'NIETZSCHE GETS A MODEM': TRANSHUMANISM AND THE TECHNOLOGICAL SUBLIME

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Abstract

Transhumanism is a futuristic philosophy which celebrates the potential of advanced technologies to augment human functioning to unprecedented degrees, ushering in a new phase of 'posthuman' evolution. Some trans-humanists even regard digital technologies as capable of 're-enchanting' the world. Such visions of 'cyberspace as sacred space' conceal many value-judgments, however, not least in the universalisation of a metaphysics of technoscience founded on longings for invulnerability, incorporeality and omniscience. Such propensities cloak ideologies of technocratic consumer-ism that refuse to engage with the global implications of new technologies. A theologically-derived critique not only exposes the ideology of 'transcendence' at the heart of transhumanism, but also challenges its claim to represent a latter-day Nietzschean sensibility.

I. INTRODUCTION

OVER THE past half-century developments in genetic, biomedical, cybernetic and digital technologies in the West have intensified interest in the effects of technological change on notions of where the boundaries lie between humans, animals and machines. New reproductive technologies, cloning and genetic modification promise to engender a future in which the boundaries between humanity, technology and nature will become ever more malleable. Genetic material can be transferred between species, blurring taken-for-granted integrities and identities. Digital technologies create new personal and social worlds—new immersive environments in which concepts of time, space and place are reconfigured. Cybernetic devices are incorporated into the body as prostheses or implants. The twenty-first century body no longer ends at the skin.

Invoking Lyotard's celebrated work, *The Postmodern Condition* (1984), Halberstam and Livingston[1] refer to the advent of the 'posthuman condition', denoting a world in which humans are mixtures of machine and organism, where nature has been modified (enculturated) by technology, and technology

has become assimilated into 'nature' as a functioning component of organic bodies. Similarly, Featherstone and Burrows speak of the complicity of new technologies not just in the 'making and remaking of bodies, but the making and remaking of worlds' and refer to the future of humanity as 'post-bodied and post-human'.[2]

All this is beginning to complicate the very taken-for-granted terms on which Western culture has thought about what it means to be human. New technologies promise to enhance lives, relieve suffering and extend capabilities, yet they are often also perceived as threatening bodily integrity, undermining feelings of uniqueness, evoking feelings of growing dependency and encroachments on privacy. In the face of so many instances of the 'homogenisation of the human by the technological'[3] it is easy to portray such trends as manifestations of the colonisation of the 'human' by the 'mechanical', an erosion of the taken-for-grantedness of human physical and psychological integrity by invasive, deterministic technologies. An alternative phenomenon, broadly termed 'transhumanism', regards technology as a vehicle by which humanity will perfect itself, and celebrates the seemingly unlimited potential of technoscience for building a new world order.

Encompassing the popular science predictions of mainstream commentators, such as Michio Kaku and Ray Kurzweil, through to debates about the democratic potential of cyberculture, to the more expansive visions of the Extropians, transhumanism imagines a coming age in which particular dreams of immortality and omnipotence are pursued as the epitome of human perfectibility. Such advocates of enhancement and perfectibility would regard themselves as the twenty-first century heirs to Enlightenment traditions of secular liberal humanism, in which humanity, having displaced the gods, achieves heights of wisdom and self-aggrandisement.

The title of this article reflects the opinion of some that transhumanism is indeed the fulfilment of Friedrich Nietzsche's vision of the 'Ubermensch'—the 'posthuman' as superhuman. 'Nietzshe's got a modem, and he is already writing the last pages of *The Will to Power* as *The Will to Virtuality*'.[4] I will argue, however, that a truly Nietzschean sensibility would regard transhumanism as fatally flawed by its inability to shed the vestiges of a Comtean 'religion of humanity', endemically incapable of acknowledging the absolute dissolution of value, hope and meaning.

If transhumanism might be regarded as a typical narrative of 'science as salvation'[5] then another vision of the technologised future assumes, perhaps, a more unexpected complexion in its invocations of religion and spirituality as fuelling technoscientific innovation. Yet in their different ways, what David Noble terms 'the Religion of Technology' and the values of transhumanism sanction the pursuit of technological progress in the name of what is assumed to be an innate human desire for immortality and omnipotence. A representation

of Halberstam and Livingston's 'posthuman condition' as the inevitable outworking of the 'technological sublime' conceals many value-judgments, however, not least in its universalising of a metaphysics of technoscience founded on longings for invulnerability, incorporeality and omniscience.

