The Haunting Story of J
Genealogy as a Critical Category in Understanding How a Writer Composes

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Sitting Bull, too, met the instrument. He was hooked up to a Mrs. Parkin, who was twenty-five miles away at Cannonball River. She was a mixed-blood who spoke fluent Sioux, but Sitting Bull reasoned that the telephone understood only English, so when Mrs. Parkin answered the call he exclaimed, 'Hello, hello! You bet, you bet!' which exhausted most of his English. And when he realized that he could speak Dakota with this woman such a long way off he, like his contemporaries, was gravely shocked.

Cornell, E., Son of the Morning Star.
Meeting the Instrument

W HEN SITTING BULL SPOKE INTO A TELEPHONE FOR THE FIRST TIME, HE approached that new communicative technology with reasoning based on his experience: he relied on his memories about technology, people, and language to guide his choice of what to say. His prior experiences led him to assume that a telephone invented by a Scotsman could transmit English words only, and he framed his conversational gambit to Mrs. Parkin accordingly. As Evan S. Cornell recounts in the selection above, when Sitting Bull realized the telephone could transmit his own Dakota language, he was "gravely shocked." That shock was in part cultural, of course, and Sitting Bull's conversation was galvanized by the knowledge that this instrument could do something unexpected. Sitting Bull's assumptions about the telephone were, of course, perfectly reasonable when placed in their own historical context: when we listen to Sitting Bull's first words spoken into the waiting instrument, we can hear the fraught echo of a larger dissonance in Native American and European conversations, a conversation haunted by earlier encounters between Native Americans and English-speaking outsiders, words steeped in a cultural brew of suspicion, misunderstanding, and the rhetoric of genocide.

In our professional writings to date about computer-mediated communication, we often forget to note the echoes of personal experience that reverberate in the ways we approach writing. We need to be more critically aware that our encounters with new communicative technologies are always colored by memory, informed by learned response, and haunted by earlier experiences with writing, reading, and communicative technologies.[1] Further, our technologies themselves are always haunted by their own individual and cultural genealogies. When researchers in computer-based writings explore the relations among readers, writers, texts, and technologies, a close analysis of the genealogies of each of these components is crucial.

When voices and messages are transposed into a new medium, writers and readers retain habits of communication learned over other media. These new patterns of communication are themselves inscribed by medial hauntings which both constrain and enable writers and readers using the new technology. Exploring how to read these ghosts, the vestigial remnants of earlier experiences with writing and technology, as they are realized in a particular case history, is one purpose of this article. The other, larger purpose, however, is to posit that the critical term genealogy, and its realization within scribal cultures as apparitional knowledge and medial hauntings, needs itself to be resurrected as a useful entry into our growing understanding of how writers use computers today.

In this article, I propose the critical terms of apparitional knowledge, medial hauntings, and genealogy as a way into understanding how a writer's past writing experiences inform his present choices in constructing the scene of his writing: how a writer's memories inform what topic he chooses to write about, what tools he uses to write with, where he chooses to write, and what writing community he chooses to join. After developing these terms below, I test their usefulness by applying them to the case history of J., a freshman writer at a large public university. In particular, I develop the critical term genealogy as a lens through which to interpret how histories of computers, users, and the scenes of writing complicate contemporary patterns and choices of toll, setting, and self-revelation in text. By testing the usefulness of this critical term and the position it permits by applying it to the case study of J., a reluctant keyboarder, I hope to rehearse how we might explore genealogies of the writing scene when the act of composing takes place on the Internet. From observations of character interaction in MUDs to our analyses of the design and use of home pages, from our observations of how designers configure computer games to our descriptions of computer hardware, we need to pay more attention to how the language we use to name the parts reflects personal and cultural histories of people who read and write on the machine.

I anticipate that readers might protest that my development of the critical terminology and apparatus overshadows my case study of J. Let me explain that I allow this imbalance because the intent of this article is to introduce a new perspective, a new line of vision, on our case studies of writers, in general. I hope the work I do in this article, developing the terms necessary to improve

our qualitative analyses of descriptive methodologies such as the case study, will be useful to other readers interested in exploring why writers choose the instruments, settings, and topics they do.

To return to my opening example, Sitting Bull's first encounter with the telephone suggests a new category we must consider to understand writers' encounters with the personal computer as a writing instrument: the category of memory (and its native activities of reconstruction and reconstitution) and a concomitant consideration of how memory informs the contemporary writer's choices. If we are serious about understanding the dynamics of the composing process, we must analyze how encounters with today's writing technologies, especially computers, are themselves haunted by earlier versions of textuality, speaking, authoring, and reading. We must explore how subjects, their writing instruments, and the scenes in which they compose are always determined in part by personal and cultural histories. When we researchers in composition explore how writers compose at the computer, we must consider the role of genealogies and uncover the historical motivation for the choices a writer makes as she or he composes in real-time. That is, we researchers need to remember that writing processes are not only synchronic but that potent diachronic traces undergird every gesture a writer makes, as well.

