Introduction

LETTERED SELVES AND BEYOND

Reflecting on the relation between the human and the machinic, the cognitive theorist Andy Clark urges "We shall be cyborgs not in the merely superficial sense of combining flesh and wires, but in the more profound sense of being human-technology symbionts: thinking and reasoning systems whose minds and selves are spread across biological brain and nonbiological circuitry." (2006, 1)

Until recently it was possible to believe otherwise. To believe that human organisms and their technologies, however messily intermixed and interdependent, were fundamentally different and in principle could be separated: on the one side, mind and culture and things of the spirit, on the other, tools, machines, and techno-apparatuses; the former invents and uses technology but is not itself, in its 'essence,' technological. Now, as technological systems penetrate every aspect of contemporary culture, bringing about an escalating and radical series of cognitive and social upheavals, it has become clear that no such separation of mind and machine is possible. Nor was it ever. Humans beings are "natural born cyborgs"; the 'human' has from the beginning of the species been a three-way hybrid, a bio-cultural-technological amalgam: the 'human mind'—its subjectivities, affects, agency, and forms of consciousness—having been put into form by a succession of physical and cognitive technologies at its disposal.

Leaving language aside for the moment, which properly speaking is a bio-cultural given rather than a technological medium, the chief mind-constituting technology, "mind upgrade" in Clark's phrase, and the mother of almost all subsequent cognitive upgrades, is writing. Writing in its two dimensions: the writing of ideas, patterns, and procedures whose most focused and abstract realization is the symbolic ecology of mathematical thought, and writing as an apparatus for inscribing human speech and thought among whose multiform achievements is the production of

a literature and of a literate form of discourse, that enables one to read and write texts—such as the present essay—about the nature of writing.

Though I shall touch on some aspects of mathematical writing, my main concern will be with writing as the inscription of spoken language. For Western culture the writing of speech has been exclusively alphabetic, a system which from its inception has served as the West's dominant cognitive technology (along with mathematics) and the medium in which its legal, bureaucratic, historical, religious, artistic, and social business has been conducted. The result has been an alphabetic discourse, a shaping and textualization of thought and affect, a bringing forth of a system of metaphysics and religious belief, so pervasive and total as to be—from within that very discourse—almost invisible. Certainly, for at least the last half millennium the very concept of a person has adhered to that of a 'lettered self,' an individual psyche inextricable from the apparatus of alphabetic writing describing, articulating, communicating, presenting, and framing it. "In the society that has come into existence since the Middle Ages, one can always avoid picking up a pen, but one cannot avoid being described, identified, certified, and handled—like a text. Even in reaching out to become one's own 'self,' one reaches out for a text" (Illich and Sanders 1988, x). The "text," as Steven Shaviro observes, is the "postmodern equivalent of the soul" (1995, 128), a fact only recognized within the newfound interest in alphabeticism over the last two decades.

In the nineteenth century the totality of the alphabet's textual domination of Western culture encountered its first real resistance, its monopoly challenged by new media, technologies of reproduction and representation that have since appropriated many of the functions which had so long been discharged and organized by the alphabetic text: thus the alphabet's hold on factual description and memory was broken by photography; its inscription and preservation of speech sounds eclipsed by the direct reproduction of sound by the phonograph and its descendants; its domination of narrative form, fictional and otherwise, upstaged by documentary and film art; and its universal necessity weakened by television's ability to report or construe the social scene, via images and speech, in a manner accessible to the non-literate.

But this dethroning of the alphabetic text is now entering a new, more radical phase brought about by technologies of the virtual and networked media whose effects go beyond the mere appropriation and upstaging of alphabetic functionality. Not only does digital binary code extend the alphabetic principle to its abstract limit—an alphabet of two letters,

o and 1, whose words spell out numbers—but the text itself has become an object manipulated within computational protocols foreign to it. At the same time the text's opposition to pictures—its ancient iconoclastic repudiation of the image—is being reconfigured by its confrontation with the digitally produced image. With the result that technologies of parallel computing and those of a pluri-dimensional visualization are inculcating modes of thought and self, and facilitating imaginings of agency, whose parallelisms are directly antagonistic to the intransigent monadism, linear coding, and intense seriality inseparable from alphabetic writing.

