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Signature Identity Content: Handwriting in an Age of Digital Remediation

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Signature



Content: Handwriting in an Age of Digital Remediation



On the morning of December 10, 2003, I opened my Eudora in-box to find an unread e-mail message from a person I had never met, named Sonja Neef, with the intriguing subject line: 'Invitation'. Opening the e-mail, I was flattered to find a letter inviting me to be the keynote speaker at a conference on 'remediating handwriting' planned for Weimar the following June. The letter concluded conventionally with 'Best regards, Sonja Neef'. But because it was an e-mail letter, it lacked the conventional handwritten signature of a printed letter. Instead, beneath the customary signatory formulation on this electronic letter, which (like the letter itself) Dr. Neef had composed specifically for the purpose of inviting me to this conference, was another signature, her 'SIG file', which (like her return address at the top of the e-mail message) had already been composed before she began writing this letter, and was included as part of the automated formatting of her e-mail program.¹ Underneath this SIG file was an icon indicating the presence of the attachment referred to in the body of the message, a document in Microsoft Word entitled 'ReMediating Handwriting'.

Although in 2003 there was nothing at all remarkable about such electronic epistolary details, in the context of a book on handwriting in an age of new media this unremarkability is worth considering. Ten years ago, an invitation like this one would most likely have arrived in the form of a word-processed and printed letter; twenty years ago it would have probably arrived as a typed letter; a century ago it would have arrived as a handwritten letter. Differences in the materiality of mediation aside, there is one thing that all three of these historically hypothetical letters would have had in common: they all would have come with a signature in Sonja Neef's hand. While the materiality of the medium for composing such a letter has changed in the past century from handwriting to typewriting to word-

processing to e-mail, it is only with the advent of e-mail that we have witnessed a change in the materiality of the signature from a handwritten autograph to a pre-mediated digital signature file. What are the implications of this change?

One obvious implication is temporal or sequential. In print or handwritten letters, the signature has, historically, come at the end of the process of composing the letter. The last thing that the letter writer writes, the signature marks the letter as an authentic expression of the signatory; it marks the letter as a communication underwritten or authorized by, or accountable to, the signatory. In e-mail the SIG file and return address that authorize and authenticate the communication are written prior to the composition of the letter; they are pre-mediated. In other words, unlike a conventional handwritten signature or return address, the SIG file and return address are already 'written' at the beginning of the process of composing an e-mail, upon the initiation of the command to compose a new message; indeed in some sense they constitute the medial or technological condition of possibility of an e-mail message. In e-mail the SIG file and return address exist prior to anything that the letter writer writes, says, or promises; the letter is marked as authorized by its sender before it is even composed. Of course, one might contend that it is only after the e-mail is written or sent, when the signatory gives the command to send the message, that the signature and return address are actualized. But the same is true of a hand-signed letter sent through the mail; clicking 'send' is only the digital equivalent of mailing the letter. Alternatively, one might counter that in some sense such temporal premediation has always been the case insofar as the epistolary conventions informing handwritten signatures have always pre-existed any specific instance of letter writing. This is undoubtedly true; letter writing has for centuries been a regularized and conventionalized genre. Nonetheless, the premediation of the signature and return address still constitutes a temporal and sequential reversal of the acts of writing a letter and signing it, a material remediation of the handwritten signature whose consequences should not be dismissed or overlooked.

In addition to this shift in the sequentiality of the signature and the letter, there is a difference in what we might call the 'content' between a handwritten signature and a SIG file. As famously cited by Jacques Derrida, in an essay to which my title alludes, J.L. Austin maintains that the handwritten signature functions as the guarantor of the authenticity or originality or uniqueness of one's written expression, standing in the absence of the writer in the same relation to the written utterance as a speaker's body does to the spoken utterance (Derrida 1984, 307-330). As the unique mark or index of the signatory's name, which itself has been seen by philosophers of language to bear an indexical relation to its reference, the handwritten signature does not refer to a group or class of individuals, but only to the particular individual who has done the signing. Derrida challenges Austin's belief that the signature is categorically distinct from other forms of writing. Austin would distinguish the signature (and similarly speech) from writing because writing is iterable and citational but a signature (or a spoken utterance) is not. Derrida, on the other hand, argues that iterability and citationality are the properties of all communicative acts, written or spoken. For Derrida speech acts and handwritten sig-

natures are both forms of writing insofar as they are iterable and citable like any other written utterance; handwritten signatures do not provide any fundamentally different relation to their authors than do speech acts or any other forms of writing.

At the beginning of the 21st century, iterability and citationality are among the hallmarks of digital media, serving as sources both of creativity and of crisis in contemporary communication and culture – as evident in such practices as sampling, rip 'n' burn, P2P software, piracy, or the proliferation of computer worms and viruses. Unlike the supposed uniqueness and authenticity of the handwritten signature, the SIG file is theoretically infinitely reproducible. The SIG file functions to identify the writer's coordinates within a complex web of heterogeneous institutional, geographic, and telecommunication networks. The handwritten signature has a temporal, indexical function, with the graphic inscription attesting that the signatory had been present at the writing of the letter. The SIG file, on the other hand, has a spatial, locational function, attesting to the institutional position, geographical location, and telecommunicational coordinates of the signatory.