AN INTRODUCTION TO GENEALOGY

> *"I did this," says my Memory. "I cannot have done this," says my Pride and remains inexorable. In the end—Memory yields.*
> Freud's "Rat Man," quoted in Gay, 129

Embedded in most writers' encounters with digital technology are the visible traces of conventions, structures, and styles of communicating over paper. (Embedded as well, of course, are the invisible traces of memory, such as the ways a mother's attitude towards computers or a father's occupation can be embedded in a young man's attitude towards word processing, as we will soon see.) Because paper was until very recently an almost ubiquitous medium for communicating ideas, the dynamics of how that medium structures discourse, how it locates important points, and how it favors particular styles, are conventions largely invisible to today's casual user—and, sometimes, to the composition researcher. By introducing the category of apparitional knowledge to our studies of writers using computers, we can focus more narrowly on how a familiar medium like paper haunts our encounters with a less familiar medium, the digitized, bit-mapped, two- and three-dimensional texts we encounter on a computer screen with the help of a mouse, keyboard, joystick, or helmet and glove.

By offering the notion of medial hauntings as a form of apparational knowledge that haunts all our reading and writing activities, I wish to remind readers of the importance of memory in all our lettered transactions, to remind readers of the Derridean notion that writing is always prior to speaking,[2] that all our choices as writers are informed by past experiences with writing. In some ways a

counterpart to the Ongian hypothesis[3] that writing transforms consciousness, I wish to argue here that our experiences with paper-based textual artifacts haunt our contemporary awareness of what computer writing technologies can do. Paper-based literacies are transmitted and transmuted in our contemporary lettered exchanges.

Not only are computer writing technologies steeped in the powerful brew of prior experiences with paper texts, pens, pencils, and office settings, however. The writers who use computers are haunted by prior versions of writing, writing instruments, writing situations, and themselves. To account for the comprehensive effect of genealogy on writers and writing, as well as to understand precisely how the memory of paper comes to be realized across a computer screen,[4] we must understand composing as a process both haunted and iterative not only within the visible processes of writing but within the imagination of the writer as well. In other words, writing is an iterative process not only in a single user's cycling through different stages of invention, writing, and revision; writing is also an intellectual and emotional activity of splicing together prior selves, understandings, and experiences.

As we construct theories about how computers affect writing processes and products, as we start to explore the consequences of contemporary medial hauntings, we must examine the genealogies of users, texts, machines, situations, and readers, exploring how earlier incarnations of each partner in the writing process haunts its subsequent incarnation in discursive transactions. Although recent work by Selfe and Selfe (1994) offers a valuable perspective on how existing power structures are realized and reified in computer documents, I venture here the importance of local and idiosyncratic traces of memory (memory not only of the powerful contexts that shape discursive structures, but memory of familiar settings, instruments, people, and our half-conscious efforts to resurrect them) in our reconstructions of individual writers' responses to a relatively new, even if ubiquitous, writing technology: the computer.

GENEALOGY AS CRITICAL TERM

I use the term genealogy here in a different sense from both Nietzsche and Foucault, although I am relying on Foucault's excavations (and extrapolations) of Nietzsche's term. In *Power/Knowledge* (1980), Foucault largely reconstructs the term genealogy as Nietzsche (1956) uses it in his important work, *The Genealogy of Morals* (a work in which Nietzsche outlines "the provenance of our moral prejudices" (150) and discusses moral genealogies as though they represented universal originary patterns). Foucault uses the term genealogy, in contrast, not to ascribe origin (especially not in any universal sense) but to describe "the union of erudite knowledge and local memories which allows us to establish a historical knowledge of struggles and to make use of this knowledge tactically today" (During 195). In other words, in my reading, Foucault is using the term genealogy to describe a lineage or pedigree, rather than to describe a search for an originary point or the germane moment in some universal pattern

of evolution. I find this Foucauldian analysis of how genealogy informs action and event relevant to my own work on the influences of memory on writing at the computer.

Foucault's notion of the importance of local memory in the reconstruction of genealogies is the notion I wish to explore most closely here, in the context of my discussion of the case study of J. Foucault's discussion of the importance of identifying and tracing genealogies draws our attention away from the Nietzschean idea of universal provenance and towards a focus on the local or particular pattern of how a subject constructs itself, to ". . . the way in which the body is historically, culturally, and socially 'imprinted' (by housing, training, diet, manners, and so on) and the way in which the constantly shifting distinction between the self and the body is organized at particular historical moments" (During, 126). By reading the following case study through an extension of the critical apparatus and definition of genealogy offered by Foucault, we can see better the importance of memory and history, of apparational knowledge, in our reconstructions of the composing process as it progresses at a computer keyboard.

