

# What is Humanistic about Computers and Writing? Historical Patterns and Contemporary Possibilities for the Field

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## Abstract

Given the status of Ellen W. Nold's "Fear and Trembling: The Humanist Approaches the Computer" (1975) as one of the first articles published in computers and writing, it may be said that the relationship between computers and the humanities has organized the field since its inception. In this article, I trace ways in which scholars have described that relationship in answering the implicit question of "what is humanistic about computers and writing?" from 1975 to present. The rhetorical positioning of the field vis-à-vis the question has evolved as shifts toward postmodern and social epistemologies in English studies, coupled with social and cultural trends catalyzed by new technologies, have challenged traditional humanities parameters. The resulting new spaces for humanistic argument have emboldened scholars in computers and writing to claim a more significant role in an emerging production-driven model of the humanities. This model is organized around an emphasis on electronic literacy, which has (1) disrupted the printed book's status as the central object of inquiry within the academy and, (2) importantly and concurrently, gained social and economic currency outside of it. In combination, these changes in social and academic contexts offer computers and writing an opportunity to embrace a more central role in the humanities than at any time in its history.

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In this article, I describe, however incompletely, the evolution of "humanistic" as a concept of significance during the brief history of computers and writing. I begin with this qualified sentence because I would argue that humanistic concerns permeate most computers and writing research, making an effort to isolate such a thread inherently reductive. But I also believe that it is possible to discern trends in our scholarship that are more explicitly concerned with what I call here the "humanistic question": the question of *what*, precisely, is humanistic about computers and writing. Both the lingering presence and shaping influence of the humanistic question testify to its significance to teachers and scholars. And, given Gail E. Hawisher, Paul LeBlanc, Charles Moran, and Cynthia L. Selfe's (1996) recognition of Ellen Nold's "Fear and Trembling: The Humanist Approaches the Computer" (1975) as one of the first articles in the field of computers and writing, one might say that it was the humanistic question that furnished the exigency for computers and writing as a scholarly enterprise (p. 33).<sup>1</sup>

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<sup>1</sup> While Nold's article has been recognized as the first—or at least one of the first—explicit treatments of the implementation of computer technology in writing instruction, a handful of precursors dating back to the 1960s dealt with isolated writing traits, style characteristics, and assessment and warrant mention here, including John Engstrom and James Whittaker's "Improving Students' Spelling through Automated Teaching" (1963); Arthur Daigon's "Computer Grading and English Composition" (1966); Jack Hiller, Donald Marcotte, and Timothy Martin's "Opinionation, Vagueness, and Specificity Distinctiveness: Essay Traits Measured by Computer" (1969), and Ellis Page and Dieter Paulus' "The Analysis of Essays by Computer" (1968). Coming out of English studies, Daigon's work is particularly interesting in light of the present discussion, addressing as it did the supposition

That the question has remained vital in the field probably comes as no real surprise, considering that many of the scholars who first described the implementation of computer technologies in the writing classroom and subsequently outlined the scholarly agenda for the field were, of course, themselves trained in humanities fields, primarily literature. In addition, establishing computers and writing as a humanistic enterprise has always been an important part of asserting, characterizing, and affirming a disciplinary relationship to English studies. Such efforts to forge a bond between technology and humanities interests have proved challenging and paralleled initiatives found under various rubrics, including “humanities computing,” “computing in the humanities,” and, more recently, the “digital humanities,” each located, it seems, at the complex point of intersection—or division—between the humanities and technology. For years, scholarly investment in, as Willard McCarty (2005) wrote, “bringing together such unlikely bedfellows [humanities and computers],” meant, in large part, some form of professional marginalization, “either dismissal of any basis for humanities computing, on the grounds either of the irrelevance, imprecision or triviality of its problems or of its lack of identifiable turf” (pp. 9, 3).<sup>2</sup> Hence, for both computers and writing and humanities computing, merely registering as fields doing humanities work has proved difficult given the relatively high profile of computer technology in each field. But whereas humanities computing as manifested in English studies has historically been, as Jerome J. McGann (2001) has noted, most concerned with taking up new ways of analyzing and accessing belletristic textual artifacts, computers and writing has engaged different questions and textual spaces, facing a sort of double jeopardy due to its affiliation with composition studies, itself marginalized in English (pp. xi–xii).

In this article, I consider the nature of computers and writing’s humanistic arguments as they have evolved over the course of three overlapping phases in the field’s brief history. I trace the ways in which some scholars, many of them leading or founding voices in the field, have directly and indirectly attempted to posit answers to the humanistic question, acknowledging fully that a more comprehensive account of other voices engaged with the question would enrich and complicate this narrative but extend well beyond the scope of this treatment and my purpose here. The sampling presented here, I believe, is sufficient to create a picture of humanistic argument over time that offers insight into the field’s early anxieties, its enduring values, and the evolving politics and conditions that have shaped its humanistic argument. By tracing this quasi-linear history, I hope to shed some light upon a changing disposition in the field through a kind of rhetorical probing of the humanistic question that traces a shift from responsiveness and deference toward literary studies as humanistic arbiter to a site of distinct, differentiated identity that has not previously existed in the field. In its telling, this history offers one way of understanding the convergence between evolving humanistic argument and contemporary shifts in English studies and English-studies-in-society that have positioned the field to stake a new humanistic claim rooted in rhetorical production and action. The maturation of humanistic argument and its ongoing significance validates the belief of many pioneers in the field who first articulated a relationship between rhetoric and writing—arch humanities, in many ways—and machines, often at considerable risk to their own professional well-being.

## 1. What does it mean to call the field “humanistic”?

To examine computers and writing’s ongoing effort to articulate its humanistic status, I need, first, to offer some general, functional parameters for two abstract terms of significance. First, like Susanmarie Harrington, Michael Day, and Rebecca Rickly (2000), I am defining “computers and writing” as “a subfield in rhetoric and composition,” what Lisa Gerrard called a “coherent subdiscipline with its own identity” that emphasizes scholarly inquiry into the impact of networked computer technologies on reading and composing (broadly construed, including print and multimedia

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that technology has no place in grading human essays. To advance his thesis, Daigon seemingly paid homage to this commonplace by asking the rhetorical question, “How indeed can, or dare, a machine compete in this area (language and symbolic processes)?” (1966, p. 46) and reproducing the competition between the cultures of technology and the sciences and the humanities, best described by Snow (1959). Daigon noted, “The fact is that a human being can do anything a computer can do if he has almost unlimited time, energy, and patience” (p. 52).

<sup>2</sup> Like computers and writing, what we now know to be the “digital humanities” has a longer history characterized by misunderstanding and marginalization. As Jerome McGann noted, “Before 1993 the computerized future of our humanistic inheritance was apparent to a relatively small group of librarians and archival scholars and to very few other people in literary and cultural studies” (2001, p. 1). Indeed, the digital humanities has emerged as a vital, well-funded endeavor, moving from its initial status as a fringe concern of dubious value to a far more central position where it is roundly recognized and validated by most humanities scholars—many readers are likely familiar, for instance, with the National Endowment for the Humanities Digital Humanities Initiative (<http://www.neh.gov/odh/>). Interestingly, computers and writing and humanities computing (or the digital humanities) have led surprisingly separate lives in spite of overlapping interests; George Landow is one prominent example of the relatively few scholars who have achieved status in both fields.

text in stand-alone and networked digital environments), as well as the role of such technologies in writing and the teaching of related composing practices (1994, pp. 1, xii). These emphases assume, too, attention to the broad range of social, cultural, political, and rhetorical consequences of composing and disseminating text in such spaces.