On a different (but ultimately related) track is the alphabet's reductive relation to the corporeal dimension of utterance, to speech's embodiment. Not only are letters in no way iconic, their visual form having no relation to that of the body or to how the sounds produced by the body's organs of speech are received by those hearing them, but the sounds which the letters notate are meaningless monads, minimal hearable fragments of speech absent any trace of the sense-making apparatus of the body producing them. This disconnect between alphabetic writing and the speaking body occurs most radically at the level of the phrase and the utterance. For what the alphabet eliminates is the body's inner and outer gestures which extend over speech segments beyond individual words. Both those visually observable movements that accompany and punctuate speech (which it was never its function to inscribe) and, more to the point, those inside speech, the gestures which constitute the voice itself—the tone, the rhythm, the variation of emphasis, the loudness, the changes of pitch, the mode of attack, discontinuities, repetitions, gaps and elisions, and the never absent play and musicality of utterance that makes human song possible. In short, the alphabet omits all the prosody of utterance and with it the multitude of bodily effects of force, significance, emotion, and affect that it conveys. It was the recognition of the reductive consequences of this omission, evident early in Greek literacy as soon as speeches were delivered by orators rather than the bards who composed them, that was instrumental in founding the art of Gorgian rhetoric. Since then confronting it has been the driving force in the historical development of all forms of 'prose' and poetic diction along with the reading and writing protocols associated with them.

It is not by chance that this previously ignored gestural dimension of speech should now be of interest. Among other things (its role in Sign language, the discovery of an intimate association between gesticulation and narrative speech, its relevance to voice-recognition software), gesture

and gestural communication (to include haptic and tactile modalities) have become of growing importance within contemporary explorations of body/machine interfaces. A significant component of this reappraisal is the development of motion capture technology, a new digital medium which works by tracking the positions of markers attached to the moving body and recording their paths through three-dimensional space. What is captured as a digital file can include any kind of human (or animal) movement from dance, sport, and theatrical performance to the postures and passing gestures of social interaction. As such, the technology offers the possibility of capturing the entire communicational, instrumental, and affective traffic of the mobile body—projecting the outlines of a gesturo-haptic medium of vast potential. One whose theoretical significance has yet to be thought through, but whose practical realizations are already to be found in art objects and installations, animated film, computer gaming, electronic dance performance, and attempts to create virtual theatre. As alphabetic writing segmented the flow of speech into separate, decontextualized, discrete, and fixed objects of awareness—'words'—that could be examined and compared, giving rise to grammar, its own form of literate awareness, and the study of the resulting written language, so motion capture likewise opens the possibility of a 'gesturology,' a science of gesture that might allow the semiotic body the conceptual space to emerge from under the shadow of spoken language's lettered, disembodied inscription.

This is not of course to proclaim (which would be absurd) the imminent demise of alphabetic writing, or to want for communication in general the equivalent of what Artaud desired in particular for a theatre freed from subservience to written texts—the pre-eminence of screams, silences, and above all the gesturing body as the superior and proper vehicle for theatrical affect. But rather to point to the end of writing's three-millennia hegemony as the result of its ongoing subsumption within a digitally expanded mediational field. It is not, then, its still important and widespread use, but the *regime* of the alphabet that appears to be drawing to a close, the "period of alphabetic graphism" in André Leroi-Gourhan's phrase giving way to an era in which the inscribing of speech sounds with letters is but one element, not necessarily the overriding one, in the ongoing bio-cultural-technological 'writing' of the body's meanings, expressions, affects, and mobilities.

In the process, the alphabetic self, the embodied agency who writes and reads 'I,' and in so doing performs a complex play of same and other-

ness, actuality and virtuality, with the one who speaks and hears 'I,' will be confronted by a third 'I,' a self coming into being to the side of the written form, what might be termed a *para-self*, whose enunciation of 'I' will take place (and only take place if it is not to collapse back into its written predecessor) in the interior of a post-, better, trans-alphabetic ecology of ubiquitous and interactive, networked media.