Far from being the inevitable outworking of a religious instinct, the transhumanists' and technotranscendentalists' vision of the post/human is thoroughly political. Who gets to participate in the post/human future? Whose desires fuel the priorities of technoscience? These things are not in the lap of the gods, and they require renewed attention to the significance of the appeal to 'transcendence'—and to particular constructions of religion—for exemplary and normative understandings of what it means to be human in the twenty-first century.

II. TRANSHUMANISM AND THE TECHNOLOGICAL SUBLIME

Early futurologists such as Daniel Bell and Alvin Toffler promised the advent of a knowledge-based society in which technologies of production and resource management would be conducted according to rational principles.[6] The resulting 'knowledge society' promised prosperity, efficiency and social equity wrought by intelligent methods and technologies facilitated by enhanced gathering and processing of information. In Marshall McLuhan's vision of the global village, the information revolution would enable a kind of digital democracy. More recently, national politicians in the UK and the US have referred to the 'information superhighway' as the key to economic prosperity, largely as a result of the greater competitiveness of industry brought about by a more skilled workforce.[7] This is a vision of a post-industrial society that solves its problems of wealth creation and distribution through advanced technologies; a futurology characterised by technologically-driven abundance and democratisation.

Other recent visions of the future continue this mood. Entitled 'Your Bionic Future', a recent edition of the popular science journal *Scientific American* considered various dimensions of the future impact of genetic, cybernetic and digital technologies, setting out a panorama of 'How technology will change the way you live in the next millennium'.[8] Articles on artificial intelligence, cloning, genetic modification and virtual reality offer real-life versions of the probable lifestyle of Western societies into the twenty-first century. The articles reflect a predominance of designer babies, cosmetic and spare-part surgery, cyber-shopping, smart houses and genetically-attuned pharmaceuticals, representing priorities primarily comprised of cosmetic enhancement, leisure or lifestyle. The overall impression is of luxury lifestyle options that enhance the lot of those with the necessary resources to afford them. It is also a classically 'technocratic' vision in that it assumes technology will solve problems without necessitating socio-economic changes. Technology needs no political will to

effect social change, simply the hardware. If there is to be an end to racism it will occur because of demographic trends, interracial marriage and individual tolerance rather than long-term economic or legislative improvements.[9] This is a vision of gain without pain: 'A genetic vaccine will increase muscle mass—without exercise'.[10]

Other optimistic advocates of the future prospects of digital and biomedical technologies, such as Ray Kurzweil and Michio Kaku, paint similarly expansionist pictures of the benefits to humanity, such as longer lives, smart homes and devices, cheap resources, global communications.[11] Cutting-edge innovations in artificial intelligence, genetic therapies, nanotechnology, cryonics,[12] computer-assisted communications and nanotechnologies[13] are modest, they argue, compared with the exponential increases forecast between now and 2020.[14] Michio Kaku's vision of 2020 may be summarised as follows (note how the classic economic problem of *scarcity* of resources has, in Kaku's version, been superseded by unlimited plenty):

> By 2020, microprocessors will likely be as cheap and plentiful as scrap paper, scattered by the millions into the environment, allowing us to place intelligent systems everywhere. This will change everything around us, including the nature of commerce, the wealth of nations, and the way we communicate, work, play, and live. This will give us smart homes, cars, TVs, clothes, jewelry, and money. We will speak to our appliances, and they will speak back.[15]

The apotheosis of the transhumanist ethos is to be found in a group known as the 'Extropians', their name encapsulating their quest to defy entropy as expressed in human bodily deterioration such as disease and ageing. Max More identifies the following principles as central to the Extropian philosophy: 'Perpetual Progress, Self-Transformation, Practical Optimism, Intelligent Technology, Open Society, Self-Direction, Rational Thinking'.[16] It is striking to note how these ideals are recurrently interlinked in the similarly expansive writings of others who whilst less strident in their exposition of transhumanist principles, nevertheless subscribe implicitly to their values. They, too, articulate an explicitly evolutionary view of the technological future:

