and the second being claims of its radical sameness. Early enthusiasts of hypertext, Michelle Kendrick points out, have claimed that electronic writing, by embedding technologically associative structures in a non-linear way, function more like the natural human brain than the artificial medium of print. In this way, hypertext enthusiasts have claimed that new media “truly reveals the subject, for it enacts the patterns of cognition in the human mind[...].” [Kendrick 2001, 233]. Such claims, Kendrick writes, rely on the notion that the subject of writing in print culture has been rendered obsolete by the emergence of new media [Kendrick 2001, 233].

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This ongoing debate about new media’s functional (and in some cases even biological) difference from old media contributes to a double erasure, for scholars working in multimedia, of both their intellectual contributions and their material labor. If multimedia is regarded as no different from other scholarly forms, the complex labor practices and new knowledges required to produce scholarly works of multimedia, such as interface design, coding, video production, hardware support, institutional interactions and so on, may be devalued to the extent that they are seen more as service (akin to maintaining a department’s computer lab or website) or not seen as meaningful scholarly activity at all. This leads to the reduction of scholarly multimedia to the status of “unacademic,” suggesting that it is somehow less intellectually significant than “equivalent” works produced in print because the differences between media are “superficial.” Here we find ourselves in a bind similar to the “old/new” argument. On the one hand, if we claim that digital scholarship is old scholarship translated to a new format, we elide the ways in which multimedia fundamentally changes scholarly argument; on the other hand, if we regard multimedia as radically other to scholarly production (i.e. “new”), the intellectual and rhetorical expertise of multimedia authors/engineers may also be discredited insofar as they are working in a medium not recognized within the institution as scholarly enough. Furthermore, as a consequence of casting academic labor practices in these ways, the material practices of *all* scholarship are erased, as traditional scholarship is purified as a solely intellectual act. Narratives of purification that dictate which scholarly practices count as intellectually significant and which don’t foreclose the possibility of accounting for multimedia as a viable scholarly activity and limit our understanding of how scholarly activity more generally is socially and technologically constructed.

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Old Media and New Media: The Problem of (Scholarly) Humanism

The emergence within the academy of scholarly multimedia as a new rhetorical genre is certainly not the first time that technological change has prompted anxious reconsiderations of humanism. Rather, it exists as one localized example of an ongoing concern about the status of the human in relation to technology. In *Gramophone, Film, Typewriter*, Friedrich A. Kittler argues that media threaten, indeed have always threatened, to render the liberal humanist (and by extension, we would argue, the humanist scholar) obsolete [Kittler 1999]. According to Kittler, prior to the invention of devices such as the phonograph that could record sound waves, writing was imagined as the only means to transmit the voice of the author. In this respect, the voice of the author, as it was imagined by readers, functioned as a kind of “fictitious elevated phallus born from the alphabet” [Kittler 1999, 70]. With early recording devices, the modern engineer was able to capture the waves of human vocalizations and could thus reproduce this “fictitious phallus” technologically, calling into question the purity of the phallic voice. Kittler elaborates on this in his discussion of Rilke in which Rilke describes phonographic emanations as “primal sounds.” In other words, phonographic recordings, which seem to capture the human voice “as it really is,” offered the illusion of primacy (immediacy) and in this way appear to outperform the written word:

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With the demise of writing’s storage monopoly comes to an end a love that was not only one of literature’s many possible subjects but also its very own media technology: since 1800 perfectly

alphabetized female readers have been able to endow letters with a beloved voice. But tracing primal sounds has, as Rilke put it, nothing to do with “the presence of mind and grace of love”. [Kittler 1999, 70]