"Writing," Walter Ong insists, "alters consciousness." (1982, chap. 4) Indeed. As do all media, not least each strand of the lattice of communicational technologies currently dissolving writing's pre-eminence, loosening the alphabet's hold by substituting *their* hold on consciousness. As Félix Guattari has observed, informational and communicational technologies "operate at the heart of human subjectivity . . . within its sensibility, affects and unconscious fantasms." (1995, 4) An observation that repeats the inescapable two-way intimacy remarked earlier between *techne* and *psyche*. Technology's mode of operation at "the heart" of the subject is not simply the action of something external introduced into a 'natural' psyche, one that was inner, private and secluded from technological influence. The operation of machines both augments already existing sites of technological mediation of the self and is transformative and works to constitute the very subject engaging with them. A phenomenon Roland Barthes observed for the action of writing: "In the modern verb of middle voice 'to write,' the subject is constituted as immediately contemporary with the writing, being effected and affected by it. . . ." (1986, 18)

This understanding of technology rejects the instrumental view of it as the use of tools and body-extending prostheses by pre-existing human subjects fully articulated before its deployment. And it likewise rejects the conception of technological media in terms of their representations, in terms of their content, the intentional manifest meanings they signify— whether linguistically, aurally, pictorially, kinetically, haptically—to pre-existing, self-sufficient subjects. In both views the phenomenon that is unseen and unexamined is the direct effect of technology's materiality, an effect always outside its explicit human, socio-cultural character and which transforms the bodies, nervous systems, and subjectivities of its users. This action of technology's 'radical material exteriority,' the subject-constituting work it performs, occurs at a pre-linguistic, pre-signifying and pre-theoretical level. As such it is antagonistic to understanding technology's achievement in terms of its purely discursive, socio-cultural constructions. Communicational media and semiotic apparatuses never coincide with their intended social uses or cultural purposes or their defined

instrumentality or the effects sought and attributed to their manifest contents. Always something more is at work, a corporeal effect—a facilitation, an affordance, a restriction, a demand played out on the body—which derives from the unelimable materiality and physicality of the mediological act itself, and which is necessarily invisible to the user engaged in the act of mediation.

Expressed differently, no encounter with a mediating apparatus can be reduced to the purely mental, ideational effects, one articulated within the discourse of its declared signifying and representational means, that occludes its physiological actions. As Steven Shaviro puts it for the apparatus of film, "We neglect the basic tactility and viscerality of cinematic experience when we describe material processes and effects, such as the persistence of vision, merely as mental illusions. Cinema produces real effects *in* the viewer, rather than merely presenting phantasmatic reflection *to* the viewer." (1995, 51) What is true of the "psychophysiology of cinematic experience" holds for any encounter with a mediating apparatus—cinematic, computational, telephonic, televisual, photographic, audiophonic, telegraphic, or any other: always the user is used, the psyche-body of the one who views, listens, speaks, computes is activated and transformed by an undeclared affect, a force outside the apparatus's explicit instrumentality.

Ignoring the action of this material underbelly projects an account of technological mediation that denies it an unconscious, denies it any under-the-radar, pre-discursive or pre-semiotic effects, and embeds its action and mode of being entirely in language and discourse, thereby domesticating it as a project and set of processes wholly capturable and able to be made explicit within conscious, representational thought. Mark Hansen describes this reduction as a fall into *technesis*, a "putting into discourse" of technology, a body-denying move that, he claims, underlies twentieth-century thinking about the nature of technology and material agency (2000, 2004).

Writing, like any medium, is a re-mediation; it engenders a clutch of interconnected discontinuities in the milieu of what preceded it: a disruption of the previous space-time consensus of its users and an altered relation between agency and embodiment giving rise to new forms of action, communication, and perception. It introduced a domain of virtual, seemingly 'unreal' objects, entities that are without context, endlessly repeatable, and free to be reproduced at any time, place, and cultural situation. For the medium of writing these virtual entities are texts. To engage with them writing posits, as does any medium, a virtual user, an abstract read-

ing/writing agency who or which is as distinct from any particular, embodied, and situated user as an algebraic variable is from the individual numbers substitutable for it, an agency who/which accommodates all possible readers and writers of texts regardless of how and when in space and time they have or might have appeared. This floating entity makes ideas of disembodied agency, action at a distance, and thought transference plausible. As a result all communicational media have about them an aura of the uncanny and the supernatural, a ghost effect which clings to them. In the case of the telegraph, which introduced a new form of written converse with an absent agent, the effect conjured not ghosts as such; rather it inspired a new religion based on a telegraphic, table-tapping mode of conversation with the newly conceived ghost-spirits of the departed.