The second, more complicated abstraction is “humanistic.” At first blush, this modifier seems, simply enough, to generally describe inquiry that takes human beings and their activities as a central focus. Another way of defining the term, though, is by looking to the “humanities” for guidance (indeed, it seems equally plausible to phrase the humanistic question as “is computers and writing a part of the humanities?”). In this view, “humanistic” describes, roughly, the values, inquiry, and methods associated with the humanities. Such a definition, however, seems circular, inviting the obvious question of what, then, are the humanities? Typically seen as a collection of academic fields of inquiry, the humanities encompass a broad number of disciplines with disparate interests. According to the National Foundation on the Arts and Humanities Act (1965), “humanities” includes, but is not limited to:

language, both modern and classical; linguistics; literature; history; jurisprudence; philosophy; archaeology; comparative religion; ethics; the history, theory, and criticism of the arts; those aspects of the social sciences which have humanistic content and employ humanistic methods; and the study and application of the humanities to the human environment with particular attention to our diverse heritage, traditions, and history and to the relevance of the humanities to the current conditions of national life. ([National Endowment for the Humanities](#))

So, the scope of the humanities is vast. As [Greg W. Kimura \(2008\)](#) of the Alaska Humanities Forum blogged recently, “The only thing folks seem to agree are excluded [from the humanities] are the experimental sciences and math.” Importantly, along with the exclusion of science and math typically comes an associated exclusion of technology, perhaps most famously described by [Charles Percy Snow \(1959\)](#) in his Rede lecture outlining the “two cultures” of literature and the humanities and science and technology, respectively. While the stark force of Snow’s binary has arguably weakened over time, the division between cultures has historically played a definitional role in the humanities’ self-definition. [Mel A. Topf \(1981\)](#) has, for instance, argued that the humanities/sci-tech split has roots in the humanities’ (as we now understand them) collective post-World War II desire for self-preservation in the face of increased governmental funding and support for research in the hard sciences (pp. 463–464). In this view, the humanities, as an identifiable collective of disciplines and interests, constitutes a counter-movement to the rise of science and technology. Disentangled from the hard sciences and the technology tools related to scientific inquiry, the humanities come to indicate, roughly, the study and appreciation of humans living together and interacting in society, creating art, texts, and other artifacts reflecting and constructing individual and cultural identity, and finding meaning in the world through religion, history, literature, philosophy, communities, and ethics. This framework frequently privileges careful examination and appreciation of classical texts ([Hanson, Heath, & Thornton, 2001](#)), reflecting what [Matthew Arnold \(1869/1913\)](#) famously called “the best which has been thought and said in the world” (p. xi). This, of course, is where English studies has traditionally located its disciplinary participation in the humanities.

Practically speaking, computers and writing’s disciplinary relationship with English studies dictates that it is English’s definition of “humanistic,” English’s piece of the humanities puzzle, which ultimately matters here. Given the historical prominence of literature, English’s humanities niche has been located on the printed page, wherein human beings (typically great authors) respond to, interpret, reflect, and enliven the human condition, similar to the part of its mission that the [National Humanities Center \(2007\)](#) described as “attention to the enduring value of ancient and modern history, language and literature, ethical and moral reflection, artistic and cultural traditions, and critical thought.” In other words, while it is an obvious oversimplification, a key dimension of English’s humanistic identity has been found in literature’s “enduring value” and its assumed ability to attend to the range of the human experience represented by other items in this National Humanities Center description.

Any attempt to describe the vastness of this range and literature’s interaction with the construction of it seems destined to fall short. Mindful of this, I offer here an incomplete, more focused list of specific humanistic features and/or values—and general parameters for each—that fall under the broader literature-based rubric but that function as sites of particularly meaningful contestation in computers and writing’s ongoing humanistic argument, with the caveat that postmodernity and other forces have complicated each:

- Consumption—the act of consuming or receiving text, primarily belletristic, for the purpose of enlightenment and edification (relating to ethics, below). Consumption connotes directionality and stands in contrast to “production” (see [Carter, 2005](#), for instance, on distinctions between rhetoric as a critical and productive art).

- Textual and cultural permanence—notions of a stable textual canon, stable means of valuing text, and the stability of print as a medium. More, permanence relates to values revealed through time and perspective (see Bloom, 1988; Hirsch, 1987; for critique of this model, see Spellmeyer, 2003).
- Ethics—connoting the Arnoldian humanities emphasis on great ideas and great texts as key cultural access points to character development and the nurturing of citizenship and a sense of right conduct through study (see Hirsch, 1987).
- Authorship—traditional reverence for the autonomous author, the great individual mind creating, and the single-authored literary text (see LeFevre, 1987, for critique of individual authorship).

These particular features of the English humanities-as-literature have proved to be key battlegrounds for computers and writing as it has emerged from composition and attempted to assert its own humanistic identity. Over the last 40 years, I believe that computers and writing has participated in reconstructing the definitions of these features, even as it has constructed its own narrative of self *to be responsive to* the English humanities tradition.

## 2. Phases of humanistic argument in computers and writing's brief history

With these features in mind, I return here to the question of how scholars have tried to answer the question of what is humanistic about computers and writing at different times in the field's brief history. In each phase, I suggest that the aforementioned humanistic features or emphases in English and literature (consumption, permanence, ethics, and authorship) are alternately foregrounded during each period, in part due to shifts in English, computers and writing, the academy, and beyond. The phases I describe here are not rigidly bounded, meaning that concerns in one phase often carry forward into the next phase and beyond. Finally, coverage of each phase is in no way comprehensive, but rather, features a key text or two that engage a controlling idea regarding the state of the humanistic question during the phase. I also include a sampling of other texts that cluster around anchor texts and clarify the presence of a given strain of humanistic argument during each phase.

### 2.1. Phase I: fear and loathing (1975–1992)

Phase I begins with the publication of Nold's "Fear and Trembling: The Humanist Approaches the Computer" (1975). In the tradition of division that Snow (1959) described, humanistic arguments at this time had to respond to a general sense of incredulity toward the very idea of the volatile computer being used to support humanistic goals within the context of an English culture that was predicated on permanence – if not textual then cultural and institutional. As Elizabeth Sommers (1992) wrote, "Because so many humanists are leery of changes in institutional structures, afraid of technology, and uninformed about the significance of computer-based literacy, those scholars working with computers and composition tend to confront obstacles at every turn" (p. 45). The encroachment of technology into the technology-free space of English was puzzling and potentially threatening to an ethic long built on enduring values, constructed in opposition to both the instrumental logic of science and the ever-changing nature of technology. The cautious, reluctant tone of Nold's title—a tone that simultaneously seemed to seek contrition even as it tried not to startle unsuspecting colleagues—is emblematic of the sense of surprise and disbelief surrounding such work at the time and points to scholars' and teachers' sense of their bizarre rhetorical position vis-à-vis oftentimes befuddled English colleagues. Given its timing, though, Nold's thesis and tone set a tacit agenda for the field and articulated a subject position from which subsequent scholars would operate. Specifically, she (1) acknowledged that computers are not humanistic in the conventional sense, (2) implied that computers and writing has a vested interest in being so characterized, and (3) recognized that the burden of proof with regard to demonstrating humanistic identity remains with computers and writing teachers and scholars, not traditional humanists. While this list seems rife with qualification, Nold's quiet insistence on a place for the computer within the humanities paradigm is her legacy.

#### 2.1.1. Ethics

Even years later, Lisa Gerrard (1991) noted that the instrumental world of technology and science seemed, at face, more of a threat than a potential ally to English (pp. 5–7). The humanities, as constituted in and by English, were far more likely to position themselves as the antidote to technology's instrumental ethic, society's last, best hope of countering the deleterious effects of the techno-industrial apparatus (for related critique, see Feenberg, 1991; Winner,

1977; Postman, 1992). Hence, readers cannot shake the feeling that Nold's chief rhetorical goal was to persuade colleagues that the computer *might* have a place in humanities-based instruction.

To build such an argument, Nold worked to combat technology stereotypes, each of which violated sacred humanities tenets regarding human creativity and curiosity, namely: (1) computers stymie creativity, (2) computers control writers' minds, and (3) computers encourage passivity. Nold admonished, "Humanists, don't forget that computer programs can be written in many other modes more suited to humanistic assumptions" (p. 269). In essence, Nold attempted to refigure the computer as humanist ally by elaborating its potential to assist with creative expression and invention, something more than the numbing drill-and-practice that many peers assumed was the sum total of the computer's capabilities.