In this passage, we see a crucial split between mind and body take shape: “machines have taken over the function of the central nervous system” [Kittler 1999, 51]. Machines are primal and embodied and therefore threaten the subject of writing. Suddenly, with the emerging importance of the machine engineer, there is the capacity for writing without a subject-author, and so the role of the subject-author is no longer entirely stable. One important consequence of machines taking over the function of the central nervous system is that, for the first time, memory supersedes “spirit” as the imminent characteristic of subjectivity, yet memory is no longer solely the domain of the mind or brain. It can also be scratched on surfaces. Memory has now been externalized by media technologies. The consequence of this externalization of memory, Kittler argues rather dramatically, is that “Media render Man[...]superfluous[...]The fictional elevated phallus shrivels up[...]the engineer has finally beaten the author” [Kittler 1999, 78]. As Kittler’s historical analysis reveals, this perceived contest between media technologies (captured here through the figure of the engineer) and the liberal humanist subject-as-author (presumed here to be male or at least to possess the phallus) is ongoing. More interestingly, we see this contest structured around yet another series of dichotomous relations: author versus engineer, soul versus memory, writing versus recording, humanities (e.g. the poetry of Rilke) versus science and technology (e.g. phonographic recordings), and ultimately, mind versus body.^[3]

In “The Condition of Virtuality” [Hayles 1999a] and *How We Became Posthuman* [Hayles 1999b], N. Katherine Hayles’ offers a similar narrative of the emergence of the tension between mind and body, which she casts as a tension between virtuality and materiality. As a result of post-World War II scientific discoveries (namely, DNA and genetic code) we (meaning Westerners) have experienced a paradigm shift in the ways we imagine the “self.” Whereas prior to these discoveries we imagined the material body and the “self.” as a unified, self-identical whole (this is what Hayles calls humanism), in the post-DNA age the body is re-imagined as a container or husk for the self, which is itself re-imagined as an informational pattern produced by and through genetic code. Hence, writes Hayles, we see the emergence of a posthuman dialectic — information versus materiality — where the former trumps the latter as the root cause of the (illusion of the) liberal humanist subject. “A defining characteristic of the present cultural moment,” Hayles writes, “is the belief that information can circulate unchanged among different material substrates” [Hayles 1999b, 1]. The body, in such a posthuman arrangement, becomes the “original prosthesis” [Hayles 1999b, 1]. This ongoing tension between materiality and informatics contributes to our understanding of how we in the academy think about multimedia in relation to other, more “legitimized” modes of scholarly practice. For one, the materiality of multimedia scholarship is constantly under erasure insofar as we imagine that the heart of any scholarly work (the intellectual part) is purely “informational,” as if, like Athena, it springs forth from the scholar’s mind and takes up residency inside the book or article or machine. Hayles, drawing on Richard Doyle, calls it an “impossible inversion,” where the informational pattern or code is imagined as actually producing the thing on which the pattern nonetheless depends [Hayles 1999b, 293].

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In the case of humanities scholarship and the methods by which we evaluate and validate research practices, Hayles’ “impossible inversion” surfaces as a practice of purification wherein the embodied or material aspects of scholarly work are rendered secondary to (rather than constitutive of) scholarly argument. We imagine that the intellectual content of scholarship pre-exists its material enactment. Deborah Lines Andersen, in her introduction to *Digital Scholarship in the Tenure, Promotion, and Review Process*, reiterates this view:

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The critical issue in academe is what one does with what one has. It is the act of creation that defines the digital scholar. Tools such as computers and software programs are critical to this creation, but they are only the means to this end. [Andersen 2004, 3]

While *Digital Scholarship* is a valuable and ground-breaking discussion of the institutional problems faced by those working in multimedia, Andersen’s attempt to define digital scholarship as independent from the medium in which it is produced tends to undermine her argument for the value of digital work. We should be mindful, then, of Hayles’ criticism of similar virtualist accounts that disregard the material substrates upon which informational patterns depend. Perhaps

understandably, given its computational origins, Andersen sees digital scholarship as better suited to natural or social sciences where research tends to be presented graphically (for example, in the form of maps or charts) or quantitatively. She does her best to argue for the application of these existing strengths to a wider range of cultural materials.