In Simon During's intelligent tracing of Foucault's use of the term genealogy, he explains that, in contrast to Nietzsche, "[Foucault's] genealogy has affinities with archeology: it is against totality, it is against the received unities, it does not operate in terms of deep structures, it does not work in terms of essences or origins or finalities" (126). By extending Foucault's notion of genealogy, we too can analyze writing situations in a new way, in a way that recognizes explicitly the importance of memory in our understandings and reconstructions of particular writers, their documents, and their composing processes.

In short, a rhetorical analysis based on a Foucauldian understanding of genealogy grants us rhetoricians new perspective on how the local memories of a single computer user cohere with the "erudite knowledge" of his immediate academic discourse community to create an idiosyncratic composing style, a style haunted by that user's past experiences with family, school, computer, and writing, as well as by his self-concept as a writer and his received evaluations of his writing. A rhetorical analysis that emphasizes the importance of medial hauntings nudges us to look more deeply at how memory inheres in discursive choices made by a composer at a computer—and in his choice to compose at a computer at all.

My use of the word genealogy here—and my search for a real-time palimpsest, the visibly inscribed echoes of past writerly selves, writing contexts, and writerly tools and media in an analysis of any individual writer—deliberately echoes and extends Foucault's use of the term. By looking to the genealogies of writers, writing contexts, and writing tools, and by identifying their echoes in particular writing situations, like Foucault I wish to emphasize the importance of building more comprehensive records of event, records that rely on personal and institutional memory and that recognize their own fallibility even as they trace and account for it.

In my analysis of a case study of J. offered below, I am looking to extend my genealogical investigation of the writer beyond the simple acknowledgment of the local memories of a single user; I am searching also for those important apparitional traces we can identify in the contexts of J.'s writing habits and products. Within the remarks, rough drafts, and writing spaces of J., I am looking for the ghosts of paper-based habits of reading and writing, for the recurrent voices of family, for the visible traces of earlier encounters with writing instruments. The metaphor of the visible apparition, as it is realized in the flickering box of today's computer on a desk, and the invisible apparitional knowledge that is its user's counterpart, helps us focus on the genealogies of writers. As writers construct texts on computers, we can see better how their attitudes and assumptions about computers and writing are deeply haunted by their prior experiences with writing and writing instruments. Although my case study of J. details the effects of genealogy on only one student writer's contact with word-processing in a first-year writing class, I trust that genealogy is a useful critical term to bring to bear on many examples of computer-mediated communication. Whether we are studying the designs and designers of interactive fictions or the soporific motions many first-time users make as they swim through virtual spaces, we need to examine how those notions and motions are determined by the past.

To demonstrate how the metaphor of apparitional knowledge provides a useful terministic screen for understanding the writing of today's computer composers, I offer below a focused description of a particular writer that I studied over the course of a semester at a large state university not long ago. I discuss the student's background (or how he is grounded in what lies in back of him), his attitudes towards writing in general, and his attitudes towards writing on a computer. I make an effort to link his remarks, his unremarked genealogies, and his statements about his past to his present attitudes and abilities as a writer. By meeting J. and listening to his own descriptions of his abilities and feelings, the importance of applying the new category of genealogy, and its revelations of medial hauntings and apparitional knowledge, to capture the experiences of writers composing at the computer, grows more obvious. It is this author's hope, obviously, that this article itself will become a substantive moment in the genealogy of research in computer-mediated communication, in general.

GENEALOGY OF THE CASE STUDY

In an effort to trace out these metaphors and to assemble a particular and coherent example, I recently spent a semester studying the composing processes of one novice writer, a writer whom I will call J. At the time of my study, J., a student writer in a large computer-based freshman writing program at a public land-grant university located in the United States, was an eighteen-year-old white male from a middle-class home who was considering a major in law. J. lived in a dorm on campus while he undertook his first

semester of study at the institution, played basketball in his spare time, and took classes which he said boosted his continuing enjoyment in writing. I chose to study J. in part because his diagnostic essay (composed by hand) was among the most polished in the class, and because in the first week of the course, I noticed that he was articulate, affable, mature, and self-aware. When I asked J. if I might follow his writing as it evolved over the semester, supplementing my study of his drafts with open-ended and discourse-based interviews, J. accepted happily. J. said he agreed to be part of my case study because he liked to write and would enjoy the opportunity to "think more about what [he does] when [he writes]."[5] Over the course of the study, J. was a willing participant, in general flattered to be selected and eager to explain his particular processes of writing.

As his freshman writing teacher, I observed J. writing in a class that met three hours a week for fourteen weeks. I collected at least three drafts of each of the six essays he wrote for my class, and I interviewed him formally three times (for about two hours each time) during the course of the semester, asking a combination of open-ended questions and discourse-based questions about his background, writing history, and composing process in general and as it related to his essays-in-progress. I had been teaching writing for four years at the time of this study, two of those years in this computer writing lab in which J. was a student.