Other scholars highlighted ethical incompatibilities between technology and the humanities as they were manifested in the discourse surrounding technology. Janet C. Eldred and Ron Fortune (1992) and Elizabeth T. Smith and Cynthia L. Selfe (1988) discussed the problems with basic technology terminology that seemed jarring to English-trained humanists. As Smith and Selfe noted, "The unfamiliar and often unpleasant terminology computers use is intimidating to many people, especially to those who place a high value on language" (n.p.). DOS's vocabulary (Abort? Retry? Fail?) seemed to conflict with a humanist ethic and confirm belief in the ruthlessness of technology run amok. To support such arguments about advancing humanistic goals, scholars also had to tamp down long-held fears about the nature of the work computers supported. Helen J. Schwartz (1985), for instance, cited Nold's and Hugh Burns' "open-ended, interactive programs" as "computer applications that looked interesting and humane" (p. 10). Fred O. Kemp (1987) offered related distinctions between dehumanizing drill-and-practice software and other programs designed to nurture idea development and invention (p. 33). By complicating the notion of technology as instrumental tool, such arguments paved the way for understanding electronic spaces as rhetorical—and humanistic—spaces.

### 2.1.2. Textual and cultural permanence

At both theoretical and practical levels, computers in the writing classroom quickly began to challenge the notion of permanence in English. Summarizing conventional humanities views, Gerrard (1991) stated, "No sooner have they [humanists] distinguished RAM from ROM than they hear rumors of a recursive universe, fractal geometries, and hypertextual consciousness. Anything that changes this fast cannot be serious and certainly will not endure" (p. 6). And while G. Douglas Atkins' (1997) tribute to the pen and attendant critique of the PC as perverting fundamental values of composition falls outside the chronological parameters I have identified for this first phase, it demonstrated both the durability and enduring power of these early misgivings regarding the computer as a threat to permanence, where "permanence" has more to do with a kind of cultural position and value than textual permanence or stability. Describing himself as "an ancient. . . in a world of postmoderns" who has "no intention of allowing myself to be 'connected'—so long as I don't need to," Atkins argued that, unlike the pen, "the computer breeds prose neither comely nor muscular because too often such prose is not subjected to the lapidary care that pen-writing encourages and seems to insist upon" (p. 81). The fluid electronic text, generated on screen, stood in stark contrast to the physical makeup of pen, ink, and paper. "Keeping up with" a writing medium's ongoing changes, no doubt, seemed strange to some humanists, who saw the computer as merely an inferior tool, rather than a technology that would transform writing.

These misgivings, as well as the perception of the computer as a threat, point to the enduring sense of stability that computers and writing was complicating. Hence, it was incumbent upon scholars and teachers in the field to demonstrate that the goals for computer-based writing overlapped with the goals of their English colleagues—an appeal to some shared sense of permanence and stability in spite of changing technologies, a sense rooted in the values technology-based instruction could support if implemented effectively. Cynthia L. Selfe (1992) led the way in building this argument by reminding technology-interested colleagues of "the importance of keeping their priorities squarely in the humanist camp and the necessity of working actively to make sure that the virtual environments they teach in are informed by these priorities" (p. 38). In doing so, Selfe privileged a recognizable humanities heritage that "places people, their feelings, their impressions and interpretations of life, the study of human experience and the written expressions about this experience in the center of our attention"; allowing technological concerns to override these would be, to Selfe, "abrogating the rights of both teachers and students" (1992, p. 38). Others (Schroeder & Boe, 1990) argued for thoughtful delimitation of computer technology's influence on teaching writing in order to maintain connection with a prior set of values. As Kathleen Skubikowski and John Elder (1990) noted, "We didn't want, by introducing computers, to lose sight of our central values as teachers of writing" (p. 89).

Again, though, what I see as predominately animating this first phase is the widely perceived need to address the pervading notion of the computer and the humanities as “unlikely bedfellows,” as [McCarty \(2005\)](#) has described it. And while it is not possible to essentialize the tone and tenor of such a multiplicity of early voices, it is worth noting that many scholars during this period worked from a subordinate position and knew it: with computers and writing initiatives growing almost exclusively out of English-situated composition programs, the politics of place often seemed to require arguments for common cause with English. More, beyond issues of disciplinary identity and acceptance, the computer’s cultural status as a novelty or luxury technology itself recommended a somewhat cautious stance.

## 2.2. Phase II: moving the social turn online (1990–2000)

Phase II ostensibly begins with the publication of [Thomas T. Barker and Fred O. Kemp’s \(1990\)](#) landmark chapter, “Network Theory: A Postmodern Pedagogy for the Writing Classroom.” Its theoretical origins, however, can be traced back to 1984 and the publication of [Kenneth A. Bruffee’s](#) groundbreaking “Collaborative Learning and the ‘Conversation of Mankind’” and the subsequent emergence of social theories of knowledge construction in composition studies, which remapped conventional notions of individual authorship ([Faigley, 1985](#); [Cooper, 1986](#)). Alongside this theoretical paradigm shift, of course, the networked computer was being substantively introduced in the composition classroom for the first time. These simultaneous innovations represented a powerful convergence as the networked writing space and hypertext provided an environment for writers to visibly enact the social construction of writing while empowering both writers and readers to manipulate textual structures in ways not previously available. Finally, a richer sense of ethical self-awareness emerged during this period as the Internet exploded as a sociocultural phenomenon and raised new questions about access and online identity, pushing the field to consider anew the consequences of its research and teaching.

### 2.2.1. Authorship

In Phase II, scholars built a case for the humanistic classification of their work by framing the electronic writing space as a vital new site of humanistic activity, specifically knowledge-making and identity construction, which in this period became products of network-facilitated social interaction. One reason [Barker and Kemp’s \(1990\)](#) chapter is so crucial to computers and writing’s larger humanistic appeal is that it powerfully asserts a close relationship between computer-based composition and the theoretical orientation of English studies broadly defined at the time, while English was itself complicating definitions of authorship, permanence, ethics, and consumption. That is, Barker and Kemp articulated a networked writing pedagogy rooted in postmodern theory, which they described as “a structured attempt to combine the realities of current social and economic conditions with instruction that emphasizes the communal aspect of knowledge making” (p. 2). Privileging the electronic network as a site for invention, Barker and Kemp distinguished the dynamism of the postmodern networked perspective from previous computer-based initiatives that seemed to contradict humanistic values like creativity and expression, noting, “Nothing has proven more dismal than the lack of instructional success microcomputers have demonstrated in their brief careers as drill-and-practice machines, pseudo-human tutors, and automated graders” (1990, p. 26).

Importantly, to Barker and Kemp, the act of socially constructing—of authoring—knowledge through network-facilitated human interaction becomes a *more* humanistic computer-based activity than the automated drill-and-practice activities to which many humanists had intuitively reduced computer-based pedagogy. Electronic space and technology tools could facilitate a different set of interactive activities that might be more readily identified as humanistic behaviors, such as the rigorous debate, interpretation, and meaning-making that the humanities had always valued. [Lester Faigley \(1992\)](#) argued similarly, differentiating the networked writing space from the “electronic workbook” and “drills-and-skills curriculum in prepackaged modules” associated with computers (p. 166). For Faigley, dated notions of the free-standing, mind-numbing computer “have perpetuated earlier stereotypes of computers in education as reductive, antihumanistic, and tools for domination,” leading him to endorse the networked electronic writing space as the kind of student-centered, multivocal pedagogical space that might manifest a new way of thinking about knowledge, text, and authorship (1992, p. 166).