Arts, languages, literature, philosophy, and religion have not naturally embraced digital scholarship in the ways exhibited by scientists and social scientists. There are a variety of very good reasons for this resistance. Foremost among these reasons is the type of material humanists study. Diaries, plays, music scores, novels, paintings, religious works, and philosophical treatises, to name a few, do not lend themselves to quantification. [Andersen 2004, 9]

Along with arts, languages, literature, philosophy, and religion, we might add film studies, visual culture, cultural studies, science studies, and new media, all of which lend themselves quite well to scholarly analyses using multimedia precisely because they are not constrained by the purely textual.

More to the point, this view fails to account for versions of scholarly multimedia, particularly within the humanities, that do *more* than facilitate textual or rhetorical analyses of print literature or art objects through the use of a computer. In part, Andersen's restrictive view of digital scholarship within the humanities stems from an historically narrow understanding of the diversity of humanities research as fundamentally ancillary to the text, rather than transformative. Certainly Andersen is not alone in her assumptions about the meaning of digital scholarship within the humanities, nor is such an argument without value for the crucial scholarship of digital annotation, translation and preservation. Again, [Hockey 2000], [Drucker 2002], and [McGann 2004] are among those who imagine media technologies as useful to humanities scholars insofar as they facilitate the capturing, cataloging, and indexing of "electronic texts," and rightly so [Hockey 2000, 1]. And while we recognize the crucial value in this practical application of technology, we resist the argument that electronic archival work offers a totalizing view of the possibilities offered by digital humanities. Such a limiting perspective reveals precisely the sort of virtualism that, as Hayles points out, relies on the unusual notion that information can exist independently of its medium:

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The illusion that information is separate from materiality leads not only to a dangerous split between information and meaning but also to a flattening of the space of theoretical inquiry. If we accept that the materiality of the world is immaterial to our concerns, we are likely to miss the very complexities that theory at its best tries to excavate and understand. [Hayles 1999a, 30]

This passage from Hayles bolsters her claim that literature *itself* is undergoing a revolution as a result of digital technologies and that, as literary critics, we must confront these changes by incorporating an awareness of a text's materiality into our analyses. We would extend this argument to suggest that the very practices of literary and cultural analysis are undergoing a parallel revolution and that we must also confront these changes and embrace the full potential of multimedia as a rich, complex scholarly medium.

How Scholarly Media Restructure Intellectual Work

All of these discussions, from the early hypertextual emphasis on the newness of multimedia, through critiques of this newness in favor of a continuation of existing textual practices through to, finally, the important recognition of the material embeddedness of media that must accompany any evaluation of what it means to be a digital humanist, present a trajectory of media criticism that moves us closer and closer to a recognition of the crucial *materiality* of digital rhetorics. From this trajectory, we can begin to formulate a true manifesto for digital scholarship. If we are to argue for the value of multimedia work in the academic milieu, we must confront the physicality of rhetorical practices themselves. On the most physical level: what can we make, given the material constraints of the machines we work with? And on the rhetorical level: what can we argue (or not argue) given the structures we're given to work with (software packages, database design) which are themselves constrained by issues of memory storage, drive and processing speed? But most importantly: why and how does the academy seek to constantly devalue the work we do as multimedia scholars by casting it as instrumental practices of rhetorical and material labor, rather than the intellectual practices of analysis and criticism – and what can we do about this perception?

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Addressing these important issues requires, first, that we break open our understanding of what scholarly multimedia is and can become. Andersen's primary example of digital humanities scholarship consists of digitizing Jane Austen's work in its entirety in order to perform database queries of main characters. As Andersen points out, this is hardly an appropriate or efficient scholarly use of computing technology. But then again, computer assisted textual analysis, while valuable, is not the only role computing plays within the humanities, and such a view ignores recent (and not so recent) forays into argument-driven scholarly multimedia, notably a number of academic presses who have experimented with publishing original works of scholarship in laserdisc, CD-ROM, and DVD-Rom format.^[4] In terms of rhetorical strategies, the significance of these works is their contribution to humanities knowledge where the contribution itself exists as medium-dependent and cannot simply be reduced to acts of digital archiving or remediations of a pre-existing scholarly book. On a more basic level, the materiality of these works — both in terms of production and delivery in tangible format — leads us to consider the immense technical labor involved in producing scholarly multimedia.