J.'s writing class of twenty students met in a computer writing laboratory stocked with Leading Edge computers and printers available to each student, arranged in rows of four. Teachers in this classroom typically rolled around the class on their chairs, pointing at individual screens during drafting sessions and offering what they hoped was constructive advice. Freshmen in general in this large writing program were expected to write six essays of three-to-five pages, each essay to go through at least three distinct drafts. The majority of class time was devoted to actually writing.

I also chose to study J. in part because the parts of his writing process that were visible to me as his instructor were not representative of the other students in his class nor of the other students I had recently taught in that room. In J.'s class, during a typical session devoted to drafting an essay, nineteen students would huddle over their computer keyboards and watch the green words appear on the screen, while J. would push his keyboard to the side of his desk and sit writing with a pen in a spiral-bound notebook. Between the clicks and beeps of the computer keyboards, his ball-point pen would loop silently over his white notebook page, sometimes pausing to scratch out what he had already composed. During the whole semester, J. consistently used the computer less than anyone else in his section of this computer-based freshman-writing class. He used his blue Bic pen for first drafts, subsequent drafts, and revisions—in fact, for almost everything except his final versions of his drafts, which he laboriously typed at the computer.

Sailing, Sailing, Over the Bounding Main

J.'s first essay for the class, written in response to an assignment to write about a personal experience that changed him, was called "Sailing," and addressed the experience of sailing with his three best friends for 26 hours through the Chesapeake Bay. I asked the class to freewrite about the assignment for ten minutes, and J. did so, uncharacteristically at the keyboard, writing about an apparently unrelated topic, the death of a close friend's mother and brother in a car accident. After ten minutes, J. left the keyboard and opened his spiral notebook to continue writing his rough draft, but as he switched medium, he switched topic, as well. He began writing in his notebook about his sailing adventure. As I walked through the class, I noted J. had switched topics and I asked him why he had left the keyboard to write in his notebook. "I can think better [writing with pen]" he said. He finished a first draft of "Sailing" in his notebook.

Before the next class, J. typed a draft of his essay on the computer, changing only single words or short phrases as he copied from his notebook onto the computer. J. put the essay through three more drafts, doing almost all of his revising by hand, and doing his most substantive revising between his next-to-last draft and his last one. He crammed additional information into every margin of his penultimate print-out, rewrote his opening paragraph three times over the printed version, and wrote notes to himself on every page of the draft. J.'s final draft incorporated all of his handwritten changes and nothing more.

Higher Education

J. wrote a comparison/contrast paper for his second essay. He called the essay "Harvard vs. Public Education: Is it Worth It?", an essay in which J. compared the costs and benefits of private and public universities. He wrote his first draft outside of class, by hand in his customary spiral bound notebook. He wrote his second draft in the computer writing lab, and that draft, characteristically, was an almost exact copy of his handwritten one. J. told me the changes he had made were only those that would clarify his original meaning or that would help him avoid repetitions. (An example of J.'s attempt to clarify meaning is his revision of the phrase 'burdensome decision' to 'awesome decision.' J. told me he thought 'awesome decision' was clearer because it underscored the 'huge financial considerations' that are part of the decision whether or not to attend Harvard.) J. added just one sentence to his second draft, a sentence at the beginning of a paragraph; he said he added that sentence because he needed a transition.

In contrast, the revisions J. made between his second and third drafts were more sweeping and involved rewriting the ending and adding new material. J. made these revisions with a pen. He crossed out material by hand and circled sentences in several paragraphs "to see if they had a main idea." J. went back to the keyboard to write his next draft, which again was essentially a typed version

of these handwritten changes. His final draft was virtually identical to this penultimate one; J. repaired only a few typographical and spelling errors.

Work

The third piece of writing J. undertook for the class was an essay exploring his recent work experiences. As the assignment asked him to do, J. first wrote two paragraphs about recent jobs he had held, and he then developed an arguable proposition about work in general. J. began the assignment at the keyboard and in ten minutes had written two paragraphs about two different jobs. He then made a hard copy of these two paragraphs and developed his propositions about work in pen at the bottom of this hard copy. J. submitted this combination of handwritten and typed material to me at the end of class.

GENEALOGY OF THE SUBJECT: SCREEN MEMORIES

> *It is not just as though we have something called factual knowl-*
> *edge which may then be distorted by particular interests and judg-*
> *ments, although this is certainly possible; it is also that without*
> *particular interests we would have no knowledge at all, because we*
> *would not see the point of bothering to get to know anything.*
> *Interests are constitutive of our knowledge, not merely prejudices*
> *which imperil it.*
>
> Eagleton

J. is a student who elected the word-processing section of College Writing but who came to this computer-based writing lab suspecting that computer-based word processing would hinder his writing and transform his message, making his writing "indirect and impersonal." For J., adapting to using computers as writing tools entailed not only a change of habit—switching from his preferred writing tool of a blue Bic pen to a computer keyboard—but entailed a change in the way he looked at what we do when we write.

