In One's Own Hand: Seeing Manuscripts in a Digital Age

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Abstract

As museums increasingly place archival materials on display, a body of scholarship has emerged to provide practical advice for staff about exhibiting handwritten documents. However, there has as yet been little scholarship that problematizes the exhibition of manuscripts and the responses they elicit from their audiences. This essay, then, investigates the cultural perception of handwriting as an inherently unique and authentic embodiment of its writer, the assumption of which lies behind its display. Through a series of close readings of responses to the sight of the autograph, I examine the ways in which handwriting's association with the human body has been historically shaped and interpreted; its current function as a locus for concerns about the loss or degradation of corporeal identity in an increasingly technologized world; and how multimedia museum exhibitions of handwritten documents — as digitally manipulable surrogates of original artifacts — expose, complicate, and break down the oppositions in this cultural discourse. Ultimately, I argue, digital interactives are part of a new exhibitionary paradigm, which not only offers new ways of considering an artifact's essential meaning, but also refines and redefines our understanding of human effort, intentionality, and embodiment in a digital age.

I.

On attending a recent exhibit on Emily Dickinson at the New York Botanical Garden library in 2010 that included a display of her autograph letters and poems, Holland Cotter of the *New York Times* wrote, "To see Dickinson's verse written in her inimitably rangy hand is always a moving experience" [Cotter 2010]. When the Harry Ransom Center mounted an exhibition on Edgar Allan Poe in 2009, journalist Wayne Alan Brenner declared that one of the highlights of the show was "a letter in which the author pretty much wrenches out his wounded, gin-soaked heart and smears it across the paper via his always meticulous handwriting" [Brenner 2009]. And for Jennifer King, reviewing the Ransom Center's Poe exhibition for a high school newspaper, "the most astonishing pieces were the handwritten letters and manuscripts. Simple as they seem, intact yellow-tinted sheets of paper full of words and exquisite cursive, these pages reveal the absolute innermost mind of Poe in his own hand" [King 2009].

As these comments from a range of audiences demonstrate, the display of handwritten documents often elicits immediate and emotional responses from viewers, who imagine the creators of these documents to be uniquely — or to use Cotter's term, *inimitably* — embodied and revealed in their scripts. As more libraries incorporate exhibitions within a broadening understanding of collection development and access, and as museums and other cultural institutions increasingly recognize the value of displaying library and archival materials, a growing body of scholarship has emerged to guide staff through the process of exhibiting manuscripts. Most of this literature provides practical advice on such matters as how to ensure the preservation and security of documents while they are on display, what kinds of display cases to use, how to write engaging text labels, and how to publicize the exhibition and use it as a marketing tool for the institution.[1]

While this practical advice is extremely helpful, there has been little scholarship that problematizes the practice of exhibiting manuscripts and the responses they elicit from audiences.[2] This essay will investigate the cultural perception of handwriting as an inherently unique and authentic embodiment of its writer, the tacit assumption of which lies behind

its display. Through a series of close readings of responses to the sight of the autograph, I will examine the ways in which handwriting's association with the human body has been historically shaped and interpreted, and how it now functions as a locus for concerns about the loss or degradation of corporeal identity in an increasingly technologized world. Finally, I will suggest how multimedia museum exhibitions of handwritten documents, as digitally manipulable surrogates of the original artifacts, expose, complicate, and break down the oppositions in this cultural discourse. Ultimately, I argue, digital interactives are part of a new exhibitionary paradigm that not only offers new ways of considering an artifact's essential meaning, but also refines and redefines our understanding of human effort, intentionality, and embodiment in a digital age.

Scholars who have theorized the aura of the autograph focus on its embodiment of individual identity in contrast to the chilly impersonality of print.[3] Martin Heidegger argued that in typed writing, "every person looks the same" [Heidegger 1992, 119].[4] Printed texts, according to Walter Ong, "look machine-made, as they are…This is an insistent world of cold, non-human, facts" [Ong 1982, 122]. Handwriting, on the other hand, is considered to be individually distinctive. As Sonja Neef and José van Dijck declared, "There is no such thing as two people writing identically…handwriting is a unique and authentic 'signature' that claims to guarantee the presence of an individual writer during a historically unique moment of writing. This subjectivity is physically inscribed in the movement and the pressure of the pen led across the paper, leaving there an unexchangeable, personal trace." The autograph embodies its writer, so uniquely identifying and identified with him that the reproduction of authentic handwriting risks being considered a forgery [Neef and Van Dijck 2006, 9–11].[5]

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For these theorists, then, the "original" autograph is its equally original author, seemingly inseparable from the idiosyncratic and singular self embodied by his or her handwriting. This sense of embodiment approaches and even becomes indistinguishable from the literal. Throughout this essay, I will use the term *embodiment* to mean the ways in which manuscripts, not unlike relics, are assumed to make tangible to the viewer the physical presence of its creator. Autograph collectors in the late nineteenth and early twentieth centuries, many of whose collections would eventually find their way into special collections libraries, imagined the handwritten document functioning as just such a conduit to the physical materiality of its original writer. Thomas Madigan, one of the most successful autographs and manuscripts dealers in the United States in the early twentieth century, believed of autographs that "the hearts of men that once moved in gorgeous orbits beat in them still" [Madigan 1930, 4]. The collector George Birkbeck Hill declared that "so strongly does the mere handwriting sometimes bring before me those who have long moldered in the dust that there are some signatures," like those of Philip II, Tomás de Torquemada, and Charles IX, "which I could not bear to keep in my collection, such horror would they excite" [Hill 1986, 108–109]. And for George Barr McCutcheon,

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> The manuscript of a novel in the handwriting of the author — especially if he be long dead and therefore famous — possesses an appeal unsurpassed by anything else. Here is the novel, the poem or the essay just as it was transferred from the brain by way of the hand to the paper on which it was written. No printers had done this job. For months and years the man himself has toiled over these sheets, his own fingers have held the pen, his own eyes have followed the course of the ink as it ran in readable streams across the page, his innermost thoughts have been rendered visible by the magic scribble that turns them into words for all the world to see if it will. The man puts himself upon those sheets as surely as he draws the breath of life. Other men transform his words into type and others bind them up, but he alone has a brain, a heart and a soul into the thing we afterward call a book. [McCutcheon 1925, 32–3] [6]

For these collectors, the value of script lies not only in its expression of the writer's "innermost thoughts...rendered visible," but also, and perhaps even more strikingly, in what they imagine as its ability to connect its reader directly to the writer's bodily organs: hearts, eyes, brains, and especially hands, which represent the most frequently repeated synecdochic shorthand for the connection between the body of the writer and the body of his writing.