It is important to note that one of the chief characteristics of the above titles is that they are "published" in tangible form — CD-ROM, DVD-ROM or laserdisc — and thus at least benefit from the fetishization so readily apparent in the academy of the print document as a physical form. More recent works in multimedia (mostly web-based works) confound even this basic understanding of what constitutes a "text." Roderick Coover's *Voyage Into the Unknown* [Coover 2008], an "interactive documentary" about John Wesley Powell's journey down the Colorado River in 1869, consists of tagged maps, first-and third-person narratives and analyses, and invites readers to integrate all these modes into their own "journey." Additionally, we must account for the many non-"publishable" but infrastructural multimedia projects proliferating in the community: the development of authoring software such as if:Book's SOPHIE and Juan B. Gutierrez' *Literatronic*; the CommentPress project supported by MediaCommons; and the open peer-review model pioneered by Noah Wardrip-Fruin for his book *Expressive Processing* [Wardrip-Fruin 2009]. Evaluating these works as scholarly activity has proven difficult in an academy so wedded to the physical artifact as indicative of "real" scholarship.

Finally, digital scholarship can take on radical, literally physical forms. To take as one case in point, consider Marcel O'Gorman's *Dreadmill* [O'Gorman 2005]. Described as "Critique, Performance, Installation, Education," this unruly hybrid of art performance, argument and exposition is by far one of the most provocative examples to date of a re-embodiment of humanities scholarship. While running on a treadmill that generates a multimedia display, O'Gorman critiques our culture's increasing denial of the body and our increasingly sedentary lifestyles. He delivers a smart, theoretically informed presentation about the relationships between technology, death, violence, mobility, consumerism, corporeality, disability, and even nationality and national borders. The entire performance lasts about one hour.



Figure 1. Marcel O'Gorman performing *Dreadmill*, 2005.

How might such a performance be classified as a work of scholarship? It isn't "publishable" in any traditional sense, though the ideas are sophisticated enough in that respect. Most troubling, to the academy, is the fact that it would be impossible to disentangle the content of *Dreadmill* from its delivery medium — its dynamic presentation. It is certainly more than a conference presentation. And while O'Gorman is an artist among other things, *Dreadmill* isn't easily classified as an art installation. For one, unlike other somewhat famous "body artists" like Stelarc, *Dreadmill* is not just about manipulating the body in visually provocative or sensual ways. While running, O'Gorman delivers a thesis-driven academic argument. He cites Nietzsche, Kittler, Virilio, Haraway, Ernest Becker, among other scholars. In all aspects, *Dreadmill* represents a new frontier in reimagining humanities scholarship. It also foregrounds the roles of both multimedia and physical bodies in the practice of humanities scholarship where the stakes of that scholarship are no less than (bodily) death and (intellectual) obsolescence.