In this essay, I consider how something like the premediation of the signature in one's SIG file speaks to the issues raised by Derrida's critique of Austin. In other words, at the present historical moment, what does it mean for the premediated signature (as constituted precisely by the iterability, citationality, and alienability of digital mediation) to take the place of the handwritten signature (as a form of mediation indexically bound to the 'original' context of its performance as an event)? More broadly, I want to explore the ways in which the premediation of one's image, the audio-visual, digital remediation of the self, is beginning to stand along with, if not exactly eclipse, the signature as the juridical mark of one's intentionality and legal responsibility/accountability. I will argue throughout that the regime of handwriting as guarantor of conscious, legal, or political intention is making way for a regime of digital imaging. My aim is not to claim that digital remediation is somehow categorically distinct from writing, or is taking its place, but that writing and remediation alike share features of iterability, citationality, and alienability, even if these features manifest themselves differently in different technical media and at different cultural and historical moments.

Before moving into the body of my argument, I should say a couple of words about what I mean by 'premediation'. Premediation is a concept I have been developing to account for a particular aspect of the logic of remediation that Jay Bolter and I had overlooked at the end of the 1990s, an aspect of remediation that has been emerging for some time, but which has become much more acutely manifest after the shocking events of September 11, 2001. In a recent article, I have defined the threefold desire that motivates the logic of premediation at the beginning of the third millennium (Grusin 2004, 17-39). First, where remediation entailed the re-fashioning of prior media forms and technologies, premediation entails the cultural desire to remediate future media forms and technologies. This desire is quite visible in recent Hollywood cinema – in the VR-like 'wire' in Kathryn Bigelow's *Strange Days*; in the heterogeneous networked technology of pre-crime and pre-cognition in Steven Spielberg's *Minority Report*; or in the high-powered telescope

that allows one to literally see into the future in John Woo's *Paycheck*. Second, pre-mediation entails the desire to remediate the future before it happens, the desire to never again let catastrophic events like those of 9/11 catch us unawares. This desire to avoid the catastrophic immediacy of watching a plane crash into the World Trade Center live on television, or the Twin Towers burning and collapsing, is evident in the global news media's increasing emphasis away from reporting on the present or recent past and toward pre-mediating events of the future, events which may or may not ever come to pass. Finally, the desire to premeditate the future before it happens is accompanied by a desire to colonize the future by extending our networks of media technologies not only spatially across the globe and beyond, but also temporally into the future. This desire is manifest in the way that the heterogeneous networks of global capitalism work to ensure that the future is always so fully mediated by new media practices, forms, and technologies that it is unable to emerge into the present without having already been premediated in the past.

It is this latter sense of premediation that bears most directly on the issues raised in this essay, particularly insofar as I am interested in thinking through the implications of the fact that in electronic communication the signature is increasingly premediated before the letter or other document it is meant to endorse is even composed. To see the digital signature as premediated is not, I need to insist, to see it as a Baudrillardian simulacrum; despite their apparent affinities, premediation is not simulation. For Baudrillard the

logic of simulation... no longer has anything to do with a logic of facts and an order of reason. Simulation is characterized by a *precession of the model*, of all the models based on the merest fact – the models come first, their circulation, orbital like that of the bomb, constitutes the genuine magnetic field of the event. The facts no longer have a specific trajectory, they are born at the intersection of models, a single fact can be engendered by all the models at once. (Baudrillard 1994, 16-17)

Although it might seem that what I am calling premediation is simply a restatement of Baudrillard's claim that the logic of simulation is marked by a '*precession of the model*', in which 'the models come first' and 'their circulation... constitutes the genuine magnetic field of the event', this is not the case. Where I see the premediation of the future as inseparably connected with the remediation of the present and past, Baudrillard sees the precession of the model in the logic of simulation as marking a radical break with the 'logic of facts' or the 'order of reason' that marked human history prior to the advent of the logic of simulation. Baudrillardian simulation is always marked by the apocalyptic rhetoric of 'no longer': simulation '*no longer* has anything to do with a logic of facts'; 'the facts *no longer* have a specific trajectory' (emphasis added). Unlike Baudrillard's logic of simulation, the concept of premediation imagines neither a world of total entropy or absolute mediation, an endless circulation without meaning, nor an absence of the real or its hyper-reality. Rather, in describing the way in which the future has already been pre-mediated, premediation conceives of this mediation as remediation, as always entailing

the real in relation to prior media forms or previous media formations. In taking up the premediation of the signature at our current historical moment, I do not mean to celebrate or bemoan a radical break with past signatory practices – indeed I refuse to accept Baudrillard’s notion of such a break. I mean instead to historicize both the present and the future in terms of their remediation of past signatory practices – in order to understand the specificity and particularity not only of the present moment’s differences with the past but also of their continuities.

Signature

For some time now, commercially available software has allowed an image of one’s handwritten signature to be incorporated into a printed/word-processed letter. Bill and Hilary Clinton, Robert F. Kennedy, Jr., Robert Redford, George W. Bush, and John Kerry are among those whose handwritten signatures (or, more accurately, printed versions of their signatures’ digital images) have come to me through the mail in recent years. Electronically generated signatures on private and public sector bank checks are now nearly universal. Gone are the days when in 1971-72, as a young cashier at Merrill Lynch, Pierce, Fenner and Smith, my daily responsibilities included typing out in triplicate and co-signing by hand disbursement checks for the brokerage house’s clients. Such checks are now generated and signed by computerized processes and nobody thinks anything of it. The same technology that incorporates an image of one’s signature into an automated accounts payable system or mass-produced marketing letters from celebrities or other public figures, can now be used for electronically transmitted letters as well. So it is no longer unusual to receive an e-mail attachment in Microsoft Word that has a memo or letter with an appropriately placed digital image of the sender’s signature.