Although J. elected to take this word processing section of College Writing, he entered the class with a strong prejudice against all computers, and he clearly saw word processing as related to computers. J.'s attitude towards computers is an echo of his mother's, he explained in one of his interviews. His mother, a nurse and a teacher of nursing, held different attitudes towards computers than did J.'s father, an engineer who worked with computers every day. J. explained, "He [his father] always thought I should learn how to use [a computer] ... She [his mother] hates them ... just because they're so impersonal. She never really was hooked on computers like he was."

J. seems more his mother's son than his father's in regard to how he feels about computers. He described the people who work for his father:

I worked in my father's company last summer and there are guys who just sit there in front of a computer screen ... for ten hours a day. And you get them in

the cafeteria and they're like social idiots. You know, they don't know how to communicate with people. They just—it's sad. They get in a social scene and they don't know what to do.

By the end of the semester, J. was differentiating between computers equipped with word-processing software and all other computers. He said, "This is just writing. On the computer, I think about sitting down and doing a program so it'll do something for you. This is just totally different. It's helping me with something I want to do, so that's—appealing." In general, J. identifies himself as bored by computers. In both interviews he volunteered that he "hates" both math and science; a pre-law student, J.'s favorite courses, he says, are classes in writing and political science.

J. takes great pleasure in writing well; in fact, he claims "writing well is one of the best things I can do." But J.'s initial perception of word processing as a computer-based activity that hinders personal communication, transforms directness into indirectness, and frustrates thinking, slowed his integration of the computer into his writing process. According to J., he prefers his particular combination of pen and computerfor two main reasons: he is hindered by the physical constraints of the word-processing software and computer writing lab, and, in his own words, he has trouble with "writing at the keyboard and thinking at the same time." J. made this last point in virtually every conversation we had about his writing during the first half of the semester.

However, by the end of the semester, problems with knowing the keyboard no longer inhibited J.'s use of word processing. In our last interview, I reminded J. that he had referred to the computer as "a glorified typewriter," in our first interview, and I asked him what he thought now. He replied, "It's still that [a glorified typewriter], because if you had to type something in, it's so much easier. But now it's more than a typewriter because I could never just start writing at a typewriter. I can't type that well and I'd be making mistakes all over the place and it would look terrible. And [now] I can write or create a story right on the word processor. It used to be just a fancy typewriter and now it's something I can actually create on." Later in our last interview, J. referred to learning to write on the computer as "learning a new way to communicate." However, I noted that in his class work, Jay was still relying more on his pen to generate and revise than any other student currently in the room.

J. encountered problems "thinking" at the keyboard that he didn't encounter when writing with a pen, most markedly at the beginning of the semester. The computer didn't lend itself to J.'s habitual use of visual cues such as circles and arrows. But by the end of the semester, J. was using the word processor in earlier drafts and for more extensive revisions. "I'm a lot more comfortable," he reported. "I can get the ideas and get them down. At the beginning, sitting there with all those people . . . [Now I can] just concentrate on the essay."

So, in addition to the obvious traces of memory in his selections of topic for his first three essays in the class, J.'s choice of writing space was informed by memories of his mother's words and his father's workplace; his shifting between pen and keyboard was prompted by learned responses, by habits learned in one medium haunting another. When J. chose to write about sailing, he wasn't remembering only the joys of seeing dolphins cut the water around his boat; he was remembering a composing process learned on paper. When J. chose to write about Harvard vs. public institutions of learning, he was not only remembering his own choice of a state school; he was remembering how to frame an argument on paper, how to make every sentence "have a main idea," how to create paragraphs that led a reader to the same conclusion he reached. Further, as he revised his second paper, J. was remembering his own genealogy as a writer; he remembered how to develop an argument and to indicate his revisions with arrows, circles, lines—habits, again, learned by hand on paper. Finally, when J. wrote about his experiences of work, he was remembering not only a general impression of workplaces; he was remembering a specific work experience at his father's company. And in his recounted memories of writing programs he gave evidence of an apparitional knowledge infusing his choices of topic, of writing space, and, ultimately, of his claims about how his work affected his identity today. Like the screen memories that Freud says we construct to cover up an uncomfortable past, like the "interests" that Eagleton says are constitutive of knowledge, genealogies of where and with what tools we learned to inscribe our world affect how we approach a new set of tools with which to write.