### 2.2.2. Textual and cultural permanence

Work in hypertext theory during this time (e.g., [Bolter, 1991](#); [Johnson-Eilola, 1997a](#); [Slatin, 1990](#)) framed hypertext as *the* postmodern writing space, a space characterized by the fluid textual dynamics celebrated by postmodern and

poststructural theory in literary study—dynamics like instability, multivocality, associativity, and contextually situated meaning. This work paralleled conversations in humanities computing as expressed in literary studies, where the nexus between contemporary literary theory and the electronic writing space became an increasingly natural site of inquiry. As McGann (2001) noted, “Ideas about textuality that were once taken as speculative or even imaginary now appear to be the only ones that have any practical relation to the digital environments we occupy every day” (p. 2). The associative nature of hypertext and the radical reconfiguration of the reader/writer dynamic it affords raised the possibility of a new kind of textual interaction that might be construed in light of its participatory, organic character as more “natural,” potentially even more so than print text. Bolter’s (1991) historical account of “writing space” naturalized hypertext by placing it within a broader trajectory of symbolic representation, starting with orality, tracing through print literacy, and then moving to electronic text forms. In addition, Bolter described the electronic writing space as just another in a sequence of technologized writing spaces, noting, “Each technology gives us a different [writing] space,” engaging readers and writers in different relationships: “The conceptual space of a printed book is one in which writing is stable, monumental, and controlled exclusively by the author. . . . The conceptual space of electronic writing, on the other hand, is characterized by fluidity and an interactive relationship between writer and reader” (p. 11).

Within the realm of computers and writing, the nature and comprehensiveness of Bolter’s inquiry challenged the hegemony of the print text and effectively called into question *where*—in what medium—the English humanities might be enacted by locating print within a broader, longer history of mediation. It also suggested alignment between electronic media’s complex, situated communication and the poststructural hermeneutics animating contemporary English studies and raised the possibility that the richer dimensionality of hypertext and electronic writing space could be more than an artificial marker of textual “progress”; rather, it might afford opportunities for human expression and deliberation, previously delimited by the nature of print.

A second variant of the “permanence” dialogue during Phase II expressed the postmodern idea of identity “happening” in online space, a remediation of ongoing conversations in composition and literature, and an expression, in part, of the theories of the “posthuman” being developed by scholars like N. Katherine Hayles (1999).<sup>3</sup> Following Faigley, scholars (e.g., Regan, 1993; LeCourt & Barnes, 1999; Sullivan, 1997) joined and relocated to the ephemeral online environment disciplinary conversations informed by cultural studies and postmodern theory that took difference and identity politics as orienting concerns. Researchers working in this vein celebrated both the situated, discursively constructed individual subject and the potential for deconstructing grand narratives in a networked space capable of accommodating multiple and varied voices. For instance, publications in *Computers and Composition* from 1996 to 2000 demonstrated an increased interest in exploring the political and ideological dimensions of the electronic networked writing space, starting, perhaps, with Stuart A. Selber and Johndan Johnson-Eilola’s (1996) study of ethics and discourse conventions on a disciplinary listserv. In 1997, *Computers and Composition* published a special issue (14.2) titled “Body, Identity, and Access: Diversity and Networked Environments” that took up, among other themes, the consequences of expressing sexual orientation online (Alexander, 1997; Dewitt, 1997), and representations of women and female identity in electronic space (Sullivan, 1997). The first issue of 1999 (16.1) was another special issue on “Computers, Composition, and Gender” that included articles on feminist theories of hypertext (Sullivan, 1999), sexual identity (e.g., Woodland, 1999), and gender relations and differences (Takayoshi, 1999; Wolfe, 1999; Rickly, 1999). This period culminated, arguably, with “Tenure 2000” (2000), another special issue dealing directly and indirectly with the material insecurity computers and writing scholars faced with regard to humanistic “status,” a status not yet guaranteed.

### 2.2.3. Ethics

Finally, this period also featured an emerging emphasis on technology critique, a disposition crucial to clarifying a sense of the field’s ethical obligations and establishing a deeper set of connections with the humanities. Ongoing efforts to explore, for instance, online ethical practices (Porter, 1998), the relationship between computer users and user systems (Johnson, 1998), the repressive tendencies of instrumental technology (Johnson-Eilola, 1997b), and the

<sup>3</sup> Recognizing the existence of a range of definitions of the “posthuman,” Hayles (1999) noted that “a common theme is the union of the human with the intelligent machine” (p. 2). As Hayles wrote, “In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals” (p. 3). Hence, one way of understanding computers and writing’s emphasis on a more intimate, even continuous, relationship between humans and technologically sophisticated new media forms and processes is to see the field as developing an understanding of the posthuman, rather than human, subject.

ideological dimensions of computer interfaces (Selfe & Selfe, Jr., 1994) also spotlighted the ethical dimensions of technology, applying cultural studies theory and critical theory to engage technology as a cultural, rhetorical, and political space. Such scholarship brought intense scrutiny to bear on the electronic spaces that many had celebrated with largely unbridled optimism during Phase I. In addition, scholars became more conscious of how technology access factored into computers and composition pedagogy, pointing toward the field's increased willingness to self-critique and consider how to responsibly incorporate technology in a classroom and society riddled with inequity (e.g., Grabill, 1998, on access and community literacy; Selfe, 1999a, on the relationship between technology and literacy in American education).

In sum, the humanistic activity in computers and writing during this phase was, of course, fueled by the accelerating diffusion of the personal computer as a technology, as well as the rapid expansion of the Internet as a site for a wide range of social, literate, and economic activities. The massive relocation of many of these activities to digital space gave computers and writing a new relevance beyond institutional walls. Yet such validation of these scholarly interests in the mainstream culture did not necessarily transfer seamlessly into successful humanistic argument vis-à-vis English studies, as evidenced by the arguments advanced by computers and writing scholars in the aforementioned "Tenure 2000" special issue of *Computers and Composition*. Put another way, growing recognition of the cultural significance of activities taking place in the digital sphere did not always translate into political capital within English, where scholars continued to struggle to have their work recognized and understood. Indeed, it might be said that during this phase of humanistic argument, scholars were mapping a new terrain, a digital frontier somewhat akin to what Anne Ruggles Gere (1994) has called the "extracurriculum," in that they, like Gere, were entering into conversations and sites that stretched conventional definitions of English and composition parameters, moving beyond the academy and the media forms deemed to be valid sites of inquiry. While there was a growing body of evidence accumulating in society that suggested that digital environments might recast the entire enterprise of knowledge-making, computers and writing was still largely beholden to literature's terms for humanistic identity.

### 2.3. Phase III (2000–present): digital literacy and action

In Phase III, I would argue that this tendency toward pattern-matching with literary studies' humanistic markings has changed. More recently, scholars have engaged numerous issues related to (and challenging) traditional features and notions of humanities concerns. These include but are not limited to interest in critically engaging multimedia and multimodal texts and online identity/subjectivity, as well as attention to civic participation as conditioned by ongoing changes in electronic media. Most significant to computers and writing's emerging humanistic identity is new attention to digital literacy, which encompasses, in some ways, the aforementioned list of concerns but also builds, it seems, toward a more recognizably *active* and productive disposition toward working in and understanding electronic writing environments. Like the previous relocation of identity- and subjectivity-formation to online environments, so, too, is literacy itself remapped online during this phase. Here, importantly, humanistic literacy training vis-à-vis computers and electronic space means training in how to be a critical producer, not just consumer, of electronic texts, especially as Web 2.0 capabilities have turned the literacy lens around, heightening the presence of writing as a key literate practice and means of participation in online environments, more so than in the first generation of the Web.

A key turn in this direction of humanistic argument took place in this journal in 2001 on the heels of the aforementioned special issue, "Tenure 2000." Guest edited by Carolyn Handa (2001), the first two issues of 2001 (18.1 and 18.2) were special issues on digital literacy that helped define the parameters of the term and, through Handa's introduction to the first special issue, explicitly connect the work of digital literacy scholars with the humanities. Citing Michele Shauf, Handa stated, "We (computers and writing scholars and teachers) have something pretty important to contribute to the expanding collection of webpages being created every minute: our training as humanists and our knowledge of rhetoric and its functions" (2001, p. 2). Importantly, this comment (1) bypassed the question of whether computers and writing scholars are humanists, presupposing as much and (2) suggested that the electronic writing space is humanistic space.