> Posthumans may be partly or mostly biological in form, but will likely be partly or wholly postbiological—our personalities having been transferred 'into' more durable, modifiable, and faster, more powerful bodies and thinking hardware. Some of the technologies that we currently expect to play a role in allowing us to become posthuman include genetic engineering, neural-computer integration, molecular nanotechnology, and cognitive science.[17]

In talking of an emergent epoch of 'postbiological' humanity, the Extropian Institute envisages that technology will overcome the problems of physical

limitations (of strength and intelligence) and finitude (decay, disease and death) by means of implants, modifications or enhancements. As the product of human imagination, technology provides the next catalyst to evolution, a means through which a 'posthuman synthesis'[18] will be attained. Abetted by the fruits of technoscience, transhumanism advances the licence for self-improvement exponentially to pave the way into the next phase of human history. Technology does more than undergird humanist principles; it promises to create nothing less than a successor species. Machinic evolution will complete the task of natural selection; and, having dethroned the gods, humanity will ascend to take their place.

'Not Everyone May Find a Planetary Culture to Their Taste …'

The fundamental conviction uniting all transhumanists is that of the unlimited potential of human intelligence, life-span and physical faculties. Such expansive proponents of scientific potential eschew ideas of there being limits to growth or inbuilt life-spans for human individuals. Mere biological finitude is no obstacle. Transhumanism owes a great deal to eighteenth and nineteenth century humanism, not only in its technophilic embrace of the prospects of scientific innovation, but in its vision of humanity freed of the constraints of superstition, ignorance and fear and liberated to pursue a brilliant destiny.

> Like humanists, transhumanists favor reason, progress, and values centered on our well being rather than on an external religious authority. Transhumanists take humanism further by challenging human limits by means of science and technology combined with critical and creative thinking.[19]

The philosophies and practices of transhumanism exhibit a will for *transcendence* of the flesh as an innate and universal trait, a drive to overcome physical and material reality and strive towards omnipotence, omniscience and immortality. 'We see this need for transcendence deeply built into humanity,' said Max More … 'It seems to be something inherent in us that we want to move beyond what we see as our limits.'[20] That, rather than sustainability, justice, or even wealth creation, constitutes the metaphysics of transhumanism.

It is a matter of debate, however, whether the digital and biotechnological revolutions have afforded opportunities to usher in egalitarian and inclusive forms of political agency or whether the biotechnological and digital age will simply enrich the privileged few at the expense of impoverished nations. The dream of transhumanism depends for its fulfillment on the ability to have access to the appropriate resources. To privileged first-world citizens, the digital and biotechnological developments bring with them an expansion of selfhood beyond the limits imposed by finite bodies and minds. To those unable to participate, however, it means further exclusion, compounded by the

possibility that due to globalisation, the wealth of Western cyborgs rests on the cheap labour of their third-world sweatshop fellows.[21] Accelerating global digitalisation does not simply revolutionise personal communications: it is part of a global economic revolution—a transition towards a post-industrial age—which requires fewer and fewer workers. Those advantaged by these structural changes stand to benefit, to become a new 'techno-elite'; but at the expense of millions of a cyber-underclass. For all the democratic potential of cyberspace, those already 'information-rich', either through greater expertise or superior resources, will benefit at others' expense.

Despite its iconoclasm and self-styled radicalism, transhumanism has little to say about human evolution as involving the eradication of poverty, disease and discrimination. In its advocacy of libertarian anti-authoritarianism, it sidesteps collective or structural solutions to political and economic ills. The vision is for those assertive, wealthy and well-placed enough to realise their vision unhindered. Similarly, for Michio Kaku, the rush towards a global culture 'unparalleled in human history, tearing down petty, parochial interests'[22] is both taken for granted and uncritically accepted. These 'parochial interests' are, for him, conservative impediments to the onward march of scientific progress; but what if such interests involve, for example, the defence of rainforests, endangered languages or minority cultures? Michio Kaku's assumption that global communications will efface cultural diversity is entirely plausible, but he chooses not to consider the ethical or political implications. He accepts as inevitable the loss of ninety percent of living human languages, and the displacement of the nation-state by multinational corporate interests, whilst conceding that 'not everyone may find a planetary culture to their taste'.[23]