Although the e-mail invitation I received from Sonja Neef in December 2003 did not bear her handwritten signature, it could have come with an image of that signature if she had so chosen. The technology to do so has existed for some time now and is readily available on the Web. Indeed, there are any number of different ways in which one can append a signature to one’s e-mail or other electronic correspondence. Some websites offer to send you generic handwritten signatures to use as your e-mail’s sig file. If you choose, you can have this generic signature animated. For a slightly larger fee, you can have your own signature scanned as a digital image and incorporated into your e-mail. And this signature, too, can be animated. While US and international legislation has made electronic signatures legally binding since October 1, 2000, one online purveyor of electronic signatures, LiveSignatures, denies that the products it sells can be considered legal signatures. In response to the first question on its FAQ page, which asks if it is safe to send one’s LiveSignature via the Internet, LiveSignatures implies that because this signature is only an image of one’s signature and not the signature itself, its customers should not worry about their digital signatures being stolen or misused by identity thieves because such signatures are not legally binding (see <<http://www.livesignatures.com/faq-6.asp>>).

If a digital image of one's signature is not considered legally binding, what then would constitute a legal electronic signature? E-SIGN, the Electronic Signatures in Global and National Commerce Act passed by the US Congress in 2001, legislates that a signature cannot be denied to be valid simply because it is in an electronic or digital format.² Businesses and governments may implement electronic signature technologies that can, with certain exceptions, function in place of written signatures. Because of significant differences between the media of paper and electronic documents, however, E-SIGN stipulates some interesting preconditions to the acceptance of electronic signatures, ostensibly with an eye towards protecting the consumer. The E-SIGN act requires governments or businesses seeking to substitute electronic for paper documents to ensure that:

the consumer consents electronically, or confirms his or her consent electronically, in a manner that reasonably demonstrates that the consumer can access information in the electronic form that will be used to provide the information that is the subject of the consent. ('E-SIGN', 101(c)(1)(C)(ii))

Furthermore, the E-SIGN act directed the US Department of Commerce and the Federal Trade Commission to conduct a study within 12 months of the passage of the bill on the benefits and burdens to consumers and businesses of the provisions set forth in the consumer protection sections ('E-SIGN', 105(b)). This study was based largely on a public workshop consisting of 'moderated round table discussions with representatives from industry, government, consumer advocate groups and other interested parties'.³ Among the study's conclusions is that by requiring 'businesses to obtain from consumers electronic consent or confirmation to receive information electronically that a law requires to be in writing', the E-SIGN act insists 'that the e-commerce business determine whether the consumer has the ability to receive an electronic notice before transmitting the legally required notices to the consumer' ('E-SIGN Consumer Consent', III.A.1). According to several of the publicly solicited comments from the workshop, this consumer protection provision:

ensures that the consumer has access to a computer and to the Internet; ensures that the consumer has access to the software necessary to open the documents that are to be transmitted electronically; and raises the consumer's awareness of the importance of the documents received and the importance of receiving the documents electronically. ('E-SIGN Consumer Consent', III.A.1)

As all of these comments make clear, the E-SIGN Act marks a recognition by US government, industry, and consumer advocate groups that electronic commerce and electronic signatures cannot exist, nor can they have any legal or commercial efficacy, without having already been premediated. The requirement that consumers consent in advance to doing business electronically (or more accurately allowing themselves to sign electronically and receive legally mandated reports electronically) recognizes that there must be a premediated network in which the consumer

participates and within which the consumer knows how to act. This confirmation must of course be in advance of the implementation of electronic signatures or delivery of electronic documents that the law already stipulates must be in writing. This legally required premediation does not, as Baudrillard might have it, do away with individual agency or meaning in favor of an endless circulation of digital mediation. On the contrary, it defines the terms and conditions through which juridical and economic agency function in our current historical moment.

The E-SIGN Act is generally regarded as technologically neutral; it does not specify any particular technology that can or cannot count as an electronic signature, which it defines simply as any 'electronic sound, symbol, or process, attached to or logically associated with a contract or other record and executed or accepted by a person with the intent to sign the record' ('E-SIGN', 106 (5)). While this definition is vague enough that it could (under the right conditions) cover such digital images of signatures as those offered by online businesses like LiveSignatures, the E-SIGN act has fostered the development and marketing of several different products to capitalize on these new possibilities, including digital certificates authorized by public key infrastructure (PKI), fingerprints, iris scans, and handwritten electronic signatures. All of these electronic signature technologies use algorithms to support some form of certification, encryption, and decoding; the latter three technologies all connect the electronic signature function to the presence of the human body at a particular place and time.

For the purposes of this essay, the most interesting of these technologies is, of course, electronic signature technology, which begins by capturing a handwritten signature via handwriting recognition software, then transforms the captured signature algorithmically into an encrypted file which is bound to the document, stored in a database, and able to be decrypted as visible signature at the end. Current technology not only stores the signature as an image, but also stores biometric data connected with the signature process to provide an extra element of security in guaranteeing that the signature was not forged by another person or otherwise faked. The deployment of biometric verification relies upon the assumption that written signatures are premediated in the body as something like an automatism, not unlike the way in which a sub-routine, or JavaScript, or embedded program can be premediated in a website or other digital artifact. The idea behind these biometric measurements, then, is that the body itself is a medium, or perhaps an engine of mediation; such practices or actions as signing one's name or writing by hand are understood to exist as habitual automatisms that, when triggered, operate in the same way every time to produce the same handwriting, the same signature.⁴ These automatisms are understood to be built into the body, not unlike the way that SIG files or return addresses, for example, are built into your e-mail program.