GENEALOGIES OF SETTING

> ... *there is nothing modern in the furnishings of Mr. [Laurence] Hutton's house. Tables, chairs, clocks, divans, sideboards, beds, the thousand and one things we have for daily use, are old in the historic sense. With each thing here there is some fact, fancy, place, or person coupled. . .[For example,] there is a portrait, or rather caricature, of Thackeray drawn by himself . . . Underneath is written in Thackeray's hand, "There is a skeleton in every man's house."*
>
> Halsey

> *Even in the house of words, sometimes you still have to go out and buy milk.*
>
> Rachel Brumbaugh, undergraduate writer.

In 1902, a compilation of "sketches" of American authors originally published in *The New York Times Saturday Review of Books* appeared under the title *Authors of our Day in their Homes* (Whiting). Lightweight and charming, each verbal portrait of an author was preceded by a photograph of his work space, typically an elegant book-lined study captured in a grainy black-and-white view

snapped by a "kodak fiend." Many of these sketches of the settings in which authors composed include wide fireplaces with oak mantels and brass inscriptions of favorite sayings. Mark Twain's mantel (brought from a house in Scotland), for example, is inscribed with the lines, "The ornament of a house is the friends who frequent it" (126) while Goldwin Smith's overmantel "richly carved in oak" has an inscription from Cicero: *Magna vis veritatis qui facile se per se ipsa defendat* (104).[6] The settings in which writers compose, the rooms in which they think and write, are themselves cultural constructs, of course, as well as compilations, loose aggregates, of past scenes of writing and writers' imaginings about the ideal scene for their own writing. The sketches in this book are an entertaining rendering of how fin de siècle writers composed the studies and dens, the living rooms, in which they wrote.

At the beginning of the semester, J. said he felt distracted by the noise in the computer-based writing lab—primarily the noise of the printers. According to his own account, by the end of the semester, J. was less bothered. In his words, "It's definitely easier to write alone—without the printers and everything else. But that's affected me less and less. I just block it out . . . I'm just using [the computer] more and more." The physical constraints of the word processor bothered J. most at the beginning of the semester. He experienced problems using word processing similar to ones noted in studies by Lillian Bridwell-Bowles, Donald Case, and Christina Haas, among others. Some of his habits of composing by pen clearly did not translate well to the medium; in addition, however, the space in which he composed was unfamiliar and occasionally rattled him.

As the semester progressed, J. grew accustomed to some physical constraints of the computer and the setting of his computer-based writing, such as his need to learn keyboard commands and block out the noise, but he reported other environmental constraints that bothered him. He said he didn't like not being able to drink a soda while he worked, and he didn't like not being able to listen to the radio in our computer lab. But the constraint that J. mentioned most often—and most vehemently—was the difficulty of access to the computer lab. J.'s dormitory was almost a mile from the computer-based writing lab. Because J. did not own a computer, he was able to write only with pen and paper in his dorm room. There were many evenings, according to J., when it was just easier—and more comfortable—not to brave the elements but to stay at home and write a draft there by hand.

In our final interview, I asked J. what would be the most comfortable way to integrate word processing into his writing habits, and he described this setting: "Have it in my room. Turn off all the lights but the one I'm working under. Have something to drink. Even having a phone there is good, so if you're expecting a call you don't miss it. It [would have] to be an environment where you feel at home and you can do writing and nothing else." In other words, the computer-based writing lab as writing scene fell short of J.'s expectations, expectations built on past experiences with place, with what it feels like to be

"home." Interestingly, one piece of technology, voice mail, might have supplied a palliative for the demands another piece of technology put on him—going to the lab to find the tools with which to write.

J. said he had to struggle to achieve the necessary level of concentration in the computer lab. He had to discipline himself "not to look around and see what's going on, who's coming in, who's going. I have to just start to work and not think about anything else." J. reported growing ease with the computer, an ease that was related to his evolving sense that the machine wouldn't "take away from [his] essay." "Over the course of the semester," he reported, "just using [the computer] over and over, and getting used to it and getting more comfortable, made me feel right at home at using it in my writing." Recreating that sense of "being at home" was an important element in J.'s adjustment to composing in the computer lab.

GENEALOGIES OF THE COMPUTER

> *The end of the codex will signify the loss of acts and representa-*
> *tions indissolubly linked to the book as we now know it. If the*
> *object that has furnished the matrix of this repertory of images*
> *(poetic, philosophical, scientific) should disappear, the references*
> *and the procedures that organize the 'readability of the physical*
> *world, equated with a book in codex form, would be profoundly*
> *upset as well.*
>
> Chartier

"I find it a lot easier to free-write with my own handwriting," J. said in our first interview. "Because I'll think of something and then I can't type fast enough to get it, but I can scribble it down." At first, as well as typing slower than he wished, J. found using the word processor's special functions too slow. In his words,

> I think I [switch from writing with the keyboard to writing with a pen] because if I want to change something I can put a line through it when I want. I don't have to do the arrows and then delete. Because then I'll, you know, put spaces in and then I'll be, all right, What do I want to say? (Laugh.) I forgot. I find it a lot easier just to write something in or cross it out.