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At the same time, however, the existence of and anxiety over the possibility of forgery — the unauthorized assumption of another person's identity through his or her writing — call attention to the potential instability and illegitimacy of

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handwriting, and handwriting's history is accordingly bound up with the history of competing technological means of authentication. As early as ninth-century England, documents were authenticated through the author's handwriting as well as his seal. Yet handwriting and seals were understood in the Middle Ages to have different, and sometimes competing, cultural valences. A medieval seal typically contained an inscription bearing the owner's name, which enabled him to sign his name identically with each imprint [Clanchy 1993, 308].[7] The seal, then, was a technology of automatic reproduction, as Albertine Gaur has pointed out: "Not only by intent but also in practice a seal does exactly the same as the printing press: it reliably copies and multiplies information by mechanical means" [Gaur 1992, 194].[8] But in a dispute in 1218, for example, over the authenticity of a bond made by William de Spineto between his son, Sewal, and Samuel, son of Aaron of Colchester, Sewal denied that the seal on the chirograph was his father's; Samuel, however, insisted that the chirograph was genuine, appealing to the testimony of those "who know the handwriting of the clerk who was chirographer when it was made" [Rigg 1905, 7, 14].[9] As Michael Clanchy has observed, Samuel's argument hinges on the suppositions that handwriting could be attributed to individual scribes and that their scripts were more reliable than seals as indicators of authenticity. Samuel argued, moreover, that a knight might have more than one seal; seals, too, could be forged, or used by people other than their owners. A seal, in other words, depersonalized the signing process, since it automatically printed out its owner's name and, in the case of one of the earliest known English seals, the great seal of King Edward the Confessor, made the sign of the cross on the owner's behalf and even in his absence [Clanchy 1993, 207–8].

This latter automation of the cross is a striking appropriation of the written sign of authentication, since prior to King Edward's introduction of the great seal in the late eleventh century, Anglo-Saxon charters seem to have been authenticated primarily by just such handwritten crosses, whereby each cross was accompanied by a witness's name written by a priestly scribe as a record of his oath made in the presence of the crucified Christ [Clanchy 1993, 312]. According to Brigitte Bedos-Rezak, the signatory may also have made the ceremonial sign of the cross across his body as he marked the cross on the page [Bedos-Rezak 2000, 1510].[10] The written cross, then, was a physical representation of embodied gestures and of interactions not only between people but also with God. By contrast, there seems to have been some anxiety over whether seals alone, as marks of secular legality, could adequately signify divine approval [Clanchy 1993, 312].[11] Although seals continued to be used on all formal documents, the practice of authentication by writing one's own name in one's own hand, known as the sign manual, spread rapidly in England in the late fourteenth and early fifteenth centuries, and, eventually, to America. Over the second half of the nineteenth century, the testimonies of handwriting experts claiming to be able to recognize identities through handwriting began to be increasingly accepted in American courts of law [Thornton 1996, 101], and continue to do so in court cases today.[12]

These technologies of authentication, each with very different cultural resonances, continue to complement, contest, and appropriate each other as modes of identity production and authentication. I do not mean to suggest that one mode is actually more automatic or impersonal than another, or even that automation necessarily implies impersonality. Rather, I wish to highlight the different cultural emphases assigned to these technologies that render them conceptually opposed to each other. In the Middle Ages, handwriting was understood as embodied, a tangible sign of human and divine presence and intention as expressed through the bodily movement of the hand. By contrast, seals lacked such validation of the human creator's and divine Creator's physical presence, although, as marks of secular, legal authenticity, they continued to be used throughout the Middle Ages, often in tandem with handwritten signs.[13] The association of embodied identity with handwriting, especially as defined against other technologies that were imagined in opposition to handwriting as disembodying, intensified steadily in subsequent centuries, under the pressure of such catalysts as the invention and increasing dominance of printing technologies; the development of the Romantic idealization of the singular and idiosyncratic self in the nineteenth century, which contemporary graphologists, autograph collectors, and writers imagined as expressed unconsciously through one's handwriting; and the reaction in the twentieth century, exemplified by the Arts and Crafts movement, against the perceived degradation of human potential by the growing ubiquity of the machine.[14] It is against this historical background of appropriation and reinterpretation that I will turn to the ways in which conceptions of handwriting are now being shaped in an increasingly digital environment.

II.

On November 5, 1994, in a two-page handwritten letter faxed to news organizations and addressed to the American public, former President Ronald Reagan wrote, "My fellow Americans, I have recently been told that I am one of the millions of Americans who will be afflicted with Alzheimer's disease" [Gordon 1994].[15] The uneven margins, unsteady ductus, and hand-blackened errors prompted presidential biographer Edmund Morris to write in *The New Yorker* that:

> I, too, cried at that letter, with its crabbed script and enormous margin (so evocative of the blizzard whitening his mind)... Script's primary power is to convey the cursive flow of human thought, from brain to hand to pen to ink to eye — every waver, every loop, every character trembling with expression. Type has no comparable warmth; matrix dots and laser sprays and pixels of L.C.D. interpose their various screens between writer and reader. If Mr. Reagan's letter (which, by the way, he composed entirely himself) had been keyboarded to the world, instead of handwritten and issued in facsimile, its poignancy would have been reduced by half. [E. Morris 1995, 66]

Both Reagan, in choosing to handwrite the letter, and Morris, in affirming that choice, seem to resist what Jay Bolter and David Grusin have theorized as remediation, the logic by which new media refashions prior media through the imbricated strategies of immediacy, a style of representation that seeks to erase the traces of its presence in order to convince the viewer of his unmediated relationship to the medium's contents, and hypermediacy, which seeks to keep the medium at the forefront of the viewer's perception [Bolter and Grusin 1999, 272–3]. Yet Reagan's handwritten letter does not simply represent an anti-modern rejection of new media; rather, it calls forth and obscures a range of immediate and hypermediate interfaces, a strategy that, I argue, demonstrates a skillful manipulation of how human physicality is perceived in an increasingly technologized milieu.