Long before this, writing (which had always been friendly to messages and self-proclamations from the dead) conjured into being ghosts of a different sort. Unlike telegraphy the conjuring did not follow immediately on the medium's deployment; it depended on a specific phenomenon—a self-reference within or by the medium, a written 'I'—to bring it about. Writing 'I,' pointing to a self in writing, is in effect making writing circle back onto the writer and confronting the self with a virtual simulacrum. Unlike the spoken 'I,' chained to its utterer with its referent unambiguously the one speaking, who or what the written 'I' is is indeterminate. It could be real or fictional, existent or nonexistent. It could be any writer of a text anywhere at any time for any purpose, a hypostatization or entification of the alphabet's virtual user: an unembodied being outside the confines of time and space operating as an invisible and unlocatable agency.

A trio of entities answering this description, namely God, Mind, Infinity, have formed the metaphysical horizons of Western religious, philosophical, and mathematical thought. Each such ghost is a phenomenon inseparable from alphabetic writing. The first arose from the writing of 'I' as in "I am the Lord thy God" and "I am that I am" to refer to and define Himself; the second from the writing of 'I' in Greek philosophical thought to refer to an un-embodied *psyche* lodged in the soma; the last from the writing of 'I' as a pronoun designating Aristotle's *nous*, that disembodied organ of rational thought able to count without end.

To summarize: A succession of media—speech, alphabetic writing, digital writing—each transforming their environments through a wave of virtuality specific to them. In the first, virtuality is located within the symbolic function per se, inherent in a speaker's capacity to refer to non-existent and disembodied agencies; in the second, virtuality is located in

writing's ability to signify across space and time in the absence of a real or embodied speaker; the third, still breaking, wave is manifest in the contemporary phenomenon of virtualizing X, where X ranges over the characteristic abstractions and processes of the alphabetic, pre-digital age. Associated with each of these virtual waves is a potential ghost effect, one specific to the medium concerned, realized in relation to a self-enunciation expressed within or by the medium. For language it is the ghostly presence of the other in the spoken 'I' giving rise to the belief in a 'spirit' separate from the gestural 'I' inseparable from the proprioceptive body; for alphabetic writing it is a transcendental agency, the hypostatizations we call God, Mind, and the Infinite Agent. For the digital or better network 'I,' a self-enunciation specific to contemporary media ecologies is still in flux, so a ghost effect, identifiable as a stable and repeatable phenomenon invoked by it cannot yet emerge.

However, within the contemporary digitally enabled scene, a network 'I' is being heralded. The features of such a third self-enunciating agency, differentiating it from the oral and scriptive 'I's, are becoming discernable. Such an 'I' is *immersive* and *gesturo-haptic*, understanding itself as meaningful from without, an embodied agent increasingly defined by the networks threading through it, and experiencing itself (notwithstanding the ubiquitous computer screen interface) as much through touch as vision,[1] through tactile, gestural, and haptic means as it navigates itself through informational space, traversing a "world of pervasive proximity" whose "dominant sense . . . is touch" (de Kerckhove 2006, 8). Such an 'I' is *porous*, spilling out of itself, traversed by other 'I's networked to it, permeated by the collectives of other selves and avatars via apparatuses (mobile phone or e-mail, ambient interactive devices, Web pages, apparatuses of surveillance, GPS systems) that form its techno-cultural environment and increasingly break down self–other boundaries thought previously to be uncrossable: what was private exfoliates (is blogged, Webcammed, posted) directly into the social at the same time as the social is introjected into the interior of the self, making it "harder and harder to say where the world stops and the person begins." (Clark 2006, 1) Lastly, such an 'I' is *plural* and *distributed*, as against the contained, centralized singularity of its lettered predecessor; it is internally heterogeneous and multiple, and, like the computational and imaging technologies mediating it, its behavior is governed by parallel protocols and rhythms—performing and forming itself through many actions and perceptions at once—as against doing or being one thing at a time on a sequential, predominantly endogenous, itinerary. In short, a self

becoming beside itself, plural, trans-alphabetic, derived from and spread over multiple sites of agency, a self going parallel: a para-self.

Mental pathways, ways of believing, modes of thinking, habits of mind, an entire logic of representation, born from and maintained by alphabeticism over the last twenty-five hundred years, become increasingly incompatible with such a self. Metaphysical claims by religions of the book, authenticated by the assertions of an absolute monobeing from within an alphabetic text, become less tenable as their uncompromising insistence on an aboriginal singularity confronts the pluralizing, dispersive vectors of contemporary mediation. The West's ontotheological metaphysics, with its indivisible, unique-unto-themselves and beyond-which-nothing monads of an absolute Truth behind reality and a monolithic transcendent God entity begins to be revealed as a mediological achievement—magnificent but no longer appropriate—of a departing age.