

Conclusion

Destination, Eschaton

We have extended our central nervous system itself in a global embrace, abolishing space and time as far as our planet is concerned. (McLuhan in McQuire 1998:1)

In the early twenty-first century, the human artificial nervous system has reached a pitch of intensity. We are caught up in an omnipresent technological epidermis that, albeit thin in places, stretches over the entire globe. Underneath this skin, humans and their machines are touching one another in unheard of ways. "This is only the beginning", remarks Sadie Plant, "of a synaesthetic, immersive zone in which all the channels and senses find themselves embroiled in an unclean promiscuity" (1998b:186). Trafficking with the abstract demons of cyberspace,ⁱ we are creating new hybrids of human and machine. Their mythos is that of self-generative technology, the new flesh articulated by what I have termed the *techno-genetrix*. Tangled up in minute biological and technological circuitry, we have logged into the latticeworks of energy, vibration and frequency that characterise the contemporary communications/media revolutions, the nascent networks of cyberspace, and the wild futures promised by biotechnology and nanotechnology.

According to Manuel De Landa, our contemporary forays into emerging digital networks are creating electronic life forms and computational societies that mimic the self-organisational feats of all manner of abstract machines.ⁱⁱ "Human artisans", he reasons, "are playing the role of historically necessary channelers" of the new flesh (1991:8).ⁱⁱⁱ In "our time, a mythic time we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs", writes Donna Haraway (1991:150). Cyborgs are at work everywhere, articulating the new flesh; sitting behind desktop computers, working in

sweatshops, ingesting pharmaceuticals, eating genetically modified foods and watching television. They inhabit a world in which “the boundary between science fiction and social reality [has become] an optical illusion” (Haraway 1991:149). Their science-fictional world is the world of the present: a world of transgressed boundaries and burgeoning electronic networks and biotechnologies that are beginning to permeate not only the external environment, but are actively engaging our senses and seeping into our bodies.

Humanity’s globally networked village is enlivened by “an immense global matrix of databases, images, real-time information feeds, and communication networks”, writes Erik Davis (1998:306). These “decentred images and flows” carry in their wake an endless stream of mass-produced goods, pollutions, software, viruses, weapons, ideologies and drugs that permeate every corner of the globe (Davis 1998:301). As I noted in my introduction, this infiltration signals an intensive blurring of boundaries that places human beings at a potentially treacherous crossroads, under the sign of the *techno-genetrix*. “We have already become posthuman”, argues Katherine Hayles, stating that to be posthuman simply means being interceded by technology, whether literally or metaphorically: “computer-mediated communication reveals the mediated nature of [our] subjectivity ... the construction of the posthuman doesn’t require the subject to be a literal cyborg” (in Foster 2001:618).

While much of contemporary techno-science and contemporary [post]human culture is pervaded by fantasies about the erasure of embodiment, cyborgs and technologically reinvented shamans are mining the past and the future, searching for ways to put “embodiment back into the picture without returning the body to its ideological function as a secure ontological ground” (Hayles in Foster 2001:620). In tracking their narrative, I have deployed Deleuze and Guattari’s radical conception of affective material bodies in transition (namely, Bodies

without Organs, or BwOs [see endnote xvii, chapter 2]) and found it given literary expression in Robert Holdstock's boundary-blurring science-fictional procession of myth-images, or "mythagos" (see Chapter 2). I have juxtaposed the ecstatically embodied shaman and the ecstatically disembodied posthuman in Zindell's far future (see chapter 3) and followed Goonan into a hybridised future of runaway technology where cognition and fantasy merge in the realisation of an embodied posthuman future in continuous flux (see chapter 4).