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Jay David Bolter has suggested that theoretically informed multimedia performances such as O'Gorman's *Dreadmill* are often the products of new media artists and thus are only tangentially related to the academy [Bolter & Grusin 2000, 24]. He points this out in order to argue that a key dichotomy that takes shape within the academy is that of theory versus practice (which, of course, is another deployment of the mind/body dichotomy). While this divide between theory and practice may have been clearly in place in the past, performative scholarship such as O'Gorman's threatens the integrity of precisely such a divide. O'Gorman's status as an academic as well as new media artist is well established; he has been a tenured Associate Professor of English at the University of Detroit Mercy; he is now in the Department of English at the University of Waterloo, where he also directs the Critical Media Lab. In other words, as both a multimedia performance artist and scholar, O'Gorman embodies a new kind of academic professional — a cyborg scholar — who answers Bolter's call, that "media theory engage with the practice of digital media" [Bolter & Grusin 2000, 25]. O'Gorman demonstrates the kind of hybrid scholarship possible in our current digital age, in which the tools available to humanities scholars extend far beyond the textual to include the material, the technical, and the rhetorical (not to be confused with the textual). Gregory VanHoosier-Carey and Ellen Strain, practitioners of scholarly multimedia themselves, frame these new potentialities offered by new media in terms of interface design which they site as an often invisible locus of rhetoric praxis. Interface design, they argue, creates "architected meaning, an arena within which the demonstration of humanities methodologies can take on a dynamic form" [Strain & VanHoosier-Carey 2003, 259].

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“Selling” New Media: the Problem of Genre and Tenure

Confusion within the institution over how to categorize and evaluate scholarly multimedia often amounts to a tension between “the application of digital scholarship” to research, to quote Andersen, as opposed to doing digital scholarship as research [Andersen 2004, 11]. This tension seems symptomatic of a larger problem within the institution to reckon with the emergence of new media, particularly at the level of promotion and tenure where the traditional model of humanities scholarship as intellectual labor dominates. According to this traditional model, a scholarly publication in an online journal, even if the writing itself was performed on a word processor, “counts” as digital scholarship primarily because it can be easily be measured according to traditional print standards: is the journal peer-reviewed? Does the journal have a reputation of being intellectually rigorous? While such online publications, which have significant merit in their own right, are in the practical sense digital, they don’t necessarily depart significantly from print-based journals. Nonetheless, e-journal articles are often devalued for the simple reason that they do not appear in print form.^[5] By relying on this older and, frankly, obsolete model for defining and evaluating scholarship, we continue to privilege content over form, intellectual labor over physical labor, and print over digital media.

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Scholars working in multimedia have been forced to reckon with this problem and must continue to engage with fundamentally conservative analogies to argue for the scholarly merit of the project. The first project in Penn Press’ *Mariner10* series, *Red Planet* [Markley et al. 2001], led by Robert Markley (at some professional risk) had to be “pitched” to presses, granting agencies, and fellow colleagues as a multimedia version of a scholarly book. The argument necessary to secure publication and scholarly credibility even took the form of equating the storage capacity of a DVD-ROM to the thickness of a book: “This storage capacity means that a DVD-ROM can hold several hours of high-resolution video, the equivalent of a book ninety feet thick...” [Burgess et al. 2003, 67–68]. While describing the project in terms of such an equivalence seemed a necessary step at the time to gain entrance into the humanities scholarly canon in a way that would “matter,” especially for collaborators who were untenured or still in graduate school, such a decision would also force the project’s authors to reconsider the implications of such a choice in terms of the politics of remediation. Were the authors really challenging the conventions of humanities scholarship by producing such a work of multimedia, or were they hampered by old standards for what counts as legitimate scholarship? Were they, by claiming to remediate the scholarly book, limiting the potential of what we were already recognizing as a new and valuable rhetorical genre? The answer to this last question is certainly yes, and points to *Red Planet* as a first-generation (and conservative, given what can be done with the form) work of scholarly multimedia. Nonetheless, much was gained by working through the institutional and rhetorical challenges that multimedia practitioners face in articulating the significance of their scholarly activities.