In the wake of these special issues and within the bold framework they asserted, Phase III seems to feature a newfound confidence and commitment to the long-held notion that electronic communication spaces and the literacy practices associated with them are qualitatively different from traditional print textual practices, yet are intimately involved in humanities work, as demonstrated by numerous scholars (DeVoss & Rosati, 2002, on web plagiarism; Haas, Tully, & Blair, 2002, on feminist narratives on the web; Carter, 2003, on the unique nature of hypertextual

argument; a *Computers and Composition* special issue on Gunther Kress and multimodality, 2004; Hawisher & Selfe, 2004, on literacies of technology; a *Computers and Composition* special issue on sound and its impact on literacy, 2005). Building from this assumption, Stuart A. Selber's *Multiliteracies for a Digital Age* (2004) serves as a central humanistic text in this phase. And rather than break the discussion below into subsections according to humanistic features as above, I will instead holistically discuss the integrated impact of Selber's work regarding the consumption of text, textual and cultural permanence, ethics, and authorship.

In *Multiliteracies*, Selber took previous Phase II work on (im)permanence and authorship as starting points to invert the traditional humanities emphasis on consumption of text and redefine a humanistic emphasis on postcritical production, rooted in rhetorical theory; as Carter (2005) noted, "Rhetoric is fundamentally about two things: analysis and production" (p. 2); "critical and humanistic approaches to literature and language have been highly beneficial to rhetoric, but in and of themselves, they are not enough to serve our field's expansion" (p. 3). While Carter was specifically discussing technical communication, the point has application for computers and writing. Knowledge of productive means affords the rhetor power to create and thus participate in the marketplace, capabilities traditionally deemed subordinate to analysis and appreciation in English.

Selber similarly resurrected production by advocating an electronic "multiliteracy" comprised of functional, critical, and rhetorical literacies that, in combination, remap conventional notions of what comprises the very act of authoring. Indeed, what distinguishes Selber's study is its emphasis on functional and rhetorical—decidedly (and relatively) active, constructive—literacies and his ability to tie them to an ethical imperative that shifts humanistic emphasis from consumption to electronic sites of production of nonliterary text. Notably, Selber located such technological literacy preparation squarely in the humanities and English domain, describing high stakes in doing so: "In sum, if teachers fail to adopt a postcritical stance, thus leaving technology design and education to those outside of the field, it is entirely probable that students will have a much more difficult time understanding computers in critical, contextual, and historical ways" (2004, p. 13). Discussing the possibilities of a contextualized technology curriculum, Selber stated that "such a socially based curriculum would not only foreground humanistic concerns, but also provide the perspectives needed for successful technical practice" by asserting the inseparable nature of technology and humanities production and critical consumption (p. 21). Successful participation in civil society and the workplace, then, seems to require a fusion of literacies to develop in students a technologized rhetorical agility, rendering them capable of both consuming and producing text in an era characterized by shifting notions of text and evolving media forms.

Selber's epilogue returned once again to his point that the humanities are uniquely implicated, as well as ethically obligated, in this new set of responsibilities, "for there is so much at stake in the representations of literacy online and in the manifold ways human values become instantiated in technological environments" (p. 234). I quote the following lengthy passage because it so plainly lays out the integrated, multi-dimensional humanities model Selber envisioned in moving humanities emphasis beyond criticism and textual consumption and toward a model of doing and producing:

In its attempt to provide students with an appropriate and worthwhile education, the profession has preferred to focus on critical concerns instead of functional concerns, a move that is understandable for humanists. . . . However. . . such an approach. . . fails to expose students to the wide array of literacies they will need in order to *participate fully and productively* in the technological dimensions of their professional and personal lives. . . . Moreover, an attentiveness to critical literacy does not guarantee that students will develop the rhetorical perspectives needed to design online texts and environments. . . . *Indeed, students will require direct, repeated, and integrated contact with the particulars of all three literacies in order to become well-rounded individuals equipped with a keen and judicious sense of the technological world around them.* (Selber, 2004, pp. 234–235, emphasis mine)

Beyond a call for integration, Selber made the bolder claim that technological literacy—literacies of both consumption (critical, rhetorical) and production (functional, rhetorical)—are *within* the purview of the present-day humanities. To Selber, such training is essential to realizing the humanities' goal—its ethical imperative—to help students "become well-rounded individuals." Whereas in the past, incorporating technology in humanities sites like the English classroom was deemed elective, Selber's argument distinguished itself in its urgency and non-negotiability: "Humanists often have estranged or uncomfortable relationships with technology, yet neither indifference nor paralysis are acceptable options nowadays" (2004, p. 235). This statement echoes Cynthia L. Selfe's (1999b) criticism of technology-indifferent humanists: "When we don't have to pay attention to machines, we remain free to focus on the theory and practice of language, the stuff of real intellectual and social concern" (p. 413). For Selber and Selfe, the literacy activities taking

place in electronic space—reading and composing, analyzing and producing, manipulating, and remediating—become “the stuff of real intellectual and social concern.”

### 2.3.1. *Reconsidering the humanistic and the role of computers and writing*

As a history of an omnipresent, animating question, the history of humanistic argument serves as something of a shadow history of the field. Recognition of computers and writing’s validity and viability has been intimately connected to the question of what is humanistic about it. I rehearse this history here to show *that, how, and why* the question has occupied the minds of teachers and scholars in the field and to show how motives and leverage into the humanistic conversation have changed over time, too. Like any history, this one reveals and conceals different dimensions of its subject. The history as traced here emphasizes the politics of computers and writing’s involvement with English, which is in many ways the politics of subordination to a set of ideas and practices. Such focus might suggest that humanistic “inclusion” has been the field’s overriding concern to the exclusion of other motives, and that is not entirely my intention. On the contrary, I believe that most humanistic argument in the field is tacit, as I note in the introduction, and that scholars in the field, especially today, take the humanistic character of the field as natural—a given (that is, if they have not rejected the term, which I discuss below). More, the nature of this tacit work assumes either the dissolution or the invalidity of the “two-culture” divide, and it is possible to read the history I have offered here as ceding too much power to a binary model that may now lack the potency it once lacks the potency it may have once enjoyed. However, I would suggest that the binary is more than a mere vestige; it is a heuristic that oriented the field’s identity for a period of time. In other words, while the tension between cultures has occasioned a great deal of anxiety and defensiveness through the years, it has also proved generative, encouraging a disposition toward deep and rigorous self-examination. The field’s association with English has, thus, been a blessing and a curse.

Most of all, I believe that the incomplete narrative presented here helps to trace the field’s arrival at a moment unlike any other in its brief history, this moment a product of a crystallizing sense of its still-forming identity converging with external social forces and broader computer technology diffusion. In this moment, the field has consciously and unconsciously—albeit always incompletely—begun to untether its humanistic definition from literary studies and imagine a humanistic charge in the realm of technologized rhetorical production that reflects an evolving definition of literacy and projects a shifting mission for English studies. Before considering these changes, it is worth considering how the evolution of humanistic argument in computers and writing intersects with changing views toward the English humanities, a point I referenced earlier with regard to the digital humanities. Within literary studies, for instance, postmodern notions of knowledge have challenged the perceived coherence of the humanities model, suggesting that the humanities are mutable and responsive to cultural and societal shifts. For instance, [Gerald Graff \(1987\)](#) noted the problematic “pretense that humanism and the cultural tradition preside over the various dispersed activities of literary studies” and the fact that there is “not fundamental agreement over how the ‘humanistic goals’ of Arnold [Matthew] are to be achieved” (p. 6). [Fred O. Kemp \(2005\)](#) goes further, noting, “English departments think they are supplying a value, based on historical experience, but nobody is really sure what that value is” (p. 83).