Today, science fiction (sf) is no longer a term that describes a "genre of literary entertainment", but rather denotes "a mode of awareness", which embraces the "hallucinations" of cultural theory, fiction, and scientific speculation, avers Csicsery-Ronay (1991:388). This "discursive practice", as Csicsery-Ronay argues, ranges across contemporary literary, philosophical, and scientific imaginations whilst "subverting the cultural boundaries between them" (1991:388). In tracking the *techno-genetrix*, I have travelled across the unstable science-fictional landscapes of Deleuze and Guattari, Sadie Plant, Erik Davis, Terence McKenna, and Manuel De Landa (amongst many others) and analyzed the sf mythographies of Robert Holdstock, David Zindell, and Kathleen Ann Goonan. Beginning with the generative Earth in the discourses of alchemy and shamanism and moving toward the technical Earth of contemporary theory and fiction (chapter 1), I have moved backwards into the future via the twisted paths of Holdstock's machinic wildwood, contemplated the end of humanity in a distant galaxy with Zindell's cyborg gods and swum through Goonan's near-future "wet" network of cross-pollinating nanotechnologies and fluid transmissions. My guides on this journey have been the mythical posthuman cyborg of Haraway's speculative theory and the shape-shifting shaman of the psychedelic imagination. As the artisans, channellers and seekers of the new flesh, their mode of awareness has informed my own science-fictional narrative of multiple possible futures, providing cognitive maps of the distortions pulsing across an increasingly unstable tech-driven present.

Along with other mathematicians and scientists working in 1970s, Nobel Chemist Ilya Prigogine's work on dissipative structures in chemistry did much to derail the conservative systems of traditional science.^{iv} The subsequent emergence of new sciences, based on chaos and flux, opened up new universes of possibility. For those bent on delving into new scientific/technological trajectories, "not to be fully in control is [evidently] a lesson to be learned from chemistry" (Moltika 1998:1). Kelly explains the potential effects of non-linear dynamics on technology:

As we unleash living forces into our created machines, we lose control of them. They acquire some of the surprises that the wild entails. ... The world of the made will soon be like the world of the born: autonomous, adaptable, and creative but, consequently, out of control. (Kelly 1994:4)

As the mythographers of new modes of being, the hybrid creatures arising out an accelerated scientific and technological milieu should first abandon themselves to "the reservoir of possibilities represented by non-linear stabilization and diversification" (De Landa 1998:75). In their search for new modes of being, cyborgs intuitively express the dynamics of a new paradigm, "climbing from one strange attractor to another [as they] track the machinic phylum in search of a better destiny for humanity" (1998:75). This is the journey undertaken by the writers and theorists whose works I have explored here. Their transformations, informed by the technological advances of the present, resemble the discourse of a new science, that of a chaos of non-deterministic forces, subtle patterns and strangely unpredictable machinic energies. "Perhaps the most novel type of stability in a world that's fundamentally out of control", ponders Manuel De Landa, is the imagination that sees the world as "a dynamical state of transitions and transformations ... that [is capable of] exploring spaces of 'structured' possibility" (1998:67).

The triggering of a non-linear “paradigm-induced gestalt switch” is necessary before human beings can begin to see things that were previously invisible, insignificant or anomalous (De Landa 1992:129). For Deleuze and Guattari this “gestalt switch” can be turned on through experimentation with drugs, or through the speculative hallucinations of sf. Together, these two “events” (sf and drug experimentation) constitute the “memories of a sorcerer”, imaginative explorations that scout ahead into possible futures, scanning informational spaces and articulating “new engineering diagrams” that point the way toward the new flesh (1988:248). “Events or new ideas can radically change the way in which we perceive the world around us”, writes Guattari (1995:101). Even “mutations” in a specific domain can have a “fallout” effect, thereby “transversally contaminating many other domains around them” (Guattari 1995:101). Destabilising events such as the two World Wars of the previous century (the science-fictional subject of Holdstock’s *Lavondyss* [1990]), the subsequent development of new military-driven surveillance and communications technologies (the effects of which are explored by Goonan in *Crescent City Rhapsody* [2000]), and the evolution of new mathematical algorithms in the sciences (aspects of which inform Zindell’s articulation of the “manifold” throughout his *Requiem* cycle [see endnote xviii, chapter 3]), have all had massive fallout effects on contemporary society. In the wake of these ruptures, a new imaginative awareness has begun to emerge, “a mutant creationism ... an open redefinition of the body” (Guattari 1995:116-17).

Confronted with mass psychosis (wars, revolutions, economic collapses and intensive urbanisation) and the emergence of new social, artistic, and analytical practices, human bodies (whether collective or individual bodies) have become the site of “multiple and changing configurations” that open them to new myths (Guattari 1995:118). These new myths operate at the nexus of “social constellations and the machinic unconscious, historical complexes and cosmic aporias” (1995:118). The *techno-genetrix*, or the myth of self-generating

technology, is one such tale that operates at the interface of human and machine, imagination and fact. It is a fable of ecstatic becomings and malfunctions under the spectral pulse of genetic and electronic information.

Chaos is inherently creative ... and the edge of chaos is a particularly good place to be in a constantly changing world because from there you can always explore the patterns of order that are available and try them out for their appropriateness to the current situation. What you don't want to do is get stuck in one state of order, which is bound to become obsolete sooner or later. So complex systems that can evolve will always be near the edge of chaos, poised for that creative step into emergent novelty that is the essence of the evolutionary process. (Coveney 1995:273)

Exploring all manner of states of change and progression, sf begins by articulating human mythical transformations into animals, vegetables, and minerals and ends by chronicling the translation of humans into "bacteria, viruses ... and unnamable waves and indefinable particles" (Deleuze and Guattari 1988:248). Distorting the boundaries between genres and signs, the speculative imagination (whether in theory or fiction) can be described as a technological bestiary that walks "the wavering line between science and myth" (Brown 1993:169). Occasionally this hybrid imaginary becomes an ideal destabilising laboratory for "causing a metaphorical destruction of the real world in the reader's head" (Clute 1999:314). This suspension of the socially defined real provides a platform from which to view new technological forms and to expand human awareness. This mode of awareness may indicate that the visionary who charts nature's bizarre and unexplored levels of organization into science-fictional techno-enhanced futures is none other than the ecstatic shaman. Part of our journey into the strange world of the future may, as Erik Davis suggests, necessitate learning how to master the archaic shaman's knack of embracing the ineffable and contradictory nature of chaos through ecstasy.

The shaman's dive into "flows of intensity" replaces the self with "becomings-animal, becomings-molecular", write Deleuze and Guattari (1988:162). Able to

glimpse "other universes and other levels of reality", the shamanic traveller can discover "what it is like to be(come) every animal and plant ... a blood cell, an atom, a thermonuclear process inside the sun" (Talbot 1996:69). In a sense, the destabilized shaman becomes an "abstract machine ... a probe-head capable of exploring a place of possible forms [and becomings]" (De Landa 1997:264).

O'Donnel points out a similar feature of technological advances:

The challenge for us today ... is to balance old models with new modes of behaviour as we scout ahead into the future. These models must exploit the possibilities of the new environment effectively without disorientating us so completely that we forget who we are. (O'Donnel 1998:13)

Seen from orbit, Earth's night-side glitters with a bizarre latticework of lights, proclaiming humanity's technological awakening. From this glowing artificial nervous system escapes a continuous stream of TV-signals and radio-waves that undulate outward through space, announcing the birth of the new flesh (and the potentially immanent destruction of the planet's biosphere) to any extra-terrestrial that would care to tune in. Actually, "the first signs of an alien intelligence may well come from this planet", declares performance artist Stelarc, suggesting that we should learn to love the trans-human cyborg that is evolving in our midst (Broadhurst-Dixon 1998:118). Invoking a vision of "bionauts" and "evolutionary guides" launched on multiple trajectories into "different and perhaps significant [technologically-augmented] biological landscapes", Stelarc calls for nothing less than a wholesale transmogrification of the flesh (Dery 1992:104).

For contemporary and future humans alike, technology has become an interactive mirror in which the species is able to perceive itself, its planetary nexus and its destination with new and enhanced senses. "All [we] can tell you is that we are [becoming] fluid, luminous beings of fibers," write Deleuze and Guattari (1988:249-252). Crossing thresholds and entering strange new worlds of hybridization,

contemporary humans are undergoing a radically intensive blurring of boundaries under the sway of rapid technological progress.

The cartographers of humanity's technological "ingression into novelty" are the shaman/cyborgs, or "cyber-shamans" who are able to "step outside the confines of learned culture and learned and embedded language" and trace the outlines of the new flesh, writes Terence McKenna (1992: 1). They are the speculative visionaries who are able to fuse "knowledge and intuition" in building "a new art, a new social vision, a new affiliation between the natural and the artificial" (McKenna 1992: 1). Their vocation is the "transformation of [human] language through a synergy between technological culture and the shamanic imagination" (1992: 1) and their task is to prepare us for "the greatest release of compressed change probably since the dawn of human time" (1992: 1).

ENDNOTES

ⁱ The Internet of today is teeming with new non-human lifeforms known as "independent software objects" (Davis 1993:602). These are packets of information such as text-based expert systems, e-mails, add-ons, plug-ins, hyperlinks, viruses and an array of web-services that are described in programming jargon as "actors, agents, or demons" (Davis 1993:602). True to their pet name, these "invocational objects" are stirring up a pandemonium on the World Wide Web. No longer controlled but rather "invoked" into action by changes in their environment, "demons ... like vortices and other natural phenomena ... are beginning to form 'computational societies' that resemble ecological systems such as insect colonies or social systems such as markets" (De Landa 1991:117-21).

ⁱⁱ Manuel De Landa defines abstract machines as "sorting operations" or "structure-generating processes" that run rife at all levels of self-organisation (1997:263-69). Elsewhere he tells us that these abstract machines are scattered throughout the universe – from "prebiological adaptation mechanisms" such as chemical clocks, "sorting devices" like rivers, to "symbol manipulating" devices such as DNA and software (1991:134). Indeed, "the sophisticated programs created by Artificial Intelligence to endow robots with self-organising behaviour are beginning to resemble those created by nature through evolution. ... We can learn much from what nature has 'created' in order to evolve new [technological] paradigms" (1991:134-35). From the vantage point of the new-flesh, he avers, it is necessary to "blur the distinction between organic and non-organic life" and to recognize that human artisans and shamans "tap into the resources of self-organising processes (which are all, on a deep level, essentially similar) in order to create lineages of technology" (1991:7).

ⁱⁱⁱ The *New Flesh* refers to the morphing of the biological body and mind by technology. It refers to the *datafat* of science fiction (animated and hybridised futuristic 'substances' that bind human nerves to the hardwired flesh of machines), the virtual *substance* of information flows and

simulacra, as well as a new cyborg consciousness emerging at the nexus of biology and technology. “The digital machines of the late twentieth century (and beyond) are not add-on parts that serve to augment an existing human form,” explains Sadie Plant. “Quite beyond their own perceptions and control, bodies are continually engineered by the [technological] processes in which they are engaged” (1998b:182).

^{iv} “A centuries-old devotion to ‘conservative systems’ (physical systems that, for all practical purposes, are isolated from their surroundings) is [finally] giving way to the realization that most systems in nature are subject to flows of matter and energy that continuously move through them,” writes Manuel de Landa. He continues: “this apparently simple paradigm switch is, in turn, allowing us to discern phenomena that, a few decades ago were, if they were noticed at all, dismissed as anomalies” (1992:129). These phenomena rarely obey the laws of traditional science – instead they seem to be embroiled in a continuous flux, a never-ending search for new possible forms of manifestation.