Reagan's decision to write his letter by hand must be read in terms of handwriting's lengthy history as a representative of, and even a conduit for, embodied identity. His awareness of the aura of handwritten documents is evident in Morris's description of the way in which "President Reagan went so far as to address and seal his personal mail, and...he was known to lick his own stamps. I treasure several letters from him written on thick ivory gold-embossed stock, each with its matching envelope meticulously inscribed, down to the last digit of my Zip Code" [E. Morris 1995, 67]. Many others have testified to Reagan's extraordinary propensity for letter writing. It is estimated, for example, that he may have composed upwards of 10,000 letters over the course of his life, thousands of which were handwritten [Reagan 2003, xiii]. In the first year of his presidency, Reagan dictated 265 letters but discontinued the practice in February 1982, because he preferred writing them himself [Reagan 2003, xv].

In particular, Reagan's recognition of handwriting's implication of social intimacy is one of several ways in which he draws on the immediacy of the handwritten format. Reagan thus begins his 1994 letter with a salutation to his "fellow Americans"; he continues to inscribe this familiarity throughout, seeking to downplay social, political, and economic differences between himself and his readers. When he writes of the onerous burden of caring for an Alzheimer's patient that "I am confident that with your help [Nancy Reagan] will face it with faith and courage," he encourages his readers' fictive inclusion in his wife's intimate circle, and concludes the letter with a brief but warm acknowledgement of their social closeness: "Thank you, my friends" [Reagan 2003, 832–3].

Yet the letter was not delivered to any individual, but rather sent by fax machine to news organizations around the country that reported on its contents the following day [Gordon 1994]. The resulting letter that journalists saw was thus not the original ink and paper with which Reagan traced his script, but one of many copies, transformed into an analog or digital signal, compressed, and reassembled in the course of its transmission via phone line and fax machine. This act of processing and transforming a human artifact through a machine is an apt metaphor for the biotechnologies that enhance and transform the human body, including, not incidentally, that of a body with Alzheimer's.

Modern discourse on technologically enhanced quality of life is frequently inflected with an anxiety that, as Martin Halliwell and Andy Mousley have pointed out,

> often reflects on the ways in which biotechnology may augment organic life to such an extent

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that...the label "human" may no longer be applicable. As the Human Genome Project promises to unlock the secrets of our genetic makeup, the Visible Human Project attempts to translate the human body into digital codes, and neurological scientists move closer to explaining how consciousness arises from physical matter, so these fields of research threaten to destroy the myth that each human being has a core of unique individuality that can neither be explained nor replicated...Biotechnology…has the capacity to transform the parameters of the human body into a potentially unrecognizable form. [Halliwell and Mousley 2003, 161–3] [16]

Similarly, Timothy Lenoir has described the notion that digital information is a disembodied pattern that exists independently of any specific material medium as "one of the dominant metaphors of our time" [Lenoir 2002, 203].

Morris's characterization of matrix dots and L.C.D. pixels as lacking in warmth, in contrast to his valorization of script, whose "every waver, every loop, every character trembl[es] with expression," is a response to this perception of the human body as an increasingly expendable medium as it becomes progressively more dependent on technology for its own sustenance. For Morris, handwriting without the aid of digital machinery retains a human quality that machine-produced writing has lost. Reagan's choice to handwrite his letter, then, underscores its purpose as a revelation specifically about his physical health, drawing on the close association of handwriting with the inner workings of the human body in contrast to other media. Indeed, the letter avoids many other signs of mechanical modernity, erasing, for example, the fax machine's role as one of the letter's communicative media and encouraging the fiction that the original letter has been delivered directly to "the American people." Similarly, it elides the biotechnologies at work in preserving Reagan's health. The letter's strategies of erasure, driven by this sense of human alienation in an age of digital information and biotechnology, serve to fashion itself and Reagan's body as interchangeable entities by obscuring the technologies that would assist in extending human agency or health. "In the past," Reagan writes, "Nancy suffered from breast cancer and I had cancer surgeries. We found through our open disclosures we were able to raise public awareness. We were happy that as a result many more people underwent testing. They were treated in early stages and able to return to normal, healthy lives" [Reagan 2003, 832–3]. Specific medical procedures are omitted from this account, though they underlie the general references to surgeries, tests, and treatment. Equally elided is the entire system of what numerous scholars, following Michel Foucault, have called "technologies of health" [Halliwell and Mousley 2003, 166].[17] These include but are not confined to the crisscrossing agendas and purviews of doctors, hospitals, pharmaceuticals companies, health insurers, and medical researchers, as well as legislative oversight of these entities, all of which play pivotal roles in the discovery and treatment of Alzheimer's but which the letter discreetly hides from view.

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Instead, what the letter foregrounds is the Reagans' decision to write it at all. "Upon learning this news," Reagan explained, "Nancy and I had to decide whether as private citizens we would keep this a private matter or whether we would make this news known in a public way" [Reagan 2003, 832]. Their ultimate decision to publicize private illness is portrayed as the agent that helps to heal the afflicted, first in the case of cancer and now in the case of Alzheimer's: in this narrative, it is not primarily as a result of medical research, treatment, or health care, but rather because of the Reagans' "open disclosures," including the public display of the letter itself, that many people were "able to return to normal, healthy lives." According to Nancy Reagan, "People didn't realize that Alzheimer's was a disease like any other...They were embarrassed or self-conscious, and the letter released them to admit that somebody in their family had Alzheimer's. It's a beautiful letter" [Cannon 2000, xvii]. The handwritten letter, standing in for medical care, is thus figured as a restorative technology that, by broadcasting its creator's bodily health and identity, will help to recover them for his readers and even, perhaps, for himself.