One US company that is aggressively marketing this new electronic signature technology is Interlink Electronics, which offers a Flash video on its website to tout its new E-Pad product line.⁵ The voice-over on Interlink's marketing video dramatically demonstrates the way in which proponents of electronic signature technology seek to preserve the traditional role played by the handwritten signature even

while capitalizing on the opportunities brought about by newly legalized electronic signatures, contending that: 'Interlink's E-Pad captures the traditionally accepted personal handwritten signature, biometrically transforming it for secure use in the digital domain' ('Electronic Transactions', 2005). The video opens with a more elaborate version of this double gesture, aiming both to preserve the historical role of the signature and to remediate it for the digital revolution:

As individual as DNA, the personal signature has been used for hundreds of years to close letters, finalize agreements, certify applications, and authorize transactions. Recent legislation, however, has sparked a revolution in the way personal signatures are used. Throughout most of the world electronic signatures are now considered to be as legally binding as those written on paper. E-PAD, from Interlink Electronics, is an electronic signature solution, that employs the time-tested handwritten signature, capturing and converting it to a biometrically secure e-signature, that once bound into an electronic document, cannot be removed, reused, or altered.

As one example of the persistence of the handwritten signature in an age of digital remediation, Interlink Electronic's new 'electronic signature solution' reflects the corporate and cultural desire that 'the digital domain' will hold on to the stability of an older techno-juridical regime in which handwriting is seen to have an unalienable relationship to identity.

Because of this supposedly inalienable relationship, which the Interlink video updates for the 21st century by likening the uniqueness of one's signature to the uniqueness of one's DNA, signatures have played a key role in authorizing or guaranteeing one's legal or economic agency in modernity. Historical understandings of the exact nature of this relationship, however, have changed over the past two centuries or more. The Romantic sense in which handwriting is seen to reveal one's character by proceeding from the unconscious as an automatic gesture, has given way to the more modern sense in which the signature is connected physiologically (or now biometrically) to one's distinct, unique identity not as a representation of one's character but as an automatized guarantor of one's legal, contractual, economic agency (Thornton 1996, chapters 3 and 4). Although in electronic signature capture the distinctiveness of one's handwriting is authenticated by means of a series of networked information protocols, the signature continues to function as a unique marker of identity in these remediated electronic signature technologies. The handwritten signature is biometrically recorded so that electronic signature technologies can continue to provide assurance that the digitally encoded signature has not been stolen or hijacked or pirated by another.

Identity

Legislation like the ESIGN Act (and its counterpart, the European Union Electronic Signatures Directive), as well as the technological and juridical practices of electronic signatures that have been developed in conjunction with such legislation, reflect the way in which the notion of the signature as an irreducible and inalienable marker of identity persists in an era of digital remediation. In US (and increasingly global) culture, however, there are many indications that this historical sense of stable identity is making way for a notion in which one's relation to one's identity is much more fluid and changeable, in which one's identity is coming to be marked not by one's handwritten signature but by one's digital image. And it is indeed precisely because digital images (like other digital mediations) are, unlike one's signature, in theory nearly infinitely reproducible and remediable, that technologies like electronic signature capture have been developed to authenticate contractual identity in a digital age.

The coexistence of these two different regimes of identity is plainly visible on the websites of the Motion Picture Association of America (MPAA) and the Recording Industry Association of America (RIAA), both of which include links to the two organizations' jointly authored 'Corporate Policy Guide to Copyright Use and Security on the Internet'.⁶



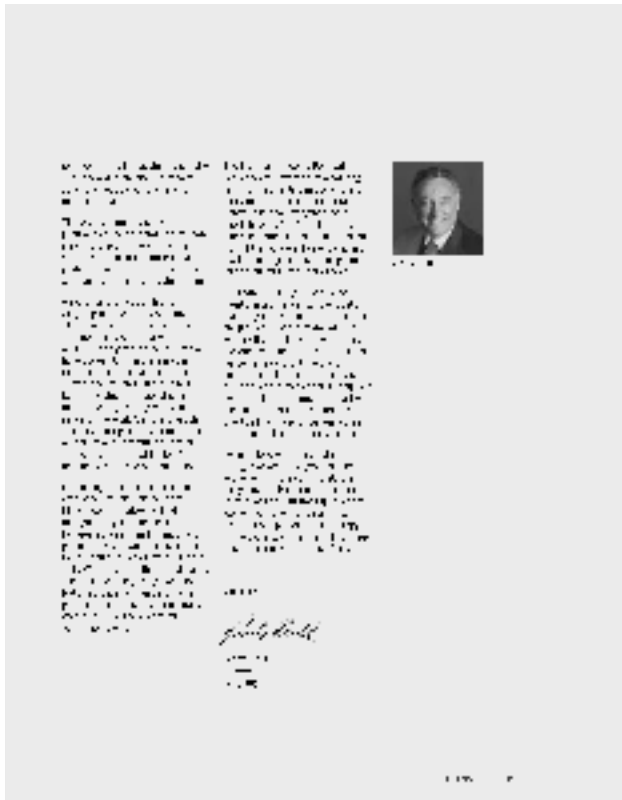
1. MPAA/RIAA Letter

This policy guide is authorized and authenticated by an introductory ‘Open Letter to America’s Corporate Leaders’ from Hilary B. Rosen, chairman and CEO of the RIAA, and Jack Valenti, president and CEO of the MPAA. The letter is signed by Rosen and Valenti, with their digitally reproduced photographs added underneath their names and titles. In their letter, the two CEOs explain that the document addresses ‘the problem of copyright theft in the corporate and office environment’, a problem exacerbated by the fact that digitally encoded films and sound recordings can be illegally copied and reproduced without permission. The MPAA-RIAA document itself is presented as a PDF file, which cannot easily be sampled; for example, the photos of the two signatories cannot, as with most images on the web, be easily copied and pasted elsewhere, nor can the two signatures. Yet the Corporate Policy Guide also includes a sample memo to employees that is meant to be used by corporate management teams to put their own MPAA- and RIAA-sanctioned policies on use of copyrighted material into place; samples of such policies are also included in the online document.