J. used "the machine" more often late in the semester, once he realized that composing at the screen did not "take away from" the essay for him. He commented on his more frequent use: "The way I used to think [at the beginning of the semester] was it's kind of like—you—the thought would be going, you know, just right through you and then right through the pen and on the paper, and now it's kind of going from you, through the machine, and then on the paper. It seemed like it would be more indirect and wouldn't be the same, but now I can see what comes out is okay."

J. initially worried that writing on the computer would make his writing more impersonal:

> Before the course I'd always looked at computers as being impersonal—and, from my writing, some of it gets really personal. And I'm just thinking, I'll just write and then I'll type it into the word processor. As I've gotten more comfortable I can see that I can write [on the word processor] the same way as I can by hand and get the same effect.

J.'s writing process at the computer was haunted by his prior successes with Bic pens and notebook paper. As I watched J. compose these three essays, it became clear to me that J. used his pen when he had a more sophisticated logical task to perform, when he felt his subject matter was personal, and when he undertook global revisions. I hypothesize that the very familiarity of the writing instrument allowed J. to undertake these more difficult writing tasks when the unfamiliarity of the computer would have interceded too visibly or obstructively in his composing process. Parallel to how contemporary readings are invisibly informed by habits learned by the eye's endless boustrophedon over the pages of a codex, contemporary writings are haunted by the apparition of a hand reaching for paper and pen, a medial haunting that reveals itself in the reinvention of paper-based composing habits on a computer platform.

However, the primary metaphor is metamorphic, not sedimentary; an active agent within the layers, underlying the whole palimpsest, is a metamorphic dynamic, a conversation among the apparitions of past selves, past places, past beliefs, and past settings of composition that are revealed in J.'s current choice of materials and locations with and in which to write. When J. shifts from keyboard to pen, he shifts from the unfamiliar to the familiar, from his father's work world to his mother's writing space, from a virtual writing surface to a tangible one, from a treacherous medium to a reliable one. He sees in the computer both possibility and problem, and he leaps from its dynamic surfaces to the habit and memory of using paper and ink in a familiar surrounding.

DISCUSSION

> From this Foucault draws a quasi-archeological conclusion: the intelligibility of history is not to be found in its documents. Behind documents exists the non-discursive condition—the power network—which allows the subject to speak (and act).
>
> During

> What matter who's speaking?
>
> Foucault

This case study of J. ultimately describes the composing style of one freshman writer, a writer who integrated the computer into his writing process less quickly and thoroughly than other members of one section of College Writing.

When we listen to J.'s own words as recorded in his essays, logs, and during interviews, and we observe J. at work at the lab, three attitudes towards composing at the computer become obvious. J. assumes that word processing is impersonal, that it hinders his thinking, and that it is an object that has the capacity to randomly transform his messages. We can see the roots of J.'s frustration with word processing in his memories of paper and ink, his learned responses to place, his work habits, his family, and his self-definition—in short, the genealogies, personal and cultural histories, that grant depth to each of these dimensions.

The student writer of today, who learned to write with pen or pencil in hand, may not be the student writer of tomorrow, who will have learned to write on a keyboard and may well have a familiarity with computers that far outpaces our own. However, as students enter our classes with greater experience with computers, we need to pay attention to how their memories and their genealogies affect the integration of computers into their writing processes. While the precise set of memories of place, tool, and self a writer brings to a computer-based writing space will no doubt differ, the general category of genealogy remains a stable construct for interpreting the traces of memory in the choices a writer makes as she or he shifts from one communicative technology to another.

Every writing technology bears visible traces of earlier writing technologies in its design and in how writers use it; typically, it also belies traces of the assumptions bound to earlier technologies and to historical world views that may no longer apply. In the introduction of many writing instruments, in the ways we use those instruments, in the assumptions we make about readers and writers, in the genres that evolve, even in the particular textual innovations (the table of contents, the appendix, the home page) that we subsequently realize, we are always mirroring, echoing, or resisting the technologies that came before. We can never conceive of nor create a communicative technology that is not saturated by the prior technologies and communities within which it is embedded. Why shape a computer screen as a square? Why put a computer on a desk at all? How are paper and ink haunting our every imagining of post-print culture? Is every writing technology in some sense vestigial?