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This concept of restorative handwriting has historical precedence. As the polemical rhetoric about technology's capacity for dehumanization gained momentum in the first decades of the twentieth century, graphologists' advice columns proliferated, promising to discover identities within their readers' handwriting that had been lost to or obscured from them. "Show me your handwriting and I will tell you who you are," graphologist Nadya Olyanova encouraged her readers [Olyanova 1929, 2], while Louise Rice wrote that in her readers' own "familiar writing you may see the mirror which will reveal yourself to yourself" [Rice 1927, 2].[18] Tamara Thornton has situated this desire for identity within the

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increasingly corporate, impersonal, and automated environment of the modern American workplace [Thornton 1996, 109–141]. But for those suffering from Alzheimer's, a disease of forgetting, the potential for remembering and recovering oneself through one's handwriting acquires an added poignancy. Reagan's handwriting was so compelling because it promised not only to reveal his inner self — literally disclosing, in his confession of Alzheimer's, the inner workings of his body and brain — to his readers, but also to reveal and restore it, as its readers may have imagined, to himself.

Yet it is precisely this publicity – and its obverse, privacy – that turn out to be the most slippery aspects of the letter, informing its various levels of immediacy and hypermediacy. Handwriting here is hypermediated: that is, the viewer is meant to notice and interpret the medium as carrying a message of its own. The viewer, however, perceives this hypermediacy as immediacy, in Bolter and Grusin's sense of the word: that is, he feels that he has direct access to the content of the medium. But in fact, the viewer substitutes medium for matter; when Reagan's handwriting is perceived as an embodiment of its creator, it does not convey precisely the same message as the letter's actual content about Reagan's physical health, but rather offers a heightened, more "authentic" version of it. I use "authentic" as Bolter and Grusin use it here: "Hypermedia and transparent media are opposite manifestations of the same desire to get past the limits of representation and achieve the real. They are not striving for the real in any metaphysical sense. Instead, the real is defined in terms of the viewer's experience; it is that which would evoke an immediate (and therefore authentic) emotional response" [Bolter and Grusin 1999, 53]. Indeed, for Morris, the authenticity of Reagan's letter is attested by its ability to move him to tears, effected by the perceived immediacy of its handwritten medium. Thus, although Morris extolled script's apparent transparency, whose "primary power is to convey the cursive flow of human thought, from brain to hand to pen to ink to eye," the medium of script so overshadows the letter's actual contents that Morris virtually never quoted directly from it. Instead, the letter's message is contained in the visuality of the medium itself. He interpreted the "crabbed script" as evidence of Reagan's physical degeneration, and the unusually wide margins as "the blizzard whitening of his mind." The letter, however, not only does not mention these details concerning Reagan's physical and mental condition, but in fact deliberately eschews them by placing Reagan's onset of Alzheimer's at some future point: "I am one of the millions of Americans who will be afflicted with Alzheimer's disease," Reagan writes. "At the moment, I feel just fine" [Reagan 2003, 833].

Morris was not alone in valorizing what he calls "the human immediacy of script" and "its direct and enduring" quality. According to Richard Norton Smith, then director of the Reagan Presidential Library in Simi Valley, California, Reagan's letter prompted more than 25,000 letters in reply, many handwritten in ink, crayon, and pencil. The letters crossed age groups, geographical boundaries, and political affiliations [Reed 1995]. Reagan was famously known as "The Great Communicator" during his political career, and the vast number of letters he wrote while in office, many to those he called the "uncommon people," testify to his desire to connect with his constituents. But, of course, the American public was limited in its familiarity with Reagan; like all public figures, he is knowable only to a certain point, and his desire for personal revelation extended only so far. Earlier in life, during his acting career, Reagan paid his mother, Nelle, to answer his fan mail; she wrote thousands of letters in Reagan's name not only to movie fans, but also to his longtime friends, signing the letters "Dutch," "Ron," or "Ronnie" [Reagan 2003, 836].[19] In 1995, when contacted for Reed's article, "Reagan's office in Century City declined to discuss his current medical condition, citing respect for his privacy" [Reed 1995]. That Reagan encouraged his mother to write letters purporting to be in his own hand demonstrates his recognition of the perceived value of the handwritten document, as well his appropriation of that value to protect his own time and privacy. Similarly, his own handwritten letter to the American public acts as a seemingly immediate but actually hypermediated substitute for his physical and emotional proximity.

Reagan's unreadable body is perceived as perfectly legible because of its viewers' expectations about handwriting's ability to embody its creator. This emotional response to the public display of Reagan's handwriting, moreover, is echoed in the exhibition reviews with which this essay began, describing the sight of Emily Dickinson's handwriting as a "moving experience" and imagining Poe's "wounded, gin-soaked heart" smeared across the page "in his always meticulous handwriting." For these reviewers, as for Morris, viewing Dickinson and Poe's letters is akin to seeing physical manifestations of the creators, an authentic-because-emotional experience that emerges both from a history of handwriting as embodiment and as a reaction against a disembodied digital environment, whose emotional intensity

threatens to overtake the other meanings carried by artifacts that use handwriting as their communicative media. None of the exhibition reviewers quoted above, for example, mentioned the textual contents of the letters they find so compelling; rather, the letter's message is in the visual impact of the handwriting itself.

As the embodied nature of handwriting is reinforced by a culture increasingly structured by seemingly disembodied digital information, it is also becoming increasingly hypermediated, loaded with emotional meaning and significance to the point of obscuring its other messages. Handwriting is becoming, in other words, an opaque medium, an eventuality compounded by its increasing literal illegibility, which is not only a practical result of the obsolescence of penmanship courses and of people's diminishing opportunities and inclinations to read and produce handwriting, but also as an ideological reaction against the uniformity of print. As handwriting is idiosyncratic where print is regular, so it is literally illegible where print is readable: handwritten signatures, for example, have evolved into consciously undecipherable scrawls in a digital world in which signatures are virtually the only words people still write by hand.

