

McLuhan and the Body as Medium

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1.

One of the singular paradoxes of Marshall McLuhan's career as a media theorist is that the theory he inaugurated has rarely been revisited by those who today claim the status of media theorists. As W. J. T. Mitchell has recently put it, 'thirty years after the death of Marshall McLuhan, the great pioneer of media studies, the field still does not have its own identity. Symptomatic of this is the need to constantly overturn McLuhan, to recite all his mistakes and bemoan his naive predictions.'² The point is more complex, however, because McLuhan's theories were not put forward in the highly delimited sphere in which he has subsequently been contested. He is by no means a media theorist in the vein of those cited by Mitchell – Kittler, Virilio, Lunenfeld and Manovich. What distinguishes him from these theorists and others was the much broader notion of media that informed his theories. Indeed, so broad were the claims he made that he would be much more accurately addressed as a cultural theorist.³ *Understanding Media*, the foundational text of 1964, contains chapters on roads, numbers, clothing, housing, money, clocks, comics, nationalism, bicycles, photographs, the press, automobiles, advertising, games, the telegraph, the typewriter, the telephone, the phonograph, movies, radio, television, weapons and automation.⁴ Even this listing, however, does not fully address the radical nature of McLuhan's theory of mediation; as he might have said, the list focuses on the figure but ignores the ground, which, in this case, is that of biology. As McLuhan puts it in a key passage of *Understanding Media*:

Physiologically, man in the normal use of technology (or his variously extended body) is perpetually modified by it and in turn finds ever new ways of modifying his technology. Man becomes, as it were, the sex organs of the machine world, as the bee of the plant world, enabling it to fecundate and to evolve ever new forms. (46)

In order to understand how McLuhan came to this radical vision of biomediation, it is necessary to examine his early training as a scholar of Renaissance literature. In his dissertation, 'The Place of Thomas Nashe in the Learning of his Time',⁵ McLuhan examines the rhetorical tropes of Renaissance literature that resonated in the work of a minor *littérateur*, Thomas Nashe, and it is rhetoric that provides the key to McLuhan's subsequent intellectual development. It is rhetoric as a shaper of speech, of expression, which seeks to achieve an embodied (affective⁶) as much as a rational response in the listener to whom it is directed that informs McLuhan's notion that media are extensions of our bodies. Coupled with the notion of the 'environment' to which he was introduced by his most influential Cambridge professor, F. R. Leavis,⁷ this rhetorical notion of mediation became the basis for McLuhan's subsequent media theories. Media, in short, seek to shape utterance in such a way as to produce a total environment of signification, such that the medium is the message; as all utterances are *outrances*, these environments are embodiments of their speakers. Thus the medium is also the 'massage' in its manipulation of the skin of culture.⁸

1 Marshall McLuhan, *The Book of Probes* (Corte Madera: Gingko Press, 2003), 111, 316–17.

2 W. J. T. Mitchell, *What Do Pictures Want? The Lives and Loves of Images* (Chicago: University of Chicago Press, 2005), 206.

3 See Richard Cavell, *McLuhan in Space: A Cultural Geography* (Toronto: University of Toronto Press, 2002), and, with Jamie Hilder, www.spectersofmcluhan.net

4 Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: McGraw-Hill, 1964).

5 This dissertation has recently been published under the title *The Classical Trivium*, ed. W. Terrence Gordon (Corte Madera: Gingko Press, 2005 [1943]).

6 I allude here to the considerable body of work that has grown up around affect. See, for example, Teresa Brennan, *The Transmission of Affect* (Ithaca, NY: Cornell University Press, 2004).

7 F. R. Leavis and Denys Thompson, *Culture and Environment: The Training of Critical Awareness* (London: Chatto and Windus, 1933).

8 Marshall McLuhan, with Quentin Fiore and Jerome Agel, *The Medium is the Massage: An Inventory of Effects* (New York: Random House, 1967); images from this book accompany my text with the kind permission of Gingko Press.

When McLuhan arrived in Madison, Wisconsin, to begin his teaching career, and found that his students were ill-prepared to follow a course from him in the area of his training, he was immediately able to put together a new course on advertising,⁹ which he understood as the contemporary avatar of the rhetorical practices he had studied in his dissertation. The aspect of embodiment, however, was much more highly articulated in advertising, given that the ads were directly aimed at the libidinal economy that had established itself in the post-war effort to contain the immense gender dysphoria that was one of the major effects of the war. In writing the *Report on Project in Understanding New Media* (1960) – which he revised as *Understanding Media* – McLuhan reflected this aspect of embodiment in his argument that media require a greater or lesser extent of ‘completion’, a notion he revised in the subsequent book as ‘hot’ and ‘cool’ mediation. ‘Hot’ media, like the radio, required little or no completion by those to whom they were directed; ‘cool’ media, like television, were deeply involving. This involvement, in the case of television, was profound, not because the content of television was significant, but because the medium was invasive, penetrating the body with its radioactive waves and requiring an interaction with the primitive core of the brain in the production of images that were not perceptible to the eye alone. As he put it in one of his most powerful articulations, ‘The TV screen just pours that energy into you which paralyzes the eye; you are not looking at it, it is looking at you.’¹⁰

In a parallel development, the rhetoric of the speech act (an utterance which has a material effect, such as ‘The accused will stand’) has become the basis for the most influential contemporary theory of gender, that of Judith Butler.¹¹ Elaborating her theories from the speech act theory of J. L. Austin, Butler has argued that the

body of gender is a rhetorical performance that is no less embodied for being performative. Anne Balsamo connects the notions of gendered embodiment with technological embodiment in *Technologies of the Gendered Body*, where she writes that:

It is not simply that technologies create the *concept* of the body, but rather that communication technologies reproduce the body itself. To this end, McLuhan critically examines a variety of images and texts from popular culture to demonstrate how communication technologies function as the new body sensorium. We know our bodies through technological sense organs (self-surveillance devices), and the bodies we know have been irrevocably transformed by technological practices.¹²

In *Embodying Technesis*,¹³ Mark Hansen argues for the importance of the experiential in assessing the impact of technology on being. As Hansen notes, our perceptual experiences are themselves subtended by technologies, a notion that McLuhan had developed in his early writings

⁹ See Philip Marchand, *Marshall McLuhan: The Medium and the Messenger* (Toronto: Random House, 1989), 43.

¹⁰ McLuhan, *Probes*, 532.

¹¹ See, for example, *Bodies that Matter: On the Discursive Limits of ‘Sex’* (New York: Routledge, 1993).

¹² Anne Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women* (Durham, NC: Duke University Press, 1995), 173–74 n. 20.

¹³ Mark Hansen, *Embodying Technesis: Technology Beyond Writing* (Ann Arbor, MI: Michigan University Press, 2000).



about how our sense of the visual had been constructed by printing technologies. As Hansen puts it, the 'implicit desideratum motivating contemporary techno-criticism' is 'the foregrounding of the body as the site for technology's molecular material impact' (18). This would seem to belie the notion of technology as absolute (i.e. as 'absolute resistance to representational capture' [18]) and would seem to validate McLuhan's notion of technology as an immense prosthesis which we have come to occupy as if it were 'natural' – hence his use of the term 'environment'.¹⁴

In effect, Hansen is theorizing that technology cannot be theorized; or, at least, that its materiality cannot be thought. McLuhan, however, was arguing that technology can *only* be thought, that we cannot think beyond technology, that technology is the pre-condition of thought insofar as it is the pre-condition of being, at which point technology and 'being human' collapse into each other. McLuhan thus dislocates ontology from the individual to the mass and from being to *techné*. In a manoeuvre similar to that effected by Derrida in his critique of Rousseau, McLuhan argues that consciousness of being is impossible without prior awareness of *techné*. Whereas Hansen contends that, '[a]s actual forces immanent to the real, technologies furnish an immediate material source of movement (active force) that does not rely on the activity of thinking for its ontogenesis' (19), McLuhan's notion of technology is biological and pre-rational; the television image, for example, was assembled in the core stem of the brain – a position that Antonio Damasio appears to have arrived at independently.¹⁵

Hansen and McLuhan have one starting point in common: Samuel Butler's 1872 novel *Erewhon*, in which, as Hansen puts it, Butler's 'vision of the quasi-evolutionary symbiosis of man and machine imposes an enabling holist framework on analysis, one that forbids the analytical

isolation of technology so common in recent theorization' (25; McLuhan refers to *Erewhon* in *Understanding Media* and in *Take Today: The Executive as Dropout*). It is in Samuel Butler's valorization of the 'experiential domain' (25) especially, as opposed to the 'narrow realm of cognition', that Hansen finds him to be particularly prescient. Hansen seeks to articulate the 'extrascientific' (26) context in which technology operates, namely the cultural context. To the extent that technologies alter the "economy" of experience' (26, drawing on Benjamin), they are mediatory. In these terms, embodiment precedes inscription; 'the lived body is the site of ... experiential excess' (27). Hansen thus seeks to study technologies 'through the frame of phenomenological embodiment' (28). McLuhan differs here in his insistence on the materiality of *invisibilia*; for him it was not a difference between 'constructivism' and the 'hard materiality of technology'; rather, it was the radio waves that were for him at once constructs and material, modes of communication that also communicated. Thus for him there was no 'unmediated material flux' (36), as there is for Hansen; all was mediated. Hansen makes the qualification that technology is in fact Janus-headed: one aspect of technology enters into networks with the human and is thus 'open to culturalist analysis' (36), while another 'contribute[s] directly *though not without human mediation* [emphasis added] to the autonomous process by which matter "self-complexifies"' (37), a notion that is resonant with McLuhan's notion that we are the sex organs of technology. Hansen's argument is thus not strictly constructivist, since in his formulation we live in an embodied technology – we *are* that technology. Hansen comes closest to this position when he writes that '[e]mbodiment ... constitutes our practical means of interaction with the material flux and with the material reality of technology beyond the theater of representation'

14 Hansen invokes McLuhan directly, rejecting his theory of mediation based on the assumption that McLuhan is a technophile, 'gleefully' proposing that electronic media will provide us with 'a global embrace'. Rather, suggests Hansen, 'we face a situation in which the prostheses we adopt to cognize and intervene in the technologically driven material complexification of the universe only seem to expand our experiential alienation' (71). Yet it was McLuhan who *introduced* the notion of alienation, of amputation, of prosthesis, of ablation into media theory.

15 In her foreword to Hansen, Katherine Hayles writes that 'there is ample contemporary evidence from such researchers as Antonio Damasio that cognition extends throughout the body and includes emotions, kinesthesia, proprioception, and other sensations located in the lower brain, limbic system, and central nervous system. Although such sensations can be given verbal expression, they originate as nonverbal perceptions and need not be brought into language at all' (vii). McLuhan was writing decades ago about how the TV image was assembled pre-cortically rather than recorded as a pre-existing image. Hence

his controversial notion that television was *more* involving than print media. Interestingly, Damasio arrives at his position via his reading of a book that profoundly influenced McLuhan, Julian Jaynes' *The Origins of Consciousness in the Breakdown of the Bicameral Mind* (Boston: Houghton Mifflin, 1977). See Anna Gibbs, 'In Thrall: Affect Contagion and the Bio-Energetics of Media', at journal.media-culture.org.au/0512/10-gibbs.php, accessed 7 September 2007.

16 McLuhan, with Barrington Nevitt, *Take Today: The Executive as Dropout* (Toronto: Longman, 1972).

(41). Rather than being representational of something given and known, technology *transforms*, and thus it exceeds the representational (64). This notion of technology as transformational, as opposed to representational, is similar to McLuhan's notion of communication: that it is a transformation rather than transportation system. Where Hansen and McLuhan disagree is in Hansen's notion that technology is inhuman; for McLuhan, it was profoundly human, with the major proviso that technology is the pre-condition of the human. Technology, in other words, is not ontological for McLuhan; it is rather that ontology is technological. The human, thus, is a product of the technological. Hansen argues cognately that the goal is 'to situate technology in a more encompassing and properly posthuman context without at the same time being compelled to affirm its radical *inhumanity*' (70).

2.

The notion that media are *embodied* had profound implications for McLuhan's notions of mediation, and particularly for the ontological implications of these notions.¹⁷ If media extend parts of our bodies – and amputate them as well – then media undermine ontological certainties about subjectivity and selfhood. This notion radically alters the popular view of McLuhan as a technophile, a theorist of electronic utopianism, whose concept of the 'global village' – the notion that vaulted him to fame in the 1960s – was meant to imply a universal communion through electronic mediation. On the contrary, as Christopher Horrocks has noted, McLuhan's theories 'profoundly [affect] the ontological security of the individual'.¹⁸ This ontological insecurity, however, arises not only from disembodiment (amputation) but from *embodiment*. McLuhan's argument is that electronic mediation has vastly distended our bodies to the point that

we live in a totally embodied cosmos, but that by virtue of this extension our bodies are now *outside* us. To this extruded body McLuhan gave the name 'environment', and it is there that we now live – in a 'nature' of our own making.

McLuhan's theories are theories of displacement: the bride in *The Mechanical Bride* has been displaced into mechanical culture; the man of *The Gutenberg Galaxy* has been displaced into typography; the human has been displaced into technology; the local has been displaced globally; temporality has been displaced spatially; the sensorium has been displaced into the electronic ether; media have been displaced into intermedia; nature has been displaced into culture; the subject has been displaced into the mass; the message has been displaced into the medium. But these displacements are not obliterations; they do not operate as binary oppositions, one term collapsing into the other. McLuhan theorized interfaces, gaps, resonances. McLuhan's insistence on the process of displacement emphasizes his status as a dynamic thinker, a thinker of relations in tension. 'It is hard for the ... uncritical mind to grasp the fact that "*the meaning of meaning*" is a *relationship: a figure-ground process of perpetual change*'.¹⁹ His *Laws of Media*²⁰ are laws only to the extent that they can be broken; the modalities of enhancement, obsolescence and retrieval are dynamized by the principle of reversal, and the universe to which these laws apply is a chaos of permeable borderlines constantly shifting ground in new tectonic alliances. In understanding media this way he was declaring himself a citizen of the global village, his most dynamic concept, at once local and global, at once here and there.

McLuhan was thus a theorist of what Peter Sloterdijk has called the 'media-ontological situation',²¹ but his ontologies were counter-intuitive in not theorizing a stable

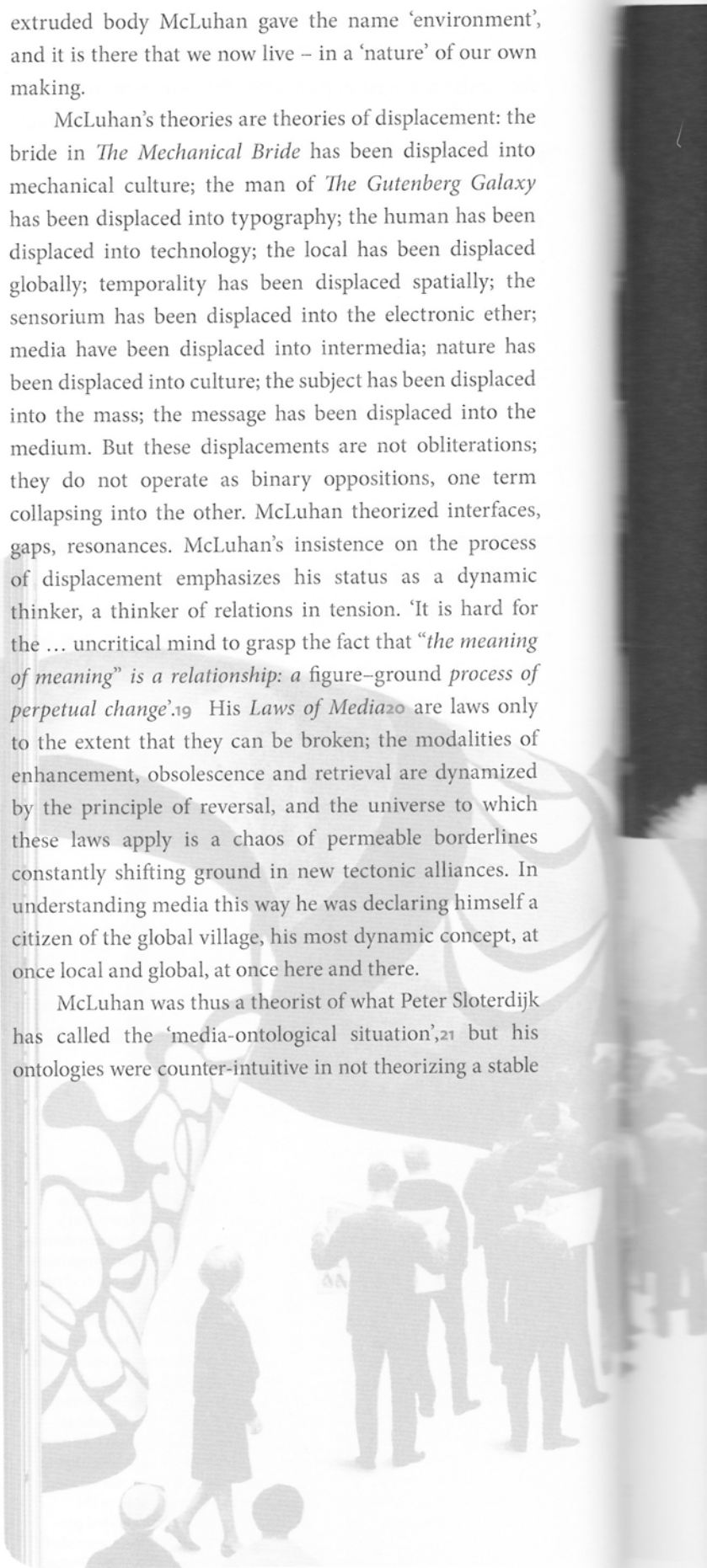
¹⁷ In this section I draw on my paper 'Specters of McLuhan: Eleven Notes for a Re-Reading', given at Castle Thurnau, University of Bayreuth, in February 2007.

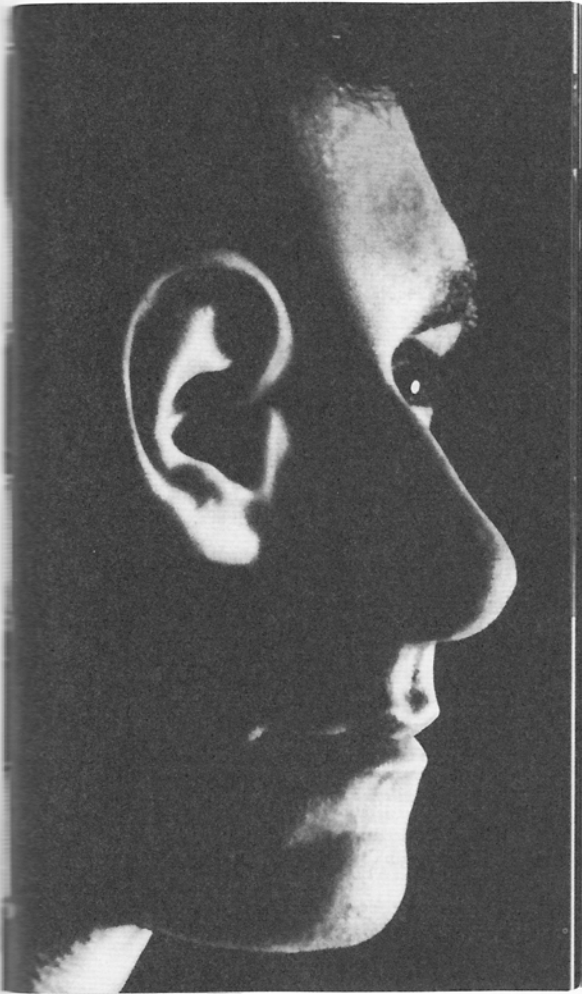
¹⁸ Christopher Horrocks, *Marshall McLuhan and Virtuality* (Cambridge: Icon Books, 2000), 66.

¹⁹ McLuhan, *Take Today*, 86.

²⁰ McLuhan, with Eric McLuhan, *Laws of Media* (Toronto: University of Toronto Press, 1988).

²¹ Peter Sloterdijk, *Critique of Cynical Reason* (Minneapolis: University of Minnesota Press, 1987), 512.





subject position. In his first book, the 'bride' of consumerist culture is 'mechanical' and thus infinitely reproducible; in his second book, the 'man' of his 'Gutenberg Galaxy' is typographical; and his 'understanding media' completely lacks a subject. As the progressive form of the verb, 'understanding' anticipates Friedrich Kittler's comment that media can never be understood;²² re-reading it as an adjective, it suggests that it is the *media*, here, that are doing the understanding, or even *being* understanding. Ultimately, as McLuhan argued, electronic mediation produces what he called 'discarnation'.²³ Yet technology, for McLuhan, was not inhuman; it was profoundly human. 'In the sense that these media are extensions of ourselves ...then my interest in them is utterly humanistic,' McLuhan states in the dialogue with Gerald E. Stearn.²⁴ And similarly: 'all technologies are completely humanist in the sense of belonging entirely to the human organism'.²⁵

As McLuhan had learned through his study of Renaissance literature, rhetoric profoundly unmoors the speaking self from 'presence'; if all *utterance* is at the same time *outerance*, then utterances are at once private and public, at once personal and rhetorical. Hence mass communication in McLuhan's understanding of it tends to be ritualized and tribal, rather than 'original' and 'individual' (attributes which were the effects of written communication). This was humanism, as he stated, but it was humanism in reverse, the perfection of the individual exchanged for the perfection of the mass, a Bauhaus programme for a totally designed world. The inversion of private and public, inner and outer, in McLuhan, is itself part of the much larger one in which McLuhan theorized an interfusion of the biological and the technological; 'technology is part of our bodies' he writes in *Understanding Media* (68). To ignore this was a fatal critical flaw, in his view, because it encouraged a critique of technology as

22 Kittler comments that 'Understanding media - despite McLuhan's title - remains an impossibility precisely because the dominant information technologies of the day control all understanding and its illusions'; see *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford, CA: Stanford University Press, 1999), xl. McLuhan is quite aware of this impossibility, hence the ambiguities of his title. It is a pleasure, here, to acknowledge my colleague Geoffrey Winthrop-Young and our ongoing dialogue about media.

23 McLuhan, 'A Last Look at the Tube', in *Marshall McLuhan: The Man and His Message*, ed. George Sanderson and Frank Macdonald, intro. John Cage (Golden, CO: Fulcrum Press, 1989), 196-200; this quote 197.

24 McLuhan, 'Dialogue with Gerald E. Stearn', in *McLuhan: Hot and Cool* (New York: Dial Press, 1967), 265-302; this quote 294.

25 McLuhan, 'Interview with Eli Bornstein', *The Structurist* 6 (1966), 61-68; this quote 67.

something separate from the social dimension of cultural production. Indeed, he suggested that technology had supervened our bodies, such that we had turned ourselves inside out – extended and amputated ourselves (the other part of the Faustian bargain with the prosthetic gods) – and extruded ourselves into an environment which is at once ourselves and utterly ‘other’, a prosthetic environment which appears foreign to us – even though it is us – because it is now outside us. We have, in this sense, been *incorporated*.

McLuhan contended that the launching of Sputnik in 1957 turned nature into culture, earth becoming an artifact of technology, contained by technology rather than being its container. ‘Technological art takes the whole earth and its population as its *material*, not as its *form*,’ he wrote in his 1954 pamphlet *Counterblast*²⁶ (emphases added). This new environment proposes an ‘ecology’ of ‘echo recognition’, whereby we confront a ‘nature’ which is constituted by the biotechnologies of our extended selves: ‘Today’s ecological awareness is echo recognition’ because ‘[i]n today’s electric world, man becomes aware that [the] artificial “Nature” of the Greeks is an extension of himself’.²⁷ McLuhan’s *Take Today: The Executive as Dropout* (1972) is a self-help guide for the biotechnologically over-extended. Putatively written for business executives, the book is in fact a manual for navigating the ‘corpore-ate’ self, namely that entity formerly known as nature which has now become the vastly distended body of mass culture: ‘Consciousness,’ writes McLuhan, ‘is corporate action.’ This is why culture is our business. We are (re)making ourselves in the anti-Cartesian ecstasies of a *homo faber* who has now replaced *homo sapiens*. These paradoxical notions are brilliantly captured in the *Alien* movies (and particularly *Alien 4*), movies that represent in the most visceral way

possible this sense of the *prosthetic*, of the way in which living within a totally technologized environment (the spaceship) has as its concomitant aspect the inescapable prostheticization of our selves. At the end of *Alien 4*, the human protagonist, Ripley, has been cloned and is thus completely ‘outside’ herself; as she approaches earth and prepares for re-entry we see, through the window ‘screen’, the earth hovering in space, which appears as a purely aesthetic object – ‘It’s beautiful,’ remarks one of the characters. A shipmate, also a clone, asks Ripley what it’s like on earth, to which she replies with the harrowing line ‘I don’t know; I’m a stranger there myself.’ Here the very materiality of the earth – *terra firma* – has itself become an exercise in virtuality, while the ‘human’ has collapsed into the ‘other’.²⁸

In McLuhan we encounter the political and the economic as modes of information technology. With the end of the Second World War, McLuhan argued, the era of Mars had given way to that of Venus, thus inaugurating a libidinal economy of endless consumerism, in which consumption was at once the product and the goal in a vast feedback loop. ‘Technology eats itself alive,’ he wrote in 1972, ‘loops the loop.’²⁹ His study of this libidinal economy, *The Mechanical Bride* (1951), posits the automobile as the bride of a culture whose libido had been displaced by the War’s disruption of sexual identity. McLuhan was among those who realized that, in the post-war period, commodification would be generalized within culture. The vehicle for this generalization would be advertising, at once the new poetry of the culture-as-commodity era and a profound expression of the libidinal economy governing it. Thus, the frequent criticism made of McLuhan – that he ignored the political and the economic – needs to take into account the way in which his theories blurred these

²⁶ McLuhan, *Counterblast* (Toronto: np, 1954); this pamphlet is not to be confused with the 1968 book of the same title, although some material from the earlier publication is repeated in the later one.

²⁷ McLuhan, *Take Today*, 3, 6.

²⁸ The second *Alien* movie (1986) was made by expatriate Canadian director James Cameron; it was anticipated by David Cronenberg’s *Videodrome* (1982), which is an extended mediation on violence and media. As Cronenberg has stated, the film gestures towards McLuhan in the character of Brian O’Blivion. *Alien Resurrection* (1997) was directed by Jean-Pierre Jeunet.

²⁹ McLuhan, *Take Today*, 111.

distinctions. For McLuhan, economics and politics had collapsed into the cultural, a feedback loop in which we are at once subject and object of our desires, where desire, as Alexandre Kojève once put it, is the negativity of being.³⁰ Yet it was the apparent 'immateriality' of media technologies that tended to make McLuhan's work seem irrelevant during the period when 'critical' most often meant 'Marxist' – why wasn't he dealing with economic practices? Didn't this lead to his deterministic reading of the media? And where was politics in all of this? With the notion of 'performativity', however, the 'immaterial' has become invested with a 'materiality' it had not enjoyed before, as in the concept of the body as 'construct', of the 'death' of the subject, and above all of the 'effect' as meaningful in its own right.

3.

In the 1960s Tom Wolfe famously compared McLuhan to Darwin, Einstein and Freud, and while McLuhan's connections to Einstein and Freud have been explored over the years, the reference to Darwin deserves further pursuit as critical theory increasingly encounters the *bios*. The environment as biotechnological extension presents for McLuhan the notion of an embodied mediation. If this biotechnological extension, this environment, is understood as cultural, rather than natural, then its effect is to promote the notion of culture as a continuation of nature, rather than its overcoming. As counter-intuitive as it might appear, this position has gained increasing validity within biological theory. Freeman Dyson writes, in 'Our Biotech Future' (2007)³¹ that 'the domestication of high technology ... [will] soon be extended from physical technology to biotechnology', predicting that 'the domestication of biotechnology will dominate our lives during the next fifty years at least as much as the domestication of computers

has dominated our lives during the previous fifty years'. In the future that Dyson predicts, 'Designing genomes will be a personal thing, a new art form as creative as painting or sculpture', analogous to the way in which breeders, today, produce new varieties of roses and pets. In support of these predictions, Dyson (himself a physicist, though one who argues that, while the twentieth century belonged to physics, the twenty-first will belong to biology) draws on the work of microbial taxonomist Carl Woese, and in particular two essays: 'A New Biology for a New Century', in *Microbiology and Molecular Biology Reviews* (June 2004), and, with Nigel Goldenfield, 'Biology's Next Revolution', in *Nature* (25 January 2007). Perhaps the most revolutionary claim that Woese makes is that Darwinian evolution is not a constant of biological life; rather, he argues, it was preceded by 'horizontal transfer',³² that is, by 'the sharing of genes' in a non-hierarchical fashion (which is crucial to the need in evolution for one species to fail in order for evolution to continue). Woese thus postulates 'a golden age of pre-Darwinian life, when horizontal gene transfer was universal and separate species did not exist'.³³ The fundamental genetic principle was that of sharing; the whole community advanced, rather than a single species. Then, as Dyson summarizes, 'a cell resembling a primitive bacterium happened to find itself one step ahead of its neighbors in efficiency. That cell, anticipating Bill Gates by three billion years, separated itself from the community and refused to share' (4). This was the beginning of the 'Darwinian interlude'. Ironically, notes Dyson, the Darwinian interlude slowed down evolution, since it did not permit lateral transfers of information. This interlude ended

when a single species, *Homo sapiens*, began to dominate and reorganize the biosphere. Since that time, cultural

³⁰ Alexandre Kojève, 'Introduction to the Reading of Hegel', in Mark C. Taylor (ed.), *Deconstruction in Context: Literature and Philosophy* (Chicago: University of Chicago Press, 1986), 98–120. McLuhan would have encountered the work of Kojève in the work of Merleau-Ponty.

³¹ Freeman Dyson, 'Our Biotech Future', *New York Review* (19 July 2007), 4–8.

³² Dyson, 'Our Biotech Future', 4.

³³ Dyson, 'Our Biotech Future', 4.

evolution has replaced biological evolution as the main driving force of change. Cultural evolution is not Darwinian. Cultures spread by horizontal transfer of ideas more than by genetic inheritance. Cultural evolution is running a thousand times faster than Darwinian evolution, taking us into a new era of cultural interdependence which we call globalization. And now, as *Homo sapiens* domesticates the new biotechnology, we are reviving the ancient pre-Darwinian practice of horizontal gene transfer, moving genes easily from microbes to plants and animals, blurring the boundaries between species. We are moving rapidly into the post-Darwinian era, when species other than our own will no longer exist, and the rules of Open Source sharing will be extended from the exchange of software to the exchange of genes. (6).

Dyson's easy – horizontal – transition from computer-speak to biological theory is telling, as is the notion that *Homo sapiens* must now turn back on itself – having evolved to the top of the ladder, it must now move from the vertical plane to the horizontal, parallel to Ulrich Beck's notion that the only way modernity may go forward is by curving back on itself,³⁴ such that 'environmentalism' can be understood as the undoing of modernity *within* the modernist project. Indeed, Dyson argues that the single most important application of Woese's theories will be within 'green technology'. Summarizing his position as stated in *The Sun, the Genome, and the Internet* (1999), Dyson writes that the three components of his vision are equally necessary: 'the sun to provide energy where it is needed, the genome to provide plants that can convert sunlight into chemical fuels cheaply and efficiently, the Internet to end the intellectual and economic isolation of rural populations' (8).

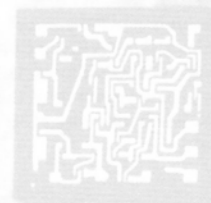
³⁴ Ulrich Beck, *Risk Society: Towards a New Modernity*, trans. Mark Ritter (London: Sage, 1992).