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As we have suggested, scholarly multimedia has often been situated outside of the traditional model of scholarly activity insofar as its practitioners participate in a host of activities rarely recognized as “intellectually significant.” Coding, shooting and editing digital video, interface and information design, data-basing, troubleshooting, debugging: these activities often fall outside the purview of traditional notions of humanities scholarship. In a supreme irony, it is only after the project has itself become the object of critical inquiry, for instance in a scholarly print article reflecting on the visual rhetorics of multimedia design, do these activities come into view. Two examples of such post-production publications include, as we have previously mentioned, “The Dialogics of New Media: Video, Visualization, and Narrative in *Red Planet*: Scientific and Cultural Encounters with *Mars*” [Burgess et al. 2003], as well as “Eloquent Interfaces: Humanities-Based Analysis in the Age of Hypermedia” [Strain & VanHoosier-Carey 2003]. In both articles, which appear in *Eloquent Images: Writing Visually in New Media* [Hocks & Kendrick 2003], authors reflect critically on their collaborative multimedia projects; thus the articles bear two crucial markers. First, they offer a kind of testimonial of the work accomplished in the multimedia project itself, explaining some of the works’ features, and some of the authors’ technical choices; Second, the articles argue for the importance of the combined intellectual and material labor practices that went into the multimedia projects. These characteristics of early articles about the practice of scholarly multimedia suggest rather strongly that multimedia is a rich medium in which to work. However, these articles also demonstrate that, at the time of their publication, it still seemed necessary to argue aggressively for the merits of multimedia as a new scholarly genre, suggesting that multimedia remained, and continues to remain, outside of accepted definitions of what counts as legitimate scholarship. This perception of the need to defend the significant and unique contributions of

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multimedia has been of particular concern for scholars who have embraced multimedia production as their primary research activity despite obvious professional challenges and risks. More importantly, the emergence of scholarly multimedia points to a fundamental conflict between traditional views of the humanities scholar and the new digital scholar who threatens to reveal the former's purchase on reality.

One way to trace the origins of the traditionalist view is to situate evaluations of humanities research in terms of its perceived difference from natural or social sciences research. Multimedia, because it relies overtly on digital technologies, has been historically situated in an intermediary position between these two disciplines. The definition of digital scholarship offered by the traditional model depends on seeing scientific research as quantitative and graphical and humanities research as textual and/or rhetorical. Even when humanities scholarship does make use of visual or graphical content, for instance in art history, the graphical nature of the scholarship is commonly viewed as the subject of the investigation (akin to scientific data) rather than a rhetorical or research tool (akin to a graphical representation of the data). Scholarly multimedia, on the other hand, relies heavily on graphical interfaces, navigational schemas, and visual layout as well as text as essential rhetorical tools for the construction of arguments and the production of meaning. In this way, multimedia occupies a liminal space between or even beyond science and humanities as a new mode of scholarship and is, as a consequence, battered by traditional definitions of what constitutes *research* within the humanities. Is research found in the production stage or embodied within the final new media object? Is it the rhetorical analysis one produces as part of the multimedia work, or the analysis one writes about the production process, or the rhetorical analysis one writes about the new media object? Ironically, because new media work has been so hampered by accepted models of humanities scholarship that privilege content over form and intellectual labor over technical labor, the temptation exists to see print-articles or books about multimedia as more valid than the multimedia work itself. In fact, a host of well-known "multimedia" scholars have themselves never actually practiced multimedia. This is by no means to suggest that scholarship *about* multimedia is not valid or important or that all critics of multimedia must, themselves, become practitioners (in the same way that we would not expect literary critics to also become poets or novelists). Rather, we should take care not to confuse storage medium (book versus multimedia) with rhetorical genre (book versus multimedia) lest we fall into the trap of technological determinism, or worse, technophobia, when evaluating the merits of a scholarly work.

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One way to draw ourselves out of this bind is to pay attention to the key overlap between representationalism (what humanities scholars are assumed to do) and performativity (what bodies and machines are assumed to do) in the context of the technologies we work with in producing multimedia. In *Embodying Technesis*, and later in *Bodies in Code*, Mark Hansen calls for a deeper understanding of the role embodiment plays in producing reality ([Hansen 2000], [Hansen 2006]). At the same time, he argues, we must develop a more robust, materialist account of the ontological role of technology. Technological change, he states, is so foundational to human experience that it has taken on an "extracultural, extrasocial dimension" [Hansen 2000, 3]. This transformation invites us to reconsider technology in terms of its resistance to "explicit cultural thematization" or "representational capture" so that we can come to understand technology as an agent of "material complexification" that does not rely solely on cognition or human intervention for its evolution ([Hansen 2000, 56], [Hansen 2006, 19]).