One of the chief contributions of Graff’s landmark study and subsequent scholarship is that it complicated the notion that the post-Arnoldian humanities are somehow indicative of a unified cultural narrative of values, ideas, methods, and media forms. Working within this trajectory, others have similarly re-imagined English studies as grounded in something other or something more than textual consumption and analysis and the disposition such activities might ideally cultivate. [Robert E. Scholes \(1998\)](#), for instance, argued for a reorganization of English study around a shared sense of method, rather than specific texts (p. 119). [Kurt Spellmeyer \(2003\)](#) recently critiqued the academic humanities and English for not adequately empowering the general populace to be contributors and producers, instead reinscribing a sharp difference between a critical focus on text and the material concerns of the world. As Spellmeyer put it, the humanities “have relied on a self-reproducing cloister designed to pay them for and acknowledge their authority over everything” (p. 23), resulting in a “purified” humanities of limited use or unclear value to the general populace. In contrast, Spellmeyer proposed that English should work to narrow this gap between the academy and the citizenry by breaking out of its “cloister” and shifting to a more active, participatory disposition of social influence, a disposition that embraces the present and future and rejects an all-consuming fascination with the past and the sacred texts that comprise it (2003, pp. 244–247). [Kemp \(2005\)](#) raised the stakes further still, citing a disposition toward innovation as central to English studies’ future—“what English departments will actually have to do to survive in any recognizable form in the next few decades” (p. 83).

It may be that computers and writing's ongoing effort to assert a humanistic identity participates in broader arguments for recasting the direction and sense of purpose of the English humanities. It seems computers and writing scholars increasingly see themselves as active, more confident participants in this conversation; suffice it to say, there is nothing timid about Selber's (2004) claims regarding the humanities' responsibility toward technology. To what might we attribute this?

In part, I believe that this assertiveness reflects a confidence born of self-awareness and identity developing over time, a maturity and evolving sense of purpose and possibility. But it may also reflect a sense of convergence between computers and writing's emphasis on humanities-based rhetorical production in electronic spaces and the needs of citizens in a contemporary culture characterized by changes like the diffusion of affordable computer technology and the rise and expansion of the use and uses of the Internet. Computers and writing seems engaged less in defining itself in accord with a humanistic model based in passive reception of immutable truths/texts and more on figuring out how to develop in students a sense of robust, active rhetorical agency in the media of the day by working in and with those media. New media and computer technology present a broader palette of rhetorical choices than anything the literate world has ever seen. Recognition of these technologies as actively participating in and shaping the enactment of humanistic values and practices are central to this obligation. For English, the technologies associated with writing and rhetorical activity have rarely been at issue—the pen, paper, the typewriter, the pencil all mere implements, invisible and taken for granted. But due to the dynamism of electronic writing space and the range of human behaviors occurring in that space, computers and writing has never and can never situate technology similarly. For computers and writing, the technology question must be married to the humanistic question.

#### *2.4. Relocating the humanistic online: finding a role for computers and composition*

Trends external to English studies converge to make computers and writing potentially more synonymous with than threatening to a 21st-century notion of the humanities. As McCarty (2005) noted, "Since computing became a possibility for the humanities, scholars have suffered from a misapprehension that the computer is an alien entity, posing a threat or offering salvation. The threat was once foremost. Now the promise of salvation predominates" (p. 12). Indeed, the digital humanities has emerged as a vital, well-funded endeavor, moving from its initial status as a fringe concern of dubious value to a more prominent position where it is roundly recognized and legitimized in most humanities circles (see, for instance, the National Endowment for the Humanities Digital Humanities initiative), and it may be that computers and writing is similarly poised to contribute in a technologized humanities going forward. These changes in humanities disposition are due in part to external forces, such as these:

First, human subjectivity and identity are no longer seen as stable or located solely in the material world, which has implications for the traditional technology/humanities bifurcation. Theorists like Sherry Turkle (1995) and Donna Haraway (1991) have described an evolving sense of the material self-in-the-world as continuous with, rather than separate from, electronic space, something Hayles (1999) has elaborated at some length in her exploration of the "posthuman" condition. Blurring the line between the material human body in the terrestrial world and the ephemeral electronic world effectively merges humanistic and technological concerns, previously divided by an irreconcilable binary. Citizens now construct, enact, and mediate aspects of personhood electronically, meaning that online space is becoming more and more vital to the human experience, not a novelty to be dismissed (see, for instance, Second Life, the gaming industry, blogs, and social networking sites and utilities like MySpace, Facebook, and Twitter).

Second, expanded definitions of "text" in a multimedia age have consequence for textual and media authority, meaning changes to the role of print in literate practice. In the past, the printed word was seen as the only viable source for verifiable information, in part because of the book's time-honored, established credibility infrastructure—a valued means of discerning quality and of making distinctions about what constituted knowledge. However, scholars and the public have and will continue to turn to new digital multimedia forms and genres for knowledge construction and dissemination. Print genres will continue to compete in new ways with sound, video, and other forms of digital production—created by many new rhetorical producers—and with different credibility metrics. Related to this media shift, it is impossible to ignore the changing notions of knowledge construction that characterize the move toward greater citizen participation in literacy and knowledge-making; witness, for instance, the popularity of James M. Surowiecki's *The Wisdom of Crowds* (2005), the viability of open-source software, and the emergence of blogs and wikis as vital sites of meaning-making for millions of citizens. Indeed, many citizens now see themselves as active participants in knowledge-making, rather than bystanders passively waiting for knowledge to be formed, authenticated,

and distributed. In this new paradigm, knowledge is always/already under revision, with that revision in the hands of the collective—a far more active, participatory model in the electronic age than in the age of print.

By helping to shift humanistic conversation and responsibility toward an active, technologized literacy, computers and writing participates in re-imagining the humanities and its “outcome” at this cultural moment: now, a fully equipped rhetor must be equally capable of analysis and production for multimediated participation in the academy, the workplace, and both personal and public spheres. Being “active” means being poised to enter into a range of rhetorical settings, many of them online, which call for writing and response, mediation and remediation. With Web 2.0 applications dominating the electronic landscape, writing and production, broadly construed in a multimedia invention space, have never been more a part of literate behavior. Computers and writing has been and continues to be enmeshed in a set of questions about how to ethically and productively participate in this cultural moment. Indeed, by positioning itself at the vanguard of emerging literacy practices, the field seems also to be counteracting the kind of disciplinary contraction that Spellmeyer recognized in his “cloister” metaphor for English studies, actively expanding the field’s scope of influence by reshaping fundamental dimensions of English’s self-definition.

In sum, Selber’s (2004) argument for robust multiliteracy is prompted by any number of legitimate motivations for shifting English studies’ sense of responsibility toward electronic space and technology literacy. It is also made possible by a changing humanistic climate, not only the evolution of the humanities themselves but a culture and economy that value electronic multiliteracy and a higher education climate that values institutional responsiveness to the professional and technological forces giving shape to the marketplace. In the latter, institutions of higher learning are obligated to prepare students for the demands of the workplace and the polis as part of their mission and responsibility to students and, in many cases, taxpaying citizens. A passive humanities that privileges textual consumption at the expense of production survives only on borrowed time. An active humanities that accommodates production and recognizes the literacy practices of the historical moment necessarily privileges study of writing technologies in a way that the English humanities as we know them have never before engaged.