III.

In 1789, Benjamin Franklin likened the uniformity of print to the effacement of people's faces, which he believed rendered the text less legible because it made individual letters less distinctive. Writing to Noah Webster about the new printing practice of discarding the long *s*, a holdover from handwritten models, in favor of the short, round *s*, he declared mournfully that "certainly the omitting this prominent letter makes the line appear more even; but renders it less immediately legible; as the paring all Men's Noses might smooth and level their Faces, but would render their Physiognomies less distinguishable" [Silver 1967, 146–7].[20] Two hundred years later, Morris would valorize autographic unreadability, declaring:

> Museums are not about to display the floppies of any contemporary Flaubert. Or, if they do, I doubt they will attract the sort of awe accorded some manuscripts of Vladimir Nabokov, which the New York Public Library's Berg Collection put on display last spring. At least two of these, delineated in colored pencil, were more design than script. One was a diagrammatic analysis of metrical variations in a poem by Vasily Zhukovsky, structured rather like a stained-glass window. Units of scansion were represented by variously colored lozenges, and ruled ligatures ran with and contrary to the rhythms, in triangular and rectangular patterns. [E. Morris 1995, 67]

The value of handwriting here lies precisely in its textual illegibility, which commutes Nabokov's notes into wordless geometric patterns. Furthermore, the "awe" commanded by such patterns gestures towards the way in which handwriting's opacity intensifies when put on display. Writing is, after all, not only a textual but also a visual medium, which, according to Neef and van Dijk, renders it

> complex as a system based both on the articulation strategies of alphanumeric text and of visual images. This visual dimension distinguishes standardized mechanical writing from handwriting, which is idiosyncratic and often risks being illegible. This specific materiality qualifies the handwritten text as allographic and autographic at once; its semiotics unfolds in this in-between-media, as "text-image" or as "image-text." [Neef and Van Dijck 2006, 13]

As Morris's response to the sight of Reagan's letter and Nabokov's manuscripts demonstrates, the very act of exhibition encourages viewers to interpret handwritten documents as objects, whose significance is to be discovered by looking at rather than reading them. Indeed, viewing a handwritten document, existing as it does as "image-text," becomes even more fraught when it is framed for museum and library display, where practical challenges contribute further to the manuscript's unreadability: when letters are written on both sides of the page, only one side of the original document can be shown; when manuscripts are bound, only a single opening of the work can be displayed at a time. Unlike paintings and sculptures, manuscripts are always displayed under glass, due to their relative fragility, providing another layer of separation between the viewer and the artifact.[21] These constraints necessarily make it difficult, if not impossible, for a visitor to fully read the documents. Sonja Neef, for example, described her visit to the Anne Frank House in Amsterdam, where the darkened room, the glare of exposition spotlights on the glass cases, and the crowd of

fellow visitors prevent her from being able to decipher the handwritten letters on display. She considered these letters in terms of Walter Benjamin's conception of "cult value" that he assigned to objects whose significance lay in their presence rather than their visibility [Neef 2006, 34–35].[22] For Neef, traditional museum displays of static, spotlit artifacts encourage the allocation of cult value to documents that cannot be absorbed in their entirety, as their other messages are muted or obscured by contextual loss instigated precisely by their exhibition.

In recognition of these challenges of display, cultural institutions are increasingly exhibiting not only handwritten documents but also their digital surrogates.[23] At the New York Botanical Garden, for example, visitors not only saw Emily Dickinson's autograph letters, but could also page through a digital facsimile of an herbarium that she had compiled by hand as a teenager. Using a touch-screen kiosk, visitors could drag their fingers across the bottom of the screen to turn its pages, or zoom in on parts of blooms, seeds, or leaves [Sell 2010]. One item in the Ransom Center's Poe exhibition was a manuscript of Poe's story, *The Domain of Arnheim*, which Poe had written on pieces of paper that he attached together to form a scroll. Because the artifact itself could be opened only to a single section of the story within its glass vitrine, visitors were invited to scroll through a digitized version of the manuscript at a kiosk near the original artifact. According to Molly Schwartzburg, one of the curators of the exhibition, *The Domain of Arnheim* was digitized specifically to counteract its illegibility, thus providing visitors with the opportunity to read and interact with Poe's handwriting [Schwartzburg 2010]. While the primary goal of these interactive exhibits is to make the material accessible and legible to viewers, Nick Prior has argued that "museums are not just passive loci of external patterns and processes but self-reflective agents of social and cultural change themselves" [Prior 2003, 52].[24] Read in this way, these hybrid representations expose, even as they attempt to recuperate, the limitations of handwriting as it becomes an increasingly hypermediated and opaque mode of communication as a consequence both of cultural expectations and the act of exhibition. Describing an interactive display of the Declaration of Independence at the Library of Congress that allowed visitors, by touching a kiosk screen, to view changes to drafts of the document, Edward Rothstein wrote, "I doubt that I would have felt these transformations with the same force had I just tried to read the faded ink on Jefferson's rough draft of the Declaration of Independence, protected behind glass" [Rothstein 2008]. James O'Toole has pointed out that most visitors "simply glance at [the original manuscript of the Declaration of Independence and the Constitution] and move on; only a few pause to read a few lines, motivated perhaps by the challenge of deciphering the unfamiliar handwriting. Almost no one takes the time to read the entire texts" [O'Toole 2006, 45]. The Library of Congress's interactive display, then, works to correct not only for the puzzling illegibility of the unfamiliar handwriting style and faded ink, but also for the myth of this seminal document as image-text and as a fully formed artifact without a contextual history. Its success is such that, although its presentation in virtual form removes the user from the original document, Rothstein nevertheless perceived the digital display of the Declaration of Independence as *more* accessible than the original. He regarded the original artifact's glass case, like those at the Anne Frank Museum that reflect glare rather than offering visual access to their contents, as a mediating barrier, while the kiosk's glass screen becomes, by contrast, a transparent portal through which Rothstein could experience the emotional "force" of the document's transformation from draft to final version.