When predicting the shape of a future world order in the digital and biotechnological age, neither Kaku nor Kurzweil address questions of access to technoscientific resources and opportunities. The prospects for human evolution, as each writer extrapolates to 2020, 2050 and beyond, contain no consideration of global inequalities. Questions of priority go unasked, a tendency typical of many technocratic visions of the future in which the 'gadgets may be different, but social relations remain static'.[24]

Other projections into a technoscientific future reveal very different priorities. The United Nations Human Development Programme (UNHDP) has identified the inequalities inherent in the information revolution.[25] It records that 93.3% of all the users of the internet originate from the richest 20% of the world's nations; 6.5% of those online come from the next 60%, leaving only 0.2% of all internet access to the poorest 20% of the world's population. As the report observes, 'New information and communication technologies are driving globalisation—but polarising the world into the connected and the isolated'.[26]

The UNHDP's objectives for achieving a viable global community depart radically from the futuristic vision articulated by Kaku, Kurzweil and other technocratic futurists. In contrast to the prospect of smart houses, microprocessors and gene therapies, the UNHDP has set various targets for global development by 2015: goals to combat illiteracy, reduce child mortality, eradicate poverty and to promote primary health care.[27] Whilst the readers of *Scientific American* can look forward to smart jewellery programmed with software enabling them to 'order their favourite brew from a robotic coffee machine',[28] the technologically rudimentary ambition of furnishing every man, woman and child on the planet with clean water goes unnoticed. The desires of a minority of the world's population (the 20% already online) fuel the priorities of technoscientific innovation; but they leave the interests of a significant minority of post/humanity *un*represented.

III. 'TECHNO-TRANSCENDENCE'

Whilst exponents of transhumanism and Extropianism would be best located within the trajectory of secular Enlightenment humanism, other advocates of technological futurism do not fit so easily within such a tradition. They are best thought of as representing continuity with, rather than rebellion against, spiritual expression and religious authority. Science and religion are often portrayed as antipathetic, but recent challenges to this interpretation argue that it has only predominated over the past 200 years, and is really only 'secularist polemic and ideology'.[29] Scientific endeavour has been legitimated by theology since the middle ages;[30] and the affinity between the drive for what Jane Bennett terms 'technochantment'[31] and more conventional forms of religious expression are said to evoke ancient and enduring modes of spirituality, such as altered states, transports of ecstasy and avenues of re-enchantment. Apparently this resurfaces in contemporary cyber-culture and New Age rhetoric, suggesting further continuity between science and religion, frequently overlooked. Digital and biogenetic technologies are thus represented as more than mere tools of humanist ambition, but as instruments of deliverance.

Mindful of the possibility of cyberspace constituting a new kind of space, a dimension of pure information, some commentators speculate on cyberspace constituting a new kind of sacred space, 'a vast and sublime realm'.[32]

> The elsewhere of cyberspace is a place of salvation and transcendence. This vision of the new Jerusalem very clearly expresses the utopian aspirations in the virtual reality project.[33]

In his lyrical evocation of the numinous beauty of cyberspace, Michael Benedikt suggests that virtual reality is but the latest manifestation of an innate human need to inhabit fictional worlds, an expression of a latent yearning for

alternative, 'mythic planes' of existence.[34] Benedikt speaks of cyberspace as 'the realm of pure information';[35] digital technology, similarly, possesses a spiritual energy redolent with a 'millennial spark'.[36] Technology offers the opportunity to construct the celestial habitats that previously have only existed in the imagination; not so much the mastery as the transcendence of physical environments where at last, the creation of ethereal space enables the higher virtues to flourish as a digital utopia. Indeed, Benedikt deploys the Biblical language of the 'Heavenly City' of Revelation, which, in all its 'weightlessness, radiance, numerological complexity … utter cleanliness, transcendence of nature and of crude beginnings'[37] fulfils our longings for enlightenment, perfectibility and purity.

Cyberspace, too, is indeterminate, