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## Metaphoric Networks in Lexia to Perplexial

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As leading theorists and practitioners such as Marvin Minsky, Daniel Hillis and Brian antwell Smith have been telling us, computers are much more than hardware and software.<sup>2</sup> In their most general form, computers are environments of varying scope, from objects that sit on desktops to networks spanning the globe. Indeed, in Edward Fredkin's interpretation computational processes ultimately generate the fabric of the universe.<sup>3</sup> It comes as no surprise, then, to find researchers arguing that computation is fundamentally altering the ways in which humans conceive of themselves and their relations to others. There are of course many approaches to this issue, from sociological studies to human factor analysis. Among these approaches are artistic works that tell new stories about the formation of human subjects, instantiating these stories in images as well as words. To explore this systemic shift, I will take as my tutor text Talan Memmott's *Lexia to Perplexia*.<sup>4</sup> In this complexly coded work, human subjectivity is depicted as intimately entwined with computer technologies.

Memmott's work reveals the co-originary status of subjectivity and electronic technologies. Instead of technologies being created by humans, this work imagines digital technology as present from the beginning, with subjects and technologies producing each other through multiple recursive loops. To develop this idea, Memmott devises an idiosyncratic language, a revisioning of classical myths, and a set of coded images that invite the reader to understand herself not as a pre-existing self with secure boundaries but as a permeable membrane through which information flows. Three principal strategies enact this transformation. The first category is linguistic. Rather than writing standard English, Memmott devises a wide range of neologisms-coinages made from existing words that express new syntheses. In addition, he also creates a creole discourse (a creole is a new language that arises when two different language communities come into contact) showing code erupting through the surface of the screenic text, infecting English with programming languages. The second category of strategies is mythic. Drawing on a range of classical materials from the story of Echo and Narcissus to Minoan funeral practices, Memmott rewrites this material to make it enact narratives about how human subjects misunderstand themselves as autonomous agents when in fact they cannot be separated from the information technologies that, more than expressing them, co-create them.

Finally, Memmott develops a symbolic visual language that images the interactions and structures leading to the "cyborganization" of human subjects and resulting in mutations that fundamentally alter what counts as human. One way to bring these issues into focus is to notice at what points the screen displays cease to be legible as readable texts. These occluded representations create visual images that mark the limits of what human perception can discern. Illegible texts hint at origins too remote for us to access and interfaces transforming too rapidly for us to grasp. The text announces its difference from the human body through this illegibility, reminding us that the computer is also a writer, and moreover a writer whose operations we cannot wholly grasp in all their semiotic complexity. Illegibility is not simply a lack of meaning,

then, but a signifier of distributed cognitive processes that construct reading as an active production of a cybernetic circuit and not merely an internal activity of the human mind.<sup>5</sup> When Lexia to Perplexia hovers at the border of legibility, it hints that our bodies are also undergoing metamorphoses. What we read when we cannot read is not so much the disjunction between us and the computer (for it is always possible to access the underlying code and hack our way into a readable version of the non-readable text). Rather, the occluded display signifies a trajectory in which we become part of a cybernetic circuit. Interpolated into the circuit, we metamorphose from the individual interiorized subjectivities to actors exercising agency within the extended cognitive systems that include non-human actors. In this broader context, illegible text reminds us of the changes our bodies are undergoing as they are re-mapped and re-interpreted by intelligent machines working within networks that bind together our flesh with their electronic materiality. In this posthuman conjunction, bodies of texts and bodies of subjects evolve together in complex configurations that carry along the past even as they arc toward an open and unknown future.

Typical is the opening screen locating the origin of the self in a specular play with an Other:

The inconstancy of location is transparent to the I-terminal as its focus is at the screen rather than the origin of the image. It is the illusory object at the screen that is of interest to the human enactor of the process—the idea of the satisfactile nature of the FACE, an inverted face like the inside of a mask, from the inside out of the screen is the same `<HEAD>{FACE}<BODY>`, `<BODY>FACE</BODY>` rendered now as sup/posed other.

Read as html, `<HEAD>{FACE}<BODY>` has two opening tags but no closing tags, which would indicate that FACE is part of HEAD but is not included in BODY. A different interpretation is suggested by `<BODY>FACE</BODY>`, which indicates that FACE is tagged as being the BODY. These puns make a serious point, for they allude to the mind/body split in which the face, the most intensely signifying part of the human form, is alternatively tagged as separate from the body and part of it.

Parsing body parts as textual components initiates a connection between flesh and electronic materiality that is further underscored by the electronic signature "Sign.mud.Fraud." Inserting the dot references its use in program names to delimit a file extension. The dot also divides the name so it functions both as an allusion to Freud (Fraud), announcing its ironic appropriation of this seminal thinker, and also punctuating (or as one of Memmott's neologisms would have it, "puncturating") the signature so it performs what "cyborganization" implies by transforming a proper name into creolized sign. This performance of hybridity is further reinforced by the passage's content, where the self is generated through a reflection on the inside of the screen, as if in "the inside of a mask." This specular dynamic generates the subject as an "I-terminal," an expression that conflates the self with the screen and recalls Scott Bukatman's punning phrase "terminal identity."<sup>6</sup>

A word about creole. Typically first generations speakers who encounter another language community develop a pidgin, which is not a true language but an amalgam using a reduced vocabulary and simplified verb forms to communicate. By the second and third generations, a creole generally emerges. Unlike pidgin, a creole has its own syntax, verb forms, and vocabulary, thus qualifying as a language in itself uniquely different from the two communicating languages of which it is a hybrid. Lexia to Perplexia can be seen as moving toward a creole devised from the merging of English with programming code. Creole expressions include cell...f, a homophone for self that conflates identity with a pixilated

cell and the notation for a mathematical function; inTents, a pun that collapses intensity into intentionality and also references the programming practice of using interior capitalization to make clearly visible two functions in a variable name that allows no spaces; exe.stream, another pun that references and inverts the usual use of the exe.extension to denote an executable program; and \*.fect, a neologism that alludes to the programming practice of using \* as a wild card, so \*.fect could be read as infect, defect, disinfect, etc.

To what purpose is this creole concocted? Compounded of language and code, it forms the medium through which the (Imaginary) origin of subjectivity can be re-described as co-extensive with the technology. Just as this language does not exist apart from its penetration by code, so the subject does not exist apart from the technology that produces it and that it also produces. Appropriately, the creole writes itself as a re-visioning of the myth of Echo and Narcissus-Narcissus who mistakes himself for an Other through the mediation of a reflective surface, here figured as the inside/outside of a screen, and Echo who reacts to her exclusion from this specular circuit by losing her flesh and becoming only a mediated repetition of what others say, here figured as a collapse in an electronic environment of the original into the simulation, so that there is no longer an ontological distinction between "real" and "artificial" life. The creolization of the myth appears as follows:

From out of NO.where, Echo appears in the private space of Narcissus.tmp to form a solipstatic community (of 1,ON) with n.tmp, at the surface. The two machines-the originating and the simulative-collapse and collate to form terminal-I, a cell.f, or, cell...(f) that processes the self as outside of itself-in realtime.

This narrative process, which (re)describes the self as the terminal-I, extends from "local" to "remote" bodies. "The bi.narrative exe.change between remote and local bodies is con.gress and compressed into the space between the physical screen and the Oculus of terminal-I." As a result, the progression into the "solipstatic original" is countered by the "cyborganization of any/every para.I-terminal," so that the individual is subsumed into the "greater X-terminal" formed by "component I-terminals." Thus human community becomes indistinguishable from the global network of the World Wide Web. "The completion of this circuit is an applied communication-synamatic programs and values shared by . . . other applications and detached machines." "Synamatic," a homophone for cinematic, perhaps alludes the Symantic (semantic) Corporation, creator of the Norton Anti-Virus and Norton Utilities, in a conflation that implies computer health is integral to the reproduction of screen image and therefore to subjectivity. "Communication," which can be read as a neologism conflating commodification and communication, arises when the circuit is completed, that is when humans and intelligent machines are interconnected in a network whose reach is reinforced by naming the few exceptions "detached" machines.

The graphics accompanying these texts include terminals, eyes, E.C.H.O. dispersed across underlying text, and animated rollovers that appear in quick succession, sometimes occluding portions of the texts. Particularly significant is the image of double funnels with the small ends facing each other, a sign that Memmott associates with "intertimacy," the process by which two selves (cell...fs) meet in the computer "apparatus" and, through their interactions with the apparatus, reconstitute from bits and bytes an impression of an other. Seen from one perspective, Memmott points out, the cone with an elongated end is a funnel condensing the cell....f so it can circulate through

the network; seen in mirror inversion, the cone becomes a megaphone, an amplifying device that lets the receiving cell...f construct an image of the sending cell...f. As this icon illustrates, made explicit in the companion work "Delimited Meshings",<sup>7</sup> Lexia to Perplexia as a whole must be considered not only as text but as what W. T. J. Mitchell in *Picture Theory* has called *textimage*, a fusion of text and graphic into signifiers that function simultaneously as verbal signifiers and visual images.<sup>8</sup> Memmott, who came to graphic design from a background as a painter, notes that "much of the writing is integrated with the screen design. In addition to this, much of what was written prior to the development of the hypermedia work has in fact been incorporated into the functionality of the work. Portions of the text that I thought may be better served as screen interactions do not appear at the superficial text level but inspired some of the animations as actions that occur in the piece."<sup>9</sup> One of the primary effects of the animation is to render the text verbally and visually unstable, so that it is often difficult to finish reading a block of text before it is partially obscured by an animation that covers it over with images or other texts. This dense layering of the screen display, insofar as it interferes with reading, manifests itself as a kind of noise that is simultaneously a message.<sup>10</sup> A subtle implication of the screen design is conveyed through the linking structure, which works not by conveying the reader from lexia to lexia-the standard form used by first-generation literary hypertexts such as Michael Joyce's *Afternoon-but* rather through rollovers that reveal new layers of text and image as the cursor moves over the screen. Thus the action of choosing that first-generation hypertext theory attributed solely to the reader here becomes a distributed function enacted partly by the reader but also partly by the machine. Memmott interprets this design in "Delimited Meshings: agency|appliance|apparatus" as creating "a text that does what it says-confronting the user as it mimes the User's actions."<sup>11</sup> The co-creation of subjectivity is thus at once a theme within the work and a performance jointly produced by the computer and the user.

Additional implications underlying the frenetic transformations enacted by the rollovers are hinted at in the screen displaying five "minifestos." The first reads in part, "Bi.narrative communication is rendered in the wreck, the mess in the middle, the collision of incompatible transmissions, arising from the eroded ruins of miscommunication."

Recalling the phrase that circulated through the post-World War II Macy Conferences on Cybernetics of the "man in the middle" (i.e., between two automated cybernetic machines), the "mess in the middle" promises to self-organize into a new kind of message, a revolutionary arising caused by subversive "Secret(e) agents" who "produce narrative singularities throughout the apparatus." The "apparatus" here names not only the technology but also the interpolated subjects who have become indistinguishable from electronic messages. "The earth's own active crust we are," the second "Minifesto" proclaims, "building-up and out-antennae, towers to tele.\*. We \*.fect the atmosphere as we move through it, striving toward communication. Our hyperlobal expectations sp.read knowledge into no.ledge, far, wide, thin. . . I cannot contain myself and so I spread out-pan-send out signals, smoke and otherwise, waiting for Echo. Waiting for logos to give me a sine." "Hyperlobal" neatly sutures lobes-presumably of the brain-into the hyperglobal expectations of a world wide communication system, creating a technohuman hybrid. A similar conflation resonates in logos as a mathematical (sine) function and a word capable of signification (sign). The creole thus performs what it describes, creating a narrative that reaches back to an origin already infected (or \*.fected) with technology from the beginning and arcs forward into a future dominated by "communication." As we learn to make sense of the creole, we are presented with an ironic description