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Hansen's argument in both books, that we must move beyond a representationalist understanding of humankind's relationship to technology by focusing on embodiment, suggests that we should also rethink our own identity as scholars and intellectuals, in particular the ways in which our scholarly activities are bound up at a very deep level with the technologies we use to practice our craft. We believe scholarly multimedia offers a promising answer to Hansen's call insofar as it can truly perform at the nexus of what Hayles calls our posthuman "mindbodies" [Hayles 2005, 7]. Technology does not merely assist us as representationalist scholars. Rather, it transforms us into embodied agents.

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Performing Scholarship: A Radical (Technological) Act

In complicating the traditional academic model of disembodied intellectual activity, scholarly multimedia tends toward what Andrew Pickering calls the "performative idiom," a model that foregrounds the material agencies (both human and nonhuman) that emerge as essential to the scholarly production of knowledge [Pickering 1995, 7]. Scholarly multimedia stands as an unruly and undisciplined body of work that challenges humanities scholars' claims about what we "do"

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precisely because it changes what we do at the material level, revealing that what has been overvalued all along is the immaterial, intellectual act that has often been conceived of as existing independently from social, institutional, and material contexts. In this respect, scholarly multimedia makes visible what Marcel O’Gorman calls the *material remainder*, “the repressed technological element of humanities scholarship” [O’Gorman 2006, 6]. This material remainder includes the material-technical labor practices of multimedia scholars as well as the material contexts and constraints of the scholarly production of knowledge in general.

By making these aspects of scholarly practice visible, multimedia reveals the repressed other, the material monster if you will, of scholarly production and invites scholars working in this genre to take seriously O’Gorman’s recommendation that we engage with the materiality of our own knowledge-productions:

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If the remainder is hidden or repressed, monstrous “other” of the conventional academic discourse, then those who seek to change that conventional discourse might engage in a science of *anagnorisis* ; that is, a science of invention and knowledge-production that depends on a face-to-face encounter with the monster. [O’Gorman 2006, 4]

In part, this engagement can be achieved by making visible the strategies that scholars employ to construct arguments that are valued for their capacity to produce closure and containment, and to construct a scholarly subject-of-writing as a hyper-rational, often-disembodied subject, a subject described by Bruno Latour in *Pandora’s Hope* as a “mind-in-a-vat” [Latour 1999, 12]. The denial of the material remainder of writing is too horrible to contemplate for long: Latour’s formulation of a giant brain floating in a vat of fluid attached by wires to a CPU, or worse, a typewriter, or, still worse, pen and paper. A single pattern, a single brain, a single author alone in a small dark room, immersed in the gray matter of others who came before. This is the image cultivated by the notion of an “immaterial” disembodied humanities scholar resistant to rediscovering the materiality of his or her own activities.