### 3. Conclusion

In the wake of this inquiry, it is important to acknowledge that much of these so-called humanistic assertions could just as easily be called rejections of the humanistic, that what is being called for in computers and writing scholarship is better termed a *posthumanistic* role for the field. However, it remains that even a text as prominent and contemporary as Selber’s (2004) employs the term “humanistic,” not “posthumanistic,” and that “humanistic” status retains a strong hold on the way in which the field imagines itself. This is not to discredit the important theoretical contributions of posthumanism or to diminish the significant consequences that this shift in thinking denotes and connotes; indeed, I suspect that many claims to “humanistic” status are more accurately described as accounts of what makes the field “posthumanistic.” But “posthuman” seems unlikely to supplant “humanistic” or “humanities” in popular use any time soon. The term “humanistic”—and hence, the *humanistic* question—retains an unquestionable sentimental, political, and economic value. What the present inquiry suggests is that computers and writing has quietly relocated itself from a shadowy position peripheral to the humanistic conversation and asserted a position firmly within it.

Yet within the humanities and English studies in particular, computers and writing’s role in defining and executing the goals emerging in this new humanistic paradigm remains uncertain. For instance, Annette Kolodny (2005) stated that “without the input of humanities scholars into academic administration, our universities are in danger of becoming almost exclusively science- and technology-centered vocational institutions where the arts and humanities serve mainly as service units” (p. 17). Kolodny’s language—“danger,” “almost exclusively,” “humanities serve mainly as service”—betrays deep and abiding concerns that these cultures of technology and the humanities remain inevitably split and that the only viable option is to aggressively seek the upper hand in what amounts to a Darwinian struggle for cultural superiority and value. In this politicized view, the humanities must prevail over, rather than accommodate, technology.

Indeed, nothing in Kolodny’s (2005) language indicates recognition that through their emphasis on interdisciplinarity, global communication, and electronic literacy-in-the-world, computers and writing scholars have long been engaging the questions she somewhat ironically enumerated as central to humanities’ survival. She cited, for instance, the need to “find ways to demonstrate (and fund) initiatives in which the perspectives and methodologies from English merge with those from other disciplines to address some real-world problem that could not effectively be approached from any single discipline itself” and to answer the questions, “What roles can the humanities play in an increasingly

globalized and interdependent world? What functions do the humanities perform in a postindustrial and internationally focused United States? What special skills do those trained in the humanities offer our multilingual and multicultural society?" (Kolodny, 2005, p. 15). These questions seem to fall well within the purview of computers and writing. English studies' refusal to acknowledge and capitalize upon the very presence of this work happening in its midst signals, at best, delayed participation in a new, revitalized humanities expressing value for both critical participation and production in electronic spaces. At worst, it signals future marginalization.

Computers and writing's recognition of the need for an active, productive humanities that develops citizen-rhetors capable of thinking and composing within the logic of the media of the day suggests the possibility of a growing legitimacy that may, interestingly, more readily find validation outside the academy. The implications of external validation and continued internal marginalization will clarify in time. For now, though, the way computers and writing scholars answer the question, "What is humanistic about computers and writing?" remains significant—vitaly significant—over 30 years after Nold invoked it. Now, like then, the way we answer the question helps us understand the nature of work in computers and writing, the conditions under which the field grows and thrives, and its role in a contemporary liberal education.

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## References

- Alexander, Jonathan. (1997). Out of the closet and into the network: Sexual orientation and the computerized classroom. *Computers and Composition*, 14(2), 207–216.
- Arnold, Matthew. (1869/1913). *Culture and anarchy: An essay in political and social criticism, and Friendship's garland: Being the conversations, letters, and opinions of the late Arminius, Baron Von Thunder-Ten-Tronckh*. New York: The Macmillan Company.
- Atkins, G. Douglas. (1997). On writing well; Or, springing the genie from the inkpot: A not-so-modest proposal. *Journal of Advanced Composition*, 20(2), 73–85.
- Barker, Thomas T., & Kemp, Fred O. (1990). Network theory: A postmodern pedagogy for the writing classroom. In Carolyn Handa (Ed.), *Computers and community: Teaching composition in the twenty-first century* (pp. 1–27). Portsmouth, NJ: Boynton/Cook.
- Bloom, Allen. (1988). *The closing of the American mind*. New York: Simon and Schuster.
- Bolter, Jay D. (1991). *Writing space: Computers, hypertext, and the remediation of print*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bruffee, Kenneth A. (1984). Collaborative learning and the 'conversation of mankind'. *College English*, 46(7), 635–653.
- Carter, Locke. (2003). Argument in hypertext: Writing strategies and the problem of order in a nonsequential world. *Computers and Composition*, 20(1), 3–22.
- Carter, Locke. (2005). Rhetoric, markets, and value creation: An introduction and argument for a productive rhetoric. In Locke Carter (Ed.), *Market matters: Applied rhetoric studies and free market competition* (pp. 1–52). Cresskill, NJ: Hampton.
- Cooper, Marilyn M. (1986). The ecology of writing. *College English*, 48(4), 364–375.
- Daigon, Arthur. (1966). Computer grading and English composition. *English Journal*, 55(1), 46–52.
- DeVoss, Danielle N., & Rosati, Annette C. (2002). "It wasn't me, was it?" Plagiarism and the web. *Computers and Composition*, 19(2), 191–203.
- Dewitt, Scott Lloyd. (1997). Out there on the web: Pedagogy and identity in face of opposition. *Computers and Composition*, 14(2), 229–243.
- Eldred, Janet C., & Fortune, Ron. (1992). Exploring the implications of metaphors for computer networks and hypermedia. In Gail E. Hawisher & Paul LeBlanc (Eds.), *Re-imagining computers and composition: Teaching and research in the virtual age* (pp. 58–74). Portsmouth, NJ: Boynton/Cook.
- Engstrom, John, & Whittaker, James. (1963). Improving students' spelling through automated teaching. *Psychological Reports*, 12, 125–126.
- Faigley, Lester. (1985). Nonacademic writing: The social perspective. In Lee Odell & Dixie Goswami (Eds.), *Writing in nonacademic settings* (pp. 231–248). New York: Guilford Press.
- Faigley, Lester. (1992). *Fragments of rationality: Postmodernity and the subject of composition*. Pittsburgh: University of Pittsburgh Press.
- Feenberg, Andrew. (1991). *Critical theory of technology*. New York, NY: Oxford University Press.
- Gere, Anne R. (1994). Kitchen tables and rented rooms: The extracurriculum of composition. *College Composition and Communication*, 45(1), 75–92.
- Gerrard, Lisa. (1991). Computers and compositionists: A view from the floating bottom. *Computers and Composition*, 8(2), 5–15.
- Grabill, Jeffrey T. (1998). Utopic visions, the technopoor, and public access: Writing technologies in a community literacy program. *Computers and Composition*, 15(3), 297–315.
- Graff, Gerald. (1987). *Professing literature: An institutional history*. Chicago: University of Chicago Press.
- Haas, Angela, Tully, Christine, & Blair, Kristine L. (2002). Mentors versus masters: Women's and girls' narratives of (re)negotiation in web-based writing spaces. *Computers and Composition*, 19(3), 231–249.
- Handa, Carolyn. (2001). Letter from the guest editor: Digital literacy, computers, and composition. *Computers and Composition*, 18(1), 1–10.