of our attempts to make everything "crystal clear and susynchronized," to reduce its polyvocality so that the "passage of meaning through the bi.narrative conduit is smooth, without catches or serration and the doubled trans/missive agent(s) never meet, combat or challenge. The combined inTents perform as components of a single ideocratic device, de.signing, de.veloping and exe.cuting the mechanism that permits their passage." At times the "doubled trans/missive agent(s)" of code and language cooperate to yield a consistent meaning, as in the neologism "hyperlobal." But these moments of clarity are embedded in screen designs where they are transitory at best, flashing on the screen in quick bursts broken by animated graphics that intervene to obscure text and layer one image over another.

As the transformation of subjectivity into technology, self into cell...f continues, the work imagines flesh becoming digitized into binary signs. "From here, the analog and slippery digits of the real are poured into the mouth of the funnel . . . Flowing further, the variable body, the abstracted and released continuum of the body is com/pressed, reduced and encoded, codified. . . made elemental. . . Now we are small enough, we hope-it is the hope of communication that we minimize the space of the flesh." Significantly, there are no intact bodies imaged at the site, only eyes and terminals (I-terminals), along with creolized text, mathematical functions and pseudo-code. Of course, everything is already code in the programming levels of the computer, so in this sense the human body has already been "reduced and encoded, codified . . . made elemental." If the body of this text aspires not merely to represent the bodies of writers and readers but also perform them, then they too become code to be compiled in a global dynamic of "communication." In a startling literalization of the idea that we are bound together with the machine, this vision implies that at some point (or many points) our flesh will circulate through the cybernetic circuit, miniaturized so that it can slip through the "mouth of the funnel" and merge with other subjectivities into a collective "we."

Amidst these complexities, what is clearly established is not the superiority of code to flesh but metaphoric networks that map electronic writing onto fluid bodies. Lexia to Perplexia intervenes at beginnings and boundaries to tell new stories about how texts and bodies entwine. The shift in the materiality of writing technologies that electronic textuality instantiates is registered on skin as well as screen. To create new kinds of textual bodies is inevitably to write new human bodies, as we continue to produce the technologies that produce us.

#### Endnotes

1I am grateful to Nicholas Gessler for help with technical details of my analysis, Carol Wald and Michael Fadden for help in researching sources; and Marjorie Luesebrink for consultation and ideas.

2 Marvin Minsky, *Society of Mind* (Simon and Schuster, 1985), Daniel Hillis, *The Pattern on the Stone* (New York: Perseus Books, 1999) and Brian Cantwell Smith, *On the Origin of Objects* (Cambridge MA: Bradford Books, 1998)

3Edward Fredkin, "Digital Mechanics: An Information Process Based on Reversible Universal Cellular Automata," *Physica D* 45 (1990): 254-70.

4Talan Memmott, *Lexia to Perplexia: Hypermediation/Ideoscope*, <http://www.memmott.org/talan/dac2001/index.html>.

5The effect of cybernetic circuits on narrative patterns is explored in more detail in Chapter 2 of N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: U. of Chicago Press, 1999).

6Scott Bukatman, *Terminal Identity: The Virtual Subject in Postmodern Science Fiction* (Durham: Duke U. Press, 1993).

7Talan Memmott, *Delimited Meshings*,  
[http://www.memmott.org/talan/dac2001/delimited\\_meshings/meshings/0.html](http://www.memmott.org/talan/dac2001/delimited_meshings/meshings/0.html).

8 W. T. J. Mitchell, *Picture Theory: Essays on Verbal and Visual Presentation* (Chicago: U. of Chicago Press, 1995).

9Email communication, Talan Memmott, Nov. 14, 2000.

10Email communication, Talan Memmott, November 14, 2000.

11Talan Memmott, "Delimited Meshings: agency/appliance/apparatus,"  
<http://memmott.org/Talan/dac2001/memmott/memmott.html>.