In “Interactive Technology and the Remediation of the Subject of Writing,” Michelle Kendrick writes that early critical discourse about the revolutionary nature of hypertext centered on its supposed ability to better reflect the way we think — in nonlinear, networked associations. Such claims, she argues, depend on a dubious double logic: that through its intensification of media technologies, hypertext erases mediation. “This double logic,” Kendrick continues, “promises metaphysical transcendence, while paradoxically grounding such transcendence in technology’s materiality and specificity” [Kendrick 2001, 233]. Kendrick’s crucial insight, that all subjects-of-writing are produced by and through material-technological interventions, invites us to reconsider traditional print-based scholarship in order to uncover this double-logic. Her critique reveals the incoherence of the subject-of-writing that is covered over by media-specific strategies such as dense, esoteric, often impersonal academic prose, complex citation practices, as well as the conventions of single-authorship. Such strategies continue to set the standards by which we define and judge ourselves as scholars, and this evaluation is extended through the peer-review process as well as through the promotion and tenure process. Multimedia threatens to undermine the establishment of these standards, not because, as early hypertext enthusiasts claimed, it disperses the writing subject over vast networks or because it liberates the reader from the tyranny of the disembodied, single author. Rather, scholarly multimedia threatens to re-embodiment the heretofore disembodied intellectual by embracing a more performative mode or, to borrow from feminist philosopher of science Nancy Tuana, an *interactionist* mode of scholarly practice that emphasizes the “emergent interplay” between “human materiality and the materiality of the more than human” [Tuana 2001, 221–223]. The multimedia scholar, by taking seriously the materiality of knowledge production, embodies an intellectual identity that is dispersed over material, rhetorical, and technical networks — a crucial transformation that must be acknowledged when assessing “what counts” as scholarly activity in the academy.

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Notes

[1] [Hayles 1999a], [Hayles 1999b], [Hayles 2005]

[2] In *Remediation: Understanding New Media*, Jay David Bolter and Richard Grusin have framed the contest among media forms in terms of what they call “remediation,” which describes the ways media “compete” with one another for cultural significance. Bolter and Grusin are among many critics — N. Katherine Hayles, Mark Hansen, Friedrich Kittler, Jerome McGann — concerned with what they regard as a rivalry between

new media and old media (comprising what Hayles has called the “new media ecology”). One form that this competition has taken among humanities scholars is what Hocks and Kendrick describe as the “new battleground between word and image,” where word stands in for the old and image stands in for the new. Hocks and Kendrick point out, however, that word and image, like old and new media, have always operated dialogically, rather than dichotomously, in a “dynamic interplay” [Hocks & Kendrick 2003, 1]. Within the academy this supposed rivalry must also be seen as a convenient narrative that sutures over two underlying anxieties: anxiety of obsolescence among critics who perceive themselves as working in “old media,” and on a more fundamental level, anxiety regarding the status of the human (and humanism, and the humanities) in relation to technology.

[3] Willard McCarty, in *Humanities Computing*, looks to engineering as occupying the mid-point between science and humanities insofar as engineering leads to the “genesis of new knowledge,” yet not through scientific experimentation (although it does depend on an interaction with scientific knowledge) nor through a philosophical detachment from materiality [McCarty 2005, 51]. The new media practitioner, as engineer, facilitates the emergence of new knowledge by interacting with the material world.

[4] Notably, Keller Easterling and Rick Prelinger’s *Call it Home: The House That Private Enterprise Built* [Easterling & Prelinger 1992], from the pioneering Voyager series of laserdiscs and CD-ROMs produced in the late 80s and early 90s; Greg VanHoosier-Carey and Ellen Strain’s grant-supported *Griffith in Context: A Multimedia Exploration of D. W. Griffith’s The Birth of a Nation* [Strain & VanHoosier-Carey 2004], distributed by Norton; and the University of Pennsylvania Press’s *Mariner10* DVD-rom series working at the boundaries of science and the humanities, which includes such titles as *Red Planet: Scientific and Cultural Encounters with Mars* [Markley et al. 2001], *Medicine and Humanistic Understanding* [Vannatta et al. 2005], and *Biofutures: Owning Body Parts and Information* [Mitchell et al. 2008]. Eastgate Press, long the preeminent home for literary hypertexts, has also extended its primary mandate to publish electronic fiction, and has embraced scholarly work such as Roderick Coover’s *Cultures in Webs* [Coover 2002].

[5] An important example of an online journal that resists being easily reduced to a digital equivalent of a print journal is *Electronic Book Review*, edited by Joseph Tabbi, which departs from the traditional linear layout of a journal by relying instead on “threads,” each of which has its own editor. In this way, *EBR* is able to expand out in multiple directions simultaneously and the content of a particular topic is not confined to a single issue.

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