When I hold meetings at the Human Interface Technology Laboratory at University of Washington to discuss how interactive stories might work in virtual reality, I find myself relying heavily on my own experiences with paper-based stories. Yesterday, at a meeting of our Scripts and Narrative Group at the lab, I was asked to explain what a story is in terms that anyone could understand. I found myself in front of a white board holding a green magic marker and drawing triangles, talking about Aristotle, scrawling the word *catharsis* on the board. A few minutes later, a graduate student in our group was arranging a demonstration of a Nintendo 64 so that we might see how a game company was handling questions of plot and character in an interactive medium. In other words, as researchers in virtual reality think ahead to the

consequences of interactivity for narrative, as we work towards designing the narrative tools which will help users make shifts in time and location, we are relying implicitly on stories and ideas about narrative that were realized first in speech and later in paper and ink. Whether we choose to call the evolving informality of email an example of litteraturizazzione, or to outfit our character in a MUD in clothing and weapons reminiscent of a Tolkien novel, we are creating stories and spinning theories which themselves are steeped in a cultural stew of prior images and words. Genealogies of self, setting, task, and tool will reveal that the current activities of writers and readers are based on prior experience more than we ordinarily see. Our media and our scribal gestures are haunted by the past in powerful revelations of apparitional knowledge. Lest I sound too much like my neighbor in Yelm, the woman who channels Ramtha, let me hasten to add that this haunting is not so much a literal engagement of the past as it is the gauzy imposition of habit, idea, and places from the past, a half-visible, vestigial presence apparent in our writing tools and composing processes.

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Our current communication habits and instruments are overwhelmingly haunted by earlier ones. This statement may seem too obvious for words, yet, in fact, our research methods do not often enough consider the influences that shape writers' choices of everything from revision strategy to writing implement, from how much they like to talk about drafts-in-progress to when and how the computer enters their composing process.[7] However, one value of new communicative technologies is that they throw old rhetorics, messages, genres, forms, and the models of reading and writing they inform, into sharp relief; they make newly visible the materials, habits, and contexts of paper-based composing processes. But our current research into computer-based communication does not, initially anyway, transform larger notions of how writing works nor what a written document might be composed of, nor even sufficiently decontextualize the notion of "document" itself. It is in addressing this myopia that the Foucauldian insight about genealogy may be useful.

If we wish to understand the evolution of literacies as they evolve across different medial planes, we need to make visible the traces of earlier technologies, contexts, and composing processes as they are realized in contemporary reading and writing practices and apparatuses. When we examine the genealogies of subject, setting, and technology, we can better construct interpretations of how a writer uses technology to express herself. When we teach our students how to write with, in, and on computers, we need to acknowledge the apparitional knowledge, the medial hauntings and dissonance, the genealogies that infuse our students' and our own knowledge of composing processes and our judgments about the places from which we compose.

NOTES

1.   A person's first encounter with any new communicative technology is always haunted by her prior experiences with technology. Just listen to how we use voicemail today: older users often leave messages on voicemail in the form of paper-based letters, sometimes with elaborately contrived salutations and exit remarks. Or look at the evolving discourse conventions of email: Our email today looks and sounds like informal memoranda, like paper-based office discourse with an edge. The opening and closing remarks of email authored by novices are often suited better to a paper-based epistolary culture than to our information spaces etched today by voicemail, email, cellular telephone calls, and the fine traceries of the World Wide Web.

2.   See Jasper Neel's discussion of this point in *Plato, Derrida, and Writing,* pages 112-117, as well as all of Jacques Derrida's *Speech and Phenomena.*

3.   Ong persuasively argues that scribal cultures are cultures which have experienced a shift in human consciousness; he sees writing as having fostered a shift from aggregative, associative thinking to analytical, hierarchical, and logical thinking. He notes the development of forms such as tables of contents and indices as being tied particularly to writing technologies and to the visible inscriptions of writers. See Walter J. Ong, *Orality and Literacy,* 78-116, for a richer discussion.

4.   I see this imposition onto the computer screen of paper-based conventions, memories, and habits as a kind of "screen memory." (As most readers will remember, Freud called screen memories those images that stood in place of real memories but that retained some traces of that which was repressed. See Peter Gay's biography of Freud for a good discussion of this point.)

5.   This remark, and all subsequent remarks quoted, are reported verbatim from three tape-recorded interviews with J. undertaken in 1986 and 1987.

6.   "Great is the strength of Truth, who is easily her own best defender."

7.   Not only do our habitual ways of communicating inform our compositions and conversations across new media, our habits of talking and writing (these familiar ghosts of ourselves) haunt also our design of new communicative technologies. We can see traces of the Roman diptych and late Greek papyri (with words blocked into pages within a long manuscript scroll) in our paperback books of today. We design our computer monitors to echo the look and shape of paper pages, we model our computer keyboards after manual typewriters, and the black pixeled fonts realized on a Powerbook computer screen (on which I write this essay) mirror the calligraphy of a black fountain pen—itself a more recent embodiment of the carbon and gum into which a stylus might dip. Not only do we constantly reinvent the wheel, we never consider alternative modes of transportation.