By encouraging the visitor to engage with the manuscript beyond its initial visual effect, the interactive display counteracts handwriting's opacity to create an opportunity for the viewer to access the other messages that a document carries. In the process, the digital representation of the manuscript is made to seem more transparent to the user than the original manuscript itself by imposing upon the document yet another mediating layer — the computer screen — which the user nevertheless perceives as granting unmediated access to its contents.[25]

Exhibition designers deliberately encourage this perception. Selma Thomas, for example, a designer and producer of museum multimedia interactive exhibits, wrote that "[t]he best electronic programs...present an immediate invitation to participate in an exploration, to move behind the screen into the seamless reality of another world...The technology [of a museum program] should be 'transparent,' interfering as little as possible with the experience" [Thomas 1998, 12, 29]. Accordingly, Rothstein juxtaposed the immediacy of his interaction with the facsimile of the Declaration of Independence on a touch screen to the perceived inaccessibility of the original document, "protected behind glass." Touching the screen becomes a satisfactory — even superior — surrogate for the visitor's physical manipulation of the actual artifact. [26]

Moreover, although Rothstein privileged an engagement with the intellectual content behind the document over an emotional reaction to the sight of the artifact, he, too, employs the language of emotion to describe his interaction with it: "I doubt," he said, "that I would have *felt these transformations with the same force* had I just tried to read the faded ink on Jefferson's rough draft" (my emphasis). Indeed, as viewers' emotional responses to Reagan's handwriting were generated not by the sight of the original letter but rather by a faxed copy of it, so the transformations that Rothstein felt are triggered by a facsimile of Jefferson's handwriting. These experiences, however, appear on the surface to differ in one striking respect: Rothstein explicitly acknowledged the role of digital technology in bringing the document to life for him, whereas the fax machine that brought Reagan's letter to its viewers vanished from subsequent discourse. Indeed, digital interactive exhibits, far from eliding their mediating presence, boldly offer added value to the museum-going experience through "touch-screen kiosks, CD-ROMs, computer games, large-screen installations and videowalls with multiple images, digital orientation centers, 'smart badge' information systems, 3-D animation, virtual reality, and sophisticated museum web sites" [Griffiths 2003, 375]. Selma Thomas, however, asserted that "music sheets from a young Duke Ellington, an early draft of the United States Constitution...are pieces of paper, flat documents" that require "a film or a video, or an interactive program, to make these paper artifacts come alive" [Thomas 1998, 7]; visitors like Rothstein accordingly interpret such hypermediacy as an immediate conduit to the living heart of the artifact. In the same way, Reagan's choice to handwrite a letter at the end of the twentieth century, when handwriting had become virtually obsolete as a means of mass communication, prompted viewers to imagine his handwriting as an embodiment of Reagan himself. Although handwriting's perceived quality as a transparent conduit to the creator's physical presence is one that Morris and other theorists have argued that digital artifacts cannot achieve, Rothstein's emotional reaction to the digital Declaration of Independence, not in spite of but *because of* its digital presentation, suggests that an oppositional dichotomy between the emotionally meaningful handwritten document and the emotionally hollow digital artifact inadequately captures the potential of interactive exhibits to disrupt assumptions about embodiment and artifactuality. As digitally manipulable representations of handwritten documents, these displays couple viewers' emotional reactions to the sight of handwriting with the perception of digital transparence, offering users a means by which to understand creators' minds, hands, and bodies as accessible through digital, rather than physical, means. As such, these interactive exhibits pave the way for a new paradigm for exhibitions, the eventual "display of floppies" that, two decades ago, some believed would never come to pass.

Interactive digital technologies, after all, are often designed to increase users' access to rare and fragile material while protecting the originals from the stresses of repeated handling. Due to the extreme brittleness and fragility of the specimens in Emily Dickinson's herbarium, for example, Houghton Library restricted virtually all access to the book shortly after its arrival there in the 1950s, placing it in a vault where it has remained ever since [L. Morris 2006, 12–13]. Nevertheless, black-and-white photographs, a published color facsimile, and now, interactive kiosks can provide users with the opportunity to engage with the herbarium. From this perspective, such technologies speak to cultural fears about the loss or degradation of human embodiment in yet another way. Just as medical technologies are designed to prolong the human body with surrogate body parts that ease the workload on the original part, enhance its functional abilities, or replace it entirely, so do digital technologies prolong the physical manifestation of the artifact by substituting for, and enhancing, its capabilities. The current debate in the field of digital preservation over what constitutes a handwritten document's essential elements — whether it includes the material on which it was written, the ink and visual properties of the script with which the words were traced, or the information those words carry, to name only a few potential significant properties — not only functions as a metaphor for but is in some ways inseparable from the debate generated by advances in biomedical technologies over whether the human body is a disposable container for or an integral element of humanness.[27] This is not merely a facile comparison; rather, as I have argued here, the creator's embodied presence is embedded within the cultural value that has historically been placed upon handwriting. Thus, the renegotiation of our understanding of handwriting in a digital age is inextricably bound up with our evolving understanding of the expanding limits of the human body. Morris's concern that pixels cannot represent the warmth and immediacy of human thought is, in fact, a concern about the dehumanization of technology. His resulting prediction that "museums are not about to display the floppies of any contemporary Flaubert" is as much a claim about the extent to which artifacts are defined by their physical containers as it is a claim about what makes artifacts worthy of display. Yet a recent exhibition on the works of Salman Rushdie at Emory University, "A World Mapped by Stories: The Salman Rushdie Archive," demonstrated not only the exhibition potential of just such born-digital objects, but also the potential

ability of such objects to reveal their creator's presence and intention. Emory developed emulations of Rushdie's original computers to allow researchers not only to see but also manipulate the files as Rushdie did when he worked with them. [28] At the exhibition,