These sample memos and policies, unlike the copyrighted material they are meant to protect, are intended to be borrowed and appropriated, presumably without citation or acknowledgment, from the MPAA-RIAA document – even while being presented in a digital format (PDF) that makes such borrowing more difficult than if the sample memos and policies were available as downloadable Word files, for example. This joint document enacts and promotes one position on borrowing the work of others even while advocating another. And these two positions on expression – as the inalienable private property of its author and as sharable, reproducible common property – are enacted in the doubled ‘signatures’ of the authorizing letter.

The format of this letter is a fairly typical remediation of the format of the print letter, which adds to the digital images of the handwritten signatures digitized photographic images of the letter’s two signatories as another kind of signature or authorization or identification. Indeed we find a very similar format in a letter on the Citigroup website, in which Sandy Weill, chairman of Citigroup, Inc., reports on the company’s corporate citizenship efforts for 2003 (see May 23, 2005, <http://www.citigroup.com/citizen/community/data/citizen03_en.pdf>).



3. Citibank Letter

But what makes this joint MPAA-RIAA document particularly interesting is the way in which the open letter's supplementation of the signature with the digital image emblemizes the two regimes of copyright, authorship, or ownership that are contesting one another with regard to current digital media practices – an older regime in which identity is authorized or guaranteed by the uniqueness of the signature, and the current regime of digital remediation in which one's word, one's intellectual property, or one's identity, is guaranteed by means of the replicability (or iterability) of digital mediation. Like one's signature in an earlier regime, one's digital image is able to persist independently of the self to authorize one's action, expression, or communication. But because, unlike a handwritten signature, digital imagery is so easily reproducible and changeable, it poses a threat that corporate interests like those represented by the MPAA and RIAA are determined to resist.

These competing notions of identity in our age of digital remediation are very much at play in a 2004 Citibank ad campaign about identity theft, which cleverly links together identity theft with the theft of one's digital, audiovisual image. Aired primarily in the US, this series of television commercials represents the theft of one's identity not as the loss of one's financial information or the unauthorized access to one's digital data, but rather as the loss of control over one's audiovisual image, the hijacking or appropriation of one's body as if it were a puppet. In these commercials the video image of a person talking is accompanied by an audio track of the words of the person who has stolen their identity. In each case the two identities are cross-gendered. The ads also suggest other differences between the voice of the thief and the body of the victim in terms of age, class, race, and ethnicity. In one commercial, for example, we see a video of a young African-American woman, 'Sandra T.', seated in a beauty salon, drying her nails and soaking her feet in a Jacuzzi; the woman speaks to the camera, however, in the voice of a young white male nerd or geek, bragging about how he broke through her firewall, stole her account number, and purchased a 64-inch screen plasma television and a 'girl robot' for his prom date. In another commercial, a working-class white man, Jake B., is sitting in a leather chair in what looks like his den or television room; he speaks to the viewer in the voice of a young woman with a New York accent, who brags about emptying his checking account, going to the mall, and buying 'a sexy little outfit', spending '\$1500 for a leather bustier' that 'lifts and separates'. In these Citibank commercials the metaphor of identity theft – the illegal use of another's financial, political, or legal information – is literalized. Identity theft is represented in these ads as stealing and manipulating somebody's mediated image, as one person making another person's self say what the first person wants, making one's self do (in terms of its function as a consumer) what another wants. Rather than depicting what might actually happen in case of identity theft, i.e., an identity thief acting in his or her own body as if he or she possessed the identity of another (consuming or spending or contracting as another), this commercial reverses the 'real' situation, and has the audiovisual image of the person whose identity has been stolen speaking in the voice of the identity thief, who is manipulating that person's body, not its information or its credit.⁷ Rather than presenting identity theft as the channeling of the victim's information through the thief's body and actions, these

commercials present identity theft as a kind of body-snatching, a channeling of the thief's voice and actions through the body of the victim.

Fallon, the advertising agency responsible for this television campaign, followed it up with an analogous print campaign, in which still photographs of the victim of the identity theft are portrayed in the situations in which the identity thief has used their credit (see May 23, 2005. <http://www.magazine.org/advertising_and_pib/kelly_awards/Winners_and_Finalists/11682.cfm>).



Rather than depend upon the shock value of an incongruity between body and voice, these print ads depend upon the shock value of the incongruity between the body of the victim and the action or situation in which he or she is placed. Thus one ad shows a middle-aged woman being given a tattoo in a tattoo parlor. A second presents a bearded, overweight man in a sleeveless gray T-shirt, holding a can of soda or beer, asleep under a hair drier in a beauty salon, next to three younger women. The tagline for each ad is 'It didn't seem right to us, either', emphasizing Citibank's 'early warning' protection, which looks out for purchases that don't match a profile of a user's purchasing history. Like the television commercials, these print ads work by reversing the identity theft situation, imagining that the identity thief manipulates not simply the victim's credit, but the victim's digital image as well, as if one's identity was in fact the sum total of one's financial information.