Because McLuhan rejected Shannon and Weaver's 'transportation' model of information theory as his foundation for media theory, replacing it with a 'transformation' model, his theories of mediation have much more in common with current concepts of biomediation than do other theories of mediation contemporary with McLuhan's work. His theories, in other words, do not seek to understand our encounter with a post-human status, as does that of Katherine Hayles, for example, in *How We Became Posthuman*. As profoundly displaced as they are, McLuhan's subjects are not cyborgs. Rather, it is through our technologies, argues McLuhan, that we encounter our *humanity*. Mediation is not 'out there' but 'in here'; not disembodied but embodied; not immaterial but material.

Rather than understanding how we became post-human, then, McLuhan sought to understand how we became *human*, and his answer was that we became human through our technologies. 'The body,' as Eugene Thacker has put it, 'is a medium.'³⁵ Alluding to McLuhan, Thacker continues: 'It is not just that the medium is the message, but that biology is the new medium: the medium is a message, and that message is a molecule. This is the crux of the concept of "biomedia"' (48). As Thacker goes on to state:

Biomedia are novel configurations of biologies and technologies that take us beyond the familiar tropes of technology-as-tool, the cyborg, or the human-computer interface. 'Biomedia' describes an ambivalence that is not reducible either to technophilia (the rhetoric of enabling technology) or technophobia (the ideologies of technological determinism). Biomedia are particular mediations of the body, optimizations of the biological in which 'technology' appears to disappear altogether. With

³⁵ Eugene Thacker, 'What is Biomedia?', *Configurations* 11 (2003), 47–79; this quote 48.



biomedia, the biological body is not hybridized with the machine, as it is in the use of mechanical prosthetics or artificial organs. Nor is it supplanted by the machine ... Biomedia is only an interest in digitization inasmuch as the digital transforms what is understood as biological. In short, the body you get back is not the body with which you began, but you can still touch it. The 'goal' of biomedia is not simply the use of computer technology in the service of biology, but rather an emphasis on the ways in which an intersection between genetic and computer 'codes' can facilitate a qualitatively different notion of the biological body – one that is technically articulated, and yet still fully 'biological'. ... The biological and the digital domains are no longer rendered ontologically distinct, but instead are seen to inhere in each other; the biological 'informs' the digital, just as the digital 'corporealizes' the biological. (52–54)

In any communication, as McLuhan stated, it is the sender who is sent.³⁶ Media interact with the biological as extensions of the body, and thus have a profound effect on the sensorium – the collectivity of our senses. Media 'transcode' the senses in a process parallel to that of 'remediation', writes Thacker, whereby one medium 'transform[s] certain visual, haptic, auditory, and corporeal habits specified by earlier media such as film' (54).

As McLuhan put it, the content of a new medium is the old medium. Bolter and Grusin developed this notion in their book *Remediation*, which argues that the body is, in effect, a medium that transcodes sensory stimuli parallel to the shift in the sensorium caused by media themselves. In the cultural domain, as Thacker writes, 'phenomena such as fashion, modern primitivism (piercing, tattooing), body play, cosmetic surgery, transgenderism, body building, cyborg performance ... [are] examples of the

body both as medium (a means of communication) and as mediated (the object of communication)' (56). Indeed, for McLuhan, the body could claim priority in this regard; his reading of Julian Jaynes' *The Origin of Consciousness in the Breakdown of the Bicameral Mind* suggested to him (following perhaps from the dictum of Aquinas that *nihil in intellectu quod non pria in sensu*) that the process of thought gave priority to the body, not the mind. If we ultimately inhabit the body of mediation, then the only way we can become aware of it is by radically juxtaposing it to previous embodied environments, a process which Thacker calls 'hypermediacy' – 'the overcoding, heterogeneity, and saturation of the subject by different media, the empowerment of multiplying media tools in the hands of the subject' (55). It is the role of the artist and the critic alike, McLuhan argued, to make us aware of these environments.

³⁶ McLuhan, 'Violence of the Media', in Sanderson and Macdonald (eds), *The Man and His Message*, 91–98; this quote 92.

Skin does not necessarily form a distinct border between the inside and the outside of an entity, even of something that is already known and concrete. *sk-interfaces* – to use the neologism coined by Jens Hauser for the exhibition at FACT – lack concreteness, as skin is a medium that is continuously growing. When artists deal with tissue culture and various kinds of skin, they use the potentials of the medium in a very material way, similar to the way in which a landscape architect makes use of the growing potential of plants within specific limits. Tissue can shift the borders of organisms and species and, when used as a material in art, it can question the limits of what was once thought to be known. This essay will, therefore, emphasize the tension between the physicality of ‘skin’ as a medium and the disformation of *what* actually grows.