> visitors can log onto a computer and see the screen that Mr. Rushdie saw, search his file folders as he did, and find out what applications he used. (Mac Stickies were a favorite.) They can call up an early draft of Mr. Rushdie's 1999 novel, *The Ground Beneath Her Feet,* and edit a sentence or post an editorial comment...It may even be possible in the future to examine literary influences by matching which Web sites a writer visited on a particular day with the manuscript he or she was working on at the time. [Cohen 2010] [29]

These materials, handwritten but not in the traditional sense, not only redefine the relationship between the body of the creator and the body of his work, but also invite questions about what constitutes a body in the first place. Rushdie himself described Emory's archive as "my life with barcodes," imagining an existence defined and structured by digital apparatus; at the same time, alluding to a physical body behind the archive, he said of turning over his papers to Emory that "it does feel a bit like undressing in public" [Williams 2012]. Morris's reluctance to imagine an exhibition of floppy disks, then, is indicative of a previous paradigm, in which an artifact's content could not be separated from its container. [30] Nevertheless, the essential replicability and migratory capabilities of digital objects reveal that although content and carrier are sometimes interdependent, they are separate entities: digital information does not rely on its physical carrier in the same way as does analog information.[31] Yet, as Rushdie's sense of nakedness suggests, the body of the creator and the body of his work cannot be severed from each other without discomfort, either. The Rushdie exhibition, then, offered visitors a new paradigm in which to consider a digital artifact's value in the context of a physical as well as cultural and intellectual network, demonstrating how pixels may, in fact, be able to represent the "warmth" of human thought, effort, and intentionality, and, in the process, offering new ways of considering what an artifact essentially *is*. The convergence between archivists' attempts to identify a digital object's essential meaning and posthumanist concerns about the potential disposability of the human body presents the possibility for a profounder consideration of the ways in which the digital enhancement of handwriting, so closely allied with the hand as a synecdochic representation of the human body, facilitates discussion about what it means to be human in a digital age.

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In the Middle Ages, the inclusion of a sign of the cross on Edward the Confessor's seal was an appropriation and reinterpretation of that older handwritten mark of authentication. Now, as we enter the first decades of the twenty-first century, the venerable technology of handwriting as a communicative medium has not yet disappeared. Rather, it has consistently functioned as an important site of cultural complexes about embodied identity, within and against which a growing array of new media continues to situate itself, a process that is bound up with the ways in which a growing array of biotechnologies are prompting continual remediations of the human body. Through these displays of the traces of human hands, then, the multivalent negotiations, frictions, and alliances between technologies and human bodies can come into view.

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Notes

[1] Though this bibliography is substantial, a representative sample includes [Allyn et al. 1987]; [Dutka et al. 2002]; [Kemp and Witschi 1997]; [Tedeschi 1997]; [Brown and Power 2006]; [Nicholls 2003]; [Bowen and Roberts 1993]; [Brannock 2009]; [Brannock 2009]; [Brazer and Wyman 2001]; [Casterline 1980]; [Everhart 1989]; and [Harvard 1987].

[2] For a notable exception, see [Neef 2006].

[3] There is some ambiguity in the term "autograph": though it can refer specifically to a person's signature, it can also mean any writing in one's own hand. Throughout this paper, I use the term in the sense of this latter, broader definition.

[4] Quoted in [Neef and Van Dijck 2006, 11].

[5] For other scholarship on the legality of signatures, see [Dekeyser 2006] and [Grusin 2006].

[6] All three preceding quotations originally quoted in [Shaddy 2000, 58, 62, 64].

[7] Also see [Harvey and McGuinness 1996].

[8] Also quoted in [Clanchy 1993, 309].

[9] Quoted in [Clanchy 1993, 307].

[10] Also see [Clanchy 1993, 295].

[11] Also see [Harvey and McGuinness 1996, 1–2]. Accordingly, the medieval signer of a charter for Chester abbey notes the presence of both the seal and the signs of the cross that follow each signatory's name: "I, Earl Hugh, and my barons have confirmed all these things in the presence of Archbishop Anselm [of Canterbury] not only by my seal but also by the seal of Almighty God, that is the sign of the holy cross, so that each of us makes a sign of the cross with his own hand as evidence for posterity" ("Ego comes Hugo et mei barones confirmavimus ista omnia coram Anselmo archiepiscopo, non solum sigillo meo sed etiam sigillo dei omnipotentis, id est signo sancte crucis + , ita quod singuli nostrum propria manu in testimonium posteris signum in filii eius" [Barraclough 1988, 7]). For the English translation, see [Clanchy 1993, 313]. Earl Hugh opposes his own mechanically-produced seal to the sign of the cross he makes "with his own hand," which he describes as "the seal of Almighty God, that is the sign of the holy cross." The handwritten cross, then, functions as a conduit for God's will; moreover, it indicates the presence not only of its human creator but also of the divine Creator, for it both commemorates and reproduces Christ's crucifixion, the culmination of God's embodied presence on earth.

[12] The testimony of handwriting experts is not unproblematic. In the 2007-2009 trial over the legitimacy of a codicil in Brooke Astor's will, for example, both defendant and prosecution used competing testimonies of handwriting witnesses [Antrim 2009]. At the same time, the development of new forms of digital handwriting authentication technologies offers critics opportunities to pose new questions about the ability of handwriting to stand in uniquely for its creator. Currently among the foremost of these technologies is dynamic signature verification, "a behavioral biometric modality that analyzes dynamic characteristics of an individual's signature, such as shape of signature, speed of signing, pen pressure when signing, and pen-in-air movements, for recognition" [Defense 2007, 164]. For a discussion of potential problems with dynamic signature verification, see [Ballard et al. 2006]. For a discussion of and problems with biometric security measures more generally, see [Woodward 2003].

[13] For more on handwritten crosses as signifying divine authority, and for another perspective on seals' relationship to individual identity, see [Bedos-Rezak 2000, 1511].

[14] For a history of typographic development that leads away from handwritten models, see [Ponot 2002]. For an excellent study of the history of handwriting, to which this overview is greatly indebted, see [Thornton 1996].