- Hanson, Victor David, Heath, John, & Thornton, Bruce S. (2001). *Bonfire of the humanities: Rescuing the classics in an impoverished age*. Wilmington, DE: ISI Books.
- Haraway, Donna. (1991). *Simians, cyborgs, and women: The reinvention of nature*. New York, NY: Routledge.
- Harrington, Susanmarie, Day, Michael, & Rickly, Rebecca. (2000). Introduction to the online writing classroom: Supporting teachers who are beginning to use technologies to expand notions of literacy, power, and teaching. In Susanmarie Harrington, Michael Day, & Rebecca Rickly (Eds.), *The online writing classroom* (pp. 1–14). Cresskill, NJ: Hampton.
- Hawisher, Gail E., LeBlanc, Paul, Moran, Charles, & Selfe, Cynthia L. (1996). *Computers and the teaching of writing in American higher education, 1979–94: A history*. Norwood, NJ: Ablex.
- Hawisher, Gail E., & Selfe, Cynthia L. (2004). Becoming literate in the information age: Cultural ecologies and the literacies of technology. *College Composition and Communication*, 55(4), 642–692.
- Hayles, N. Katherine. (1999). *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics*. Chicago: University of Chicago Press.
- Hiller, Jack H., Marcotte, Donald R., & Martin, Timothy. (1969). Opinionation vagueness and specificity distinctiveness: Essay traits measured by computer. *American Educational Research Journal*, 6, 271–286.
- Hirsch, E. D. (1987). *Cultural literacy: What every American needs to know*. Boston: Houghton Mifflin.
- Johnson, Robert R. (1998). *User-centered technology: A rhetorical theory for computers and other mundane artifacts*. Albany, NY: State University of New York Press.
- Johnson-Eilola, Johndan. (1997a). Reading and writing in hypertext: Vertigo and euphoria. In Cynthia L. Selfe & Susan Hilligoss (Eds.), *Literacy and computers: The complications of teaching and learning with technology* (pp. 195–219). New York: MLA.
- Johnson-Eilola, Johndan. (1997b). Wild technologies: Computer use and social responsibility. In Stuart A. Selber (Ed.), *Computers and technical communication: Pedagogical and programmatic perspectives* (pp. 97–128). Greenwich, CT: Ablex.
- Kemp, Fred O. (1987). The user-friendly fallacy. *College Composition and Communication*, 38(1), 32–39.
- Kemp, Fred O. (2005). The aesthetic anvil: The foundations of resistance to technology and innovation in English departments. In Locke Carter (Ed.), *Market matters: Applied rhetoric studies and free market competition* (pp. 77–94). Cresskill, NJ: Hampton.
- Kimura, Greg W. (2008). *Navel gazing on the definition of 'the humanities*. Retrieved January 5, 2008, from <http://humanitiesalaska.blogspot.com/search?updated-max=2008-01-16T14%3A12%3A00-09%3A00&max-results=10>
- Kolodny, Annette. (2005). The situation of the humanities; Or, how English departments (and their chairs) can survive into the twenty-first century. *ADE Bulletin*, 137(Spring), 10–17.
- LeCourt, Donna, & Barnes, LuAnn. (1999). Writing multiplicity: Hypertext and feminist theorization of hypertext. *Computers and Composition*, 16(1), 55–71.
- LeFevre, Karen B. (1987). *Invention as a social act*. Carbondale, IL: Southern Illinois University Press.
- McCarty, Willard. (2005). *Humanities computing*. Houndmills, Basingstoke, UK: Palgrave.
- McGann, Jerome J. (2001). *Radiant textuality: Literature after the World Wide Web*. New York: Palgrave Macmillan.
- National Endowment for the Humanities. (1965). *Who we are: National endowment for the humanities*. Retrieved January 1, 2008, from <http://www.neh.gov/whoweare/overview.html>
- National Humanities Center. (2007). *About the center*. Retrieved from <http://nationalhumanitiescenter.org/about/introduction.htm>
- Nold, Ellen. W. (1975). Fear and trembling: The humanist approaches the computer. *College Composition and Communication*, 26(3), 269–273.
- Page, Ellis, & Paulus, Dieter. (1968). *The analysis of essays by computer*. Final Report of U.S. Office of Education Project No. 6-1318. Storrs: University of Connecticut, ERIC ED028633.
- Porter, James E. (1998). *Rhetorical ethics and internetworked writing*. Greenwich, CT: Ablex.
- Postman, Neil. (1992). *Technopoly: The surrender of culture to technology*. New York: Alfred A. Knopf.
- Regan, Alison E. (1993). "Type normal like the rest of us": Writing, power, and homophobia in the networked composition classroom. *Computers and Composition*, 10(4), 11–23.
- Rickly, Rebecca. (1999). The gender gap in computers and composition research: Must boys be boys? *Computers and Composition*, 16(1), 121–140.
- Scholes, Robert E. (1998). *The rise and fall of English: Reconstructing English as a discipline*. New Haven, CT: Yale University Press.
- Schroeder, Eric J., & Boe, John. (1990). Minimalism, populism, and attitude transformation: Approaches to teaching writing in computer classrooms. In Carolyn Handa (Ed.), *Computers and community: Teaching composition in the twenty-first century* (pp. 28–46). Portsmouth, NH: Boynton/Cook.
- Schwartz, Helen J. (1985). The confessions of professor strangelove; Or, an apology for literacy. *Computers and Composition*, 2(4), 6–16.
- Selber, Stuart A. (2004). *Multiliteracies for a digital age*. Carbondale, IL: Southern Illinois University Press.
- Selber, Stuart A., & Johnson-Eilola, Johndan. (1996). Policing ourselves: Defining the boundaries of appropriate discussion in online forums. *Computers and Composition*, 13(3), 269–291.
- Selfe, Cynthia L. (1992). Preparing English teachers for the virtual age: The case for technology critics. In Gail E. Hawisher & Paul LeBlanc (Eds.), *Re-imagining computers and composition: Teaching and research in the virtual age* (pp. 24–42). Portsmouth, NJ: Boynton/Cook.
- Selfe, Cynthia L. (1999a). *Technology and literacy in the twenty-first century: The importance of paying attention*. Carbondale: Southern Illinois University Press.
- Selfe, Cynthia L. (1999b). Technology and literacy: A story about the perils of not paying attention. *College Composition and Communication*, 50(3), 411–436.
- Selfe, Cynthia L., & Selfe, Richard J., Jr. (1994). The politics of the interface: Power and its exercise in electronic contact zones. *College Composition and Communication*, 45(4), 480–504.
- Skubikowski, Kathleen, & Elder, John. (1990). Computers and social contexts of writing. In Carolyn Handa (Ed.), *Computers and community: Teaching composition in the twenty-first century* (pp. 89–105). Portsmouth, NH: Boynton/Cook.

- Slatin, John M. (1990). Reading hypertext: Order and coherence in a new medium. *College English*, 52(8), 870–883.
- Smith, Elizabeth T., & Selfe, Cynthia L. (1988, March). Alienation and adaptation: integrating technology and the humanities. Paper presented at the *Conference on College Composition and Communication*, St. Louis, MO.
- Snow, Charles Percy. (1959). *The two cultures and the scientific revolution*. New York: Cambridge University Press.
- Sommers, Elizabeth. (1992). Political impediments to virtual reality. In Gail E. Hawisher & Paul LeBlanc (Eds.), *Re-imagining computers and composition: Teaching and research in the virtual age* (pp. 43–57). Portsmouth, NJ: Boynton/Cook.
- Spellmeyer, Kurt. (2003). *Arts of living: Reinventing the humanities for the twenty-first century*. Albany: SUNY University Press.
- Sullivan, Laura L. (1997). Cyberbabes: (Self-)representation of women and the virtual male gaze. *Computers and Composition*, 14(2), 189–204.
- Sullivan, Laura L. (1999). Wired women writing: Towards a feminist theorization of hypertext. *Computers and Composition*, 16(1), 25–54.
- Surowiecki, James M. (2005). *The wisdom of crowds*. New York: Anchor.
- Takayoshi, Pamela. (1999). No boys allowed: The World Wide Web as a clubhouse for girls. *Computers and Composition*, 16(1), 89–106.
- Topf, Mel A. (1981). Smooth things: The Rockefeller Commission's report on the humanities. *College English*, 43(5), 463–470.
- Turkle, Sherry. (1995). *Life on the screen: Identity in the age of the internet*. New York: Simon and Schuster.
- Winner, Langdon. (1977). *Autonomous technology: Technics-out-of-control as a theme in political thought*. Cambridge, MA: MIT University Press.
- Wolfe, Joanna L. (1999). Why do women feel ignored? Gender differences in computer-mediated classroom interactions. *Computers and Composition*, 16(1), 153–166.
- Woodland, Randall. (1999). "I plan to be a 10": Online literacy and gay, lesbian, bisexual, and transgender students. *Computers and Composition*, 16(1), 73–87.