Where the Citibank ads seem chiefly concerned with the crime or scandal of manipulating another person's digital image, the 19th-century legal and economic system was preoccupied with the scandal of manipulating another's signature, and was thus largely concerned with the problem of preventing forgery, in order to maintain the economic-judicial legitimacy or uniqueness of one's signature (Thornton 1996, 101-103). In this earlier model, identity and voice or identity and body (like identity and handwriting), were thought to be inseparably tied together. In fact it is the (explicitly schematized) disjunction between voice and body in the Citibank television commercials that dramatizes identity theft; in so doing, the commercials depend for their force upon the conventional link between voice and body, as well as between voice and self. In this older notion of identity, the conjunction of voice, body, and self, like the identity between one's signature and one's self, authorized or attested to the legal responsibility of the rational individual in an Enlightenment-derived modern capitalist society. This traditional model of identity is now being challenged by new information technologies, which allow this bond to be severed, because one's identity is no longer authorized solely by one's voice or one's handwriting, but also (increasingly) by one's digital image, one's audio-visual remediation. Because this bond can so easily be severed, one's identity (as agent of cyber-capitalism, legally and economically responsible for one's words and actions) can more readily be counterfeited or stolen, and thus one must work to protect one's identity; to preserve the link between one's body and one's voice; between one's words and one's actions. While Citibank's ads portray the victims of identity theft as working or relaxing in their local, domestic contexts, the voices of the identity thieves are the voices of mobile consumers, whose chief crime is extravagant spending of a kind that cyber-capitalism has been structured to accommodate (and indeed to encourage – the identity thieves all seem to be having much more fun in these commercials than their puppet victims). These voices control (at least for the duration of the commercials or ads) both the bodies of the identity theft victims and their credit. This redefinition of identity as analogous to credit is a redefinition of identity as always already premediated, as the totality of one's financial and (by extension) other juridical or institutional information, not as the indissoluble connection to one's body via the voice or the hand. In these ads, iden-

tity is imaged as embodiment even though it is identity as information that has been stolen.

Of course, as Katherine Hayles and others have reminded us, in the digital realm embodiment is information; the audio-visual representation of human bodies is made up of digital code or information (Hayles 1999). This linkage of identity and information informs the Citibank ads, in which the body, or its digitized audio-visual image, is 'forged' or 'stolen', or in certain respects 'played' as something like a character in a computer or video game. In these commercials, to become a victim of identity theft is in some sense to become an 'avatar' for the thief. Indeed, corporations like Citibank understand their customers to exist in relation to their juridico-economic identities in much the same way as game players relate to their avatars. Unlike the distinctive relation between handwriting and character or individuality that was historically imagined to run through the body and the hand, in our age of digital remediation the body (as digital image) is necessarily, by definition, alienable from one's self or identity – and one relates to it as a character or avatar one plays in a game and not as an indissoluble part or expression of self. These ads participate in a broader corporate media effort to displace or exaggerate the nature of the 'theft' to which consumers are vulnerable. Thus, while the mass news media regularly report on the nightmares of people like us having their identities stolen, the threat portrayed by identity theft (charging lots of purchases on another's credit card) is a minimal one – in the US each victim is legally liable for only \$50 per card. So, by equating this financial loss with loss of control of one's body and one's words to another, Citibank's commercials exaggerate the threat to its customers. Although identity theft is being portrayed exclusively as a threat to the individual consumer whose identity might be stolen, it is in fact equally or more substantially a threat to multinational finance companies like Citigroup. Thus, what is also being displaced in this ad is the relation between multinational corporations like Citigroup and its customers, which is, itself, also very much like a relation between a game-playing agent and its avatars. The unmentioned victims of 'identity theft' are corporations like Citibank itself, whose liability is greater in terms of both current and future economic costs because it has millions of dollars at stake in maintaining an e-commerce environment in which its customers feel secure.

Citibank's identity theft ad campaign portrays credit card fraud in terms of a shift from the fear that someone might forge your signature to the fear that someone might hijack and control your digital image. In the process, these commercials dramatize the way in which new digital media have begun to destabilize the historical relationship between one's handwritten signature and one's veracity, liability, or accountability. To say this, however, is not to deny the powerful way in which the signature still operates in political, legal, and cultural discourse. Signatures still function millions of times every day in legal, commercial, and social transactions. Signatures enact laws, close contracts, and authorize actions of innumerable kinds. Nor is it to claim that the instability of the handwritten signature is solely a phenomenon of our digital age. After all, signatures have always been able to be forged and thus have always been subject to challenge, in whatever medium they may oc-

cur. Yet, despite (or perhaps in addition to) the ways in which the signature persists in an age of digital remediation, its challengability or revocability has been heightened in our current digital regime. As digital images replace signatures, what it means to authorize or authenticate one's words becomes less and less clear. The supplementation of the handwritten signature by the digital image appears to signal some kind of shift in the way in which human identity, and thus human accountability or responsibility, is currently understood. It is not (as Baudrillard might say) that the signature 'no longer' functions as it has for centuries now, in order to authorize or authenticate individual agency or responsibility, but that the signature (and all of its digital remediations) functions in a variety of media and formats that may not have been available in an earlier medial regime. Changes in the technologies through which identity and property are licensed, represented, and owned bring with them (or perhaps are brought about by) different understandings of the relationships among writing, self, identity, ownership, and property.