[15] Reagan's letter has also been reproduced in facsimile in [Cannon 2000, xvi].

[16] In addition to Halliwell and Mousley, many others have articulated various facets of what has been called a theory of the posthuman, though the term is controversial and holds different meanings for different scholars. See especially [Hayles 1999]; [Haraway 2004]; and [Waldby 2000]. For an overview of the discourse on posthumanism, see [Wolfe 2009].

[17] Also see [Osborne 1997, 181]; [Rose 1994, 52]; and [Haraway 1997, 11–12]. For Foucault's writings on the politics of health and bio-power, see [Foucault 1990, 133–60]; and [Foucault 1980, 166–82].

[18] Both preceding quotations originally quoted in [Thornton 1996, 129–131].

[19] On Nelle's role as Reagan's letter writer, see [Darvick 1985]; cited in [Reagan 2003, 837].

[20] Originally quoted in [Thornton 1996, 32].

[21] The decision to forego the placement of paintings behind glass and acrylic is primarily aesthetic: though paintings can be better protected from vandalism and environmental stress this way, they do not display as well. According to Emil Bosshard, the light reflection "spoils the aesthetic pleasure of viewing the work of art" [Bosshard 1994, 89], while Jill Snyder specifically mentions the unpleasant distancing effect of a glazed surface for viewers of paintings on canvas: "While increased protection may be assured by placing a painting behind glass or acrylic, the average artist often rejects this method for cost as well as for aesthetic reasons. Keep in mind that a painting whose surface has been carefully protected by varnish will already possess some defenses against environmental dangers. An exposed canvas also enhances the viewer's ability to appreciate the qualities of depth and texture associated with a painted surface, and the distancing caused by a glazed surface often bars

access to these details" [Snyder 1990, 79].

[22] On cult value, see [Benjamin 1978, 223–4].

[23] Not all cultural institutions, it should be noted, are alike. Jay Levenson has argued that art museums are more reluctant than other kinds of institutions, including history and science museums and libraries, to display reproductions and facsimiles, digital and otherwise, due to an operating principle that has historically privileged "the centrality of the [original] work of art" [Levenson 1998, 98].

[24] Interactive exhibits have received considerable attention from museum scholars. Some scholars have criticized them as part of a trend towards the consumerization and commercialization of culture, while others have critiqued the way in which they encourage users to substitute preprogrammed links for their own mental associations. See [Griffiths 2003, 376]; [Henning 2006, 311]; and [Manovich 2001, 61]. Advocates of new media, on the other hand, "celebrate its democratizing potential, its ability to make multiple viewpoints available, to turn visitors into authors, and to engage people in the production of their own stories" [Manovich 2001, 315]. For more discussions of interactive media, see [Prior 2003]; [Witcomb 2006]; [Mintz 1994]; [Dilevko and Gottlieb 2003]; [Macdonald 1998, 13]; and [Weil 2002, xv].

[25] For discussions about perceptions of transparency and opacity of computer interfaces, see [Bolter and Grusin 1999, 31–34]; [Henning 2006, 311–2]; and [Manovich 2001, 65]. Indeed, the perceived immediacy of the computer screen intensifies as keyboard and mouse give way to the so-called "natural user interface" exemplified by the touch-screen technology many exhibition kiosks employ. According to Eric Horvitz, a scientist at Microsoft Research, "It's part of the general trajectory we're on in the computing industry — this whole notion of making computers more open to natural human gestures and intentions…The future's going to be in fusing together several different natural human behaviors — how people point, gesture and coordinate with each other…Touch is a beautiful tip of the iceberg for talking about where things are really headed" [Miller 2010].

[26] Studies suggest that interactive media do help to draw visitors into exhibitions as well as increase the amount of time they spend there; see [Witcomb 2006, 354]; and [Stevenson 1994]. Visitors' responses to interactives are generally positive; see [Griffiths 2003, 375]; [Dierking and Falk 1998, 66]; [Keene 1998, 31]; and [Morrissey 1991]. COMPASS (Collections Multimedia Public Access System), for example, a project begun by the British Museum in 1997 to make the museum's collections available on interactive kiosks and the Internet, also allowed the museum to track users' behavior. According to David Jillings, the head of new media at the British Museum, "We logged around 800 hours of unsupervised public use on five workstations during April this year [2002]…We recorded some 2,250 user sessions. The average user session was 21 minutes. The average number of museum artifacts looked at in each session was 18. Over 24,000 searches of the database were made, and some 66,000 records were displayed on screen in total." See [Callender 2002] (cited in [Henning 2006]). Yet at least one scholar has cautioned against the use of interactive media to measure and quantify visitor experience. The abilities of COMPASS and other digital systems to gather quantitative metadata about their use "translate [visitors] into data to be processed," and Michelle Henning warns that increased numbers do not necessarily correlate with an improved learning experience [Henning 2006, 312, 314]. For more on human-computer interfaces, see [Manovich 2001, 69–93].

[27] For discussions from an archival perspective about digital artifacts' significant properties, see [Hedstrom 2002]; and [Hedstrom et al. 2006].

[28] "Salman Rushdie Archive to Open Feb. 26." January 2010. http://shared.web.emory.edu/emory/news/releases/2010/01/salman-rushdie-archive-to-open-at-emory.html. Accessed September 14, 2010.

[29] It should be noted that Emory is, at the time of this writing, unique in developing such an extensive emulation of a single collection. While their approach has garnered much admiration, emulation is also expensive and time-consuming, raising barriers to more widespread implementation. See [Light 2010]. For more on the benefits and challenges of emulation, see [Digital Preservation Testbed 2003]; [Rothenberg 1995].

[30] On the differences between physical and digital records, see [Pearce-Moses and Davis 2008]; and [Bearman 1996]. The potential for migration of digital records as a means of preservation implies the changeability of the digital record's container, although scholarship on this subject also acknowledges the ways in which migration can alter the record's information. See [Mellor et al. 2002].

[31] For articulations of this argument, see [Digital Preservation Testbed 2003, 25–6]; and [Swade 1998].

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