At least since Plato's 'Phaedrus', the question of writing has been tied up with the notion of memory. Indeed this is one of the underlying reasons for the legal efficacy of handwritten signatures, which are meant to stand as written records of an individual's intention that can persist beyond any one or more individual's memories of those intentions. Several recent Hollywood films have dramatized the changing conceptions of the self, not as an internalized essence or quality bearing an inalienable relationship to one's identity, but as a form of digital content, something alienable, made up of, or identified with, a set of mediated, or remediated, audiovisual images and sounds. In these films, memory is increasingly supplemented not only by writing, but also by images. One powerful example is *Memento* (2000), where the main character's short-term memory disorder forces him to use Polaroid snapshots with handwritten notes on the back of the photos to serve in lieu of his memory of people, places, or promises. A more light-hearted treatment of memory disorder can be found in the romantic comedy *50 First Dates* (2004), in which a young woman cannot remember anything past the date on which she had a horrible car accident; at the end of the film her 'memory' is brought back to her each morning by a multimedia presentation that reintroduces her to her husband and daughter, both of whom post-date her memory loss.

The preoccupation with memory and identity also recurs in a number of recent mainstream Hollywood films that have premediated the idea of memory as constituted by a collection of audiovisual images that can be erased and stored by digital technologies. *The Final Cut* (2004), for example, premediates a society in which parents can choose to purchase a biotechnological memory chip to be implanted in their newborn child, which will record their child's entire life as first-person point-of-view audiovisual content. And *Eternal Sunshine of the Spotless Mind* (2004) premediates a different kind of future media technology, one that can be used not to preserve but to erase memories, usually those of a beloved person (or a pet). Al-

though *The Final Cut* premediates a technology that seeks to preserve memories after death and while *Eternal Sunshine* premediates a technology that would erase memories during life, both participate in the current Hollywood project to imagine memory and therefore identity as a kind of biotechnological, networked, audiovisual content.

Perhaps the most interesting of these recent Hollywood films is John Woo's *Paycheck* (2003), in which the question of memory as audiovisual content is also at play. Significantly, the question of memory is here tied directly to the relation between signature and identity. Based on a story by Philip K. Dick, *Paycheck* concerns a software engineer named Michael Jennings (played by Ben Affleck) who uses reverse engineering to pirate other companies' proprietary technologies, in exchange for a large paycheck, hence the title. To protect his employers, however, he signs an agreement prior to commencing each job to have his memory erased from the day on which he receives the paycheck for his completed work to the day before he signed his contract. The film's plot is built upon disjunctions between his erased memory and several instances in which his intentionality is expressed by his signature, contrary to the memories that he retains.

The first disjunction occurs when Jennings goes to collect on his payment for an unusually long three-year job, stock options worth upwards of \$92 million. When he arrives at the financial institution to determine how to invest his earnings, he is told that he had voluntarily signed away his stock options four weeks earlier in exchange for an envelope of miscellaneous, apparently random, personal items. When Jennings (after having his memory wiped according to the contract he signed before beginning the job), discovers that he has somehow been tricked or swindled, that he has signed away his rights to the multi-million dollar payoff in stock options in exchange for an envelope of worthless personal possessions that he does not even recognize as his own, the point that the film underscores is that even in the hypermediated society of the near future signatures abide, that signatures, not memory, have legal (as well as cinematic) force. Although the audience is clearly led to believe, as Jennings himself does, that he has been swindled, that somebody must have signed his name or made him sign his name against his will or intention, it becomes evident well before the end of the film that his signature in fact does signify his intentionality or purposefulness irrespective of apparent logic or reason, or of his memory (or lack thereof). More precisely, however, what the audience (and Jennings) eventually discover is that this signature-authorized intention constitutes a premediation of his future actions that provides him with the clues and the necessary tools that will allow him to escape his pursuers and ultimately to destroy the dangerous technology he has just helped to create through reverse engineering.

The second disjunction between Jennings' signature and his memory occurs shortly after he discovers that he had signed away his paycheck, when two FBI agents apprehend him for patent applications he had taken out on technologies that had been illegally stolen from the federal government, applications that were authorized by his signature. 'These are patent applications', they tell him, as the screen shows a digital image of a government form. 'Look whose signature is on

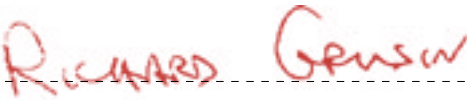
these documents'. The technology for which Jennings had taken out a patent, and which he was then determined to destroy, was a technology literally to pre-mediate the future, to see the future before it becomes reality. This technology is described by the two FBI agents as a visual laser powerful enough for its user to look around the curvature of the universe so completely that he ends up looking back at himself, not in the present or past, but in the future. Despite its fascination with premediation, *PAYCHECK* presents this futuristic technology as a dangerous threat that must be done away with. In so doing, the film ends up maintaining the value of the signature as a genuine expression of self, of intentionality, as against a notion of the self as remediated audiovisual content. Indeed, not only does Jennings succeed in destroying this technology, but, in typical Hollywood fashion, he ends up getting his fortune as well, by having 'seen' the lottery numbers of a future drawing, whose winning ticket is one of the items he has left himself in the envelope.

In *PAYCHECK* the plot elements involving Jennings' signature depend on the legal force of his signature to affirm his intention, independent of his memory or (in the case of his \$92 million) of any apparent logic or reason. Additionally, the invocation of patents can hardly be accidental, as they are precisely part of the older regime of copyright and intellectual property that is currently being challenged by new digital media technologies and practices. *Paycheck* thus dramatizes the conflict between the two competing regimes of identity and memory at play in contemporary culture. Although on the one hand, this film characterizes human identity as a kind of media content, made up of alienable memories and experiences that can be erased from one's memory, by the end of the film it turns out that the intentionality authorized by the signature that gives up the stock options is finally fulfilled, insofar as the items that Michael Jennings receives in exchange for them, prove necessary for him to destroy the technology he had created and to receive even more money than he would have received from the stock options. Despite its fascination with the premediation of future technologies and the portrayal of memory as audiovisual content fundamentally alienable from identity, *Paycheck* finally wants to hold on to an earlier regime of handwriting as key to enforcing or authorizing the intentions of the self independent either of memory or against the audiovisual premediation of the future. Like *The Final Cut* and *Eternal Sunshine*, *Paycheck* participates in Hollywood's (and in a broader sense, multinational capitalism's) double stance towards the cultural practice of remediating identity as digital, or audiovisual, content – a fascination with the idea and with its technological manifestation at the same time that an older notion of the self ends up governing these films' narratives.

I want to conclude, then, by raising some broader questions that need to be explored concerning this double stance towards, or contradictory role of, individual responsibility or accountability in contemporary culture. Does the proliferation of different technologies for authenticating identity in social, cultural, interpersonal, legal, commercial exchange bring with it new and significant implications for our understanding of property, of responsibility, of identity, and other practices that we consider legal or ethical or appropriate? Are ideas of an autonomous individual, of legal rights and responsibilities, of rationalized, consistent positions, of pri-

vate property, rooted in an outmoded Enlightenment notion of self, private property, or freedom, that is bound up with older technologies of writing or mediation, and thus less viable under our current medial regime? Have such ideas, if not perhaps eliminated completely or replaced, been eroded by the emergence of another model, a model of networked identity and action and events in which the self does not exist prior to its actions, and in which the self is not accountable as the source or guarantor of its actions, but rather exists only as the product of an already premediated network of possible actions? Does the desire to premeditate the future, to anticipate structurally all possible futures, many of which will never come about, do away with, or at the very least minimize, the consequences of being contradictory or untruthful?

In an age of digital mediation, my answer to these questions and others like them is inevitably doubled. On the one hand, I feel that the changes in the nature of the signature that I have articulated here, the supplementation of the handwritten signature by the premediated digital image, mark something fundamentally different about the way in which identity functions under the regime of digital mediation. On the other hand, I do not want to be seen as arguing that this difference marks the apocalyptic end of a stable regime of individual agency and responsibility. Instead, I cannot help but suspect that what we are now witnessing is only the latest chapter in an ongoing and constantly changing historical relationship among signatures, identities, and their multiple remediations.

A handwritten signature in red ink that reads "Richard Grusin". The signature is written in a cursive, somewhat stylized font. Below the signature is a horizontal dashed line.

SIGN HERE!

Notes

- 1.** A SIG file is defined as 'A short block of text at the end of a message identifying the sender and providing additional information about them.... A .sig file is [a] small text file (with a .sig extension) that can be automatically attached to the end of email messages. The phrase *SIG file* is also used to identify blocks of text used for similar purposes through different channels, such as discussion group messages. For personal use, SIG files often include humorous sayings or signature art. These can be automatically rotated so frequent recipients do not see the same message every time. For business use, SIG files often include a mix of contact information and business promotion. This may include the sender's name, job title, company name, phone #, fax #, email address, Web site address, tag line and brief benefits of your products or services.' *MarketingTerms.com*. May 16, 2005. Available at: <http://www.marketingterms.com/dictionary/sig_file/>.
- 2.** 'Electronic Signatures in Global and National Commerce Act.' Pub. L. No. 106-229, 114 Stat. 464, 2000 (codified at 15 U.S.C. § 7001 *et seq.*). All references to this act will be cited parenthetically by section number in the text as 'ESIGN'.
- 3.** 'Electronic Signatures in Global and National Commerce Act, The Consumer Consent Provision in Section 101 (c) (1) (C) (ii).' Pub. L. No. 106-229, 114 Stat. 464, Appendix D, 2000 (codified at 15 U.S.C. § 7001 *et seq.*). All subsequent references to this publication will be cited parenthetically in the text as 'ESIGN Consumer Consent'.
- 4.** For further discussion of the body as medium, see Bolter, Jay David, *Remediation: Understanding New Media*. Cambridge: MIT Press, 1999, 236-240.
- 5.** Interlink Electronics is a publicly traded company (Nasdaq: LINK) which describes itself on its home page as 'a world leader in the design and manufacture of intuitive interface technologies and products'. May 23, 2005. Available at: <<http://www.interlinkelec.com/>>.
- 6.** When this address was written in May 2004, the document was linked to both organizations' home pages. The MPAA link was still on its home page as of May 2005 at <http://mpaa.org/anti-piracy/press/2003/2003_02_13.pdf>; last accessed May 23, 2005. As of May 23, 2005, the RIAA link is buried on its press page: <<http://www.riaa.com/news/newsletter\021303.asp>> and the link to the joint document is broken: <www.riaa.com/pdf/brochure2003.pdf>.
- 7.** The idea of identity as a form of what I would call 'premediated' credit is one that Derrida explored in a number of places, most recently in his work on the impossibility of the gift. See especially *Given Time: 1. Counterfeit Money* Trans. Peggy Kamuf, Chicago: University of Chicago Press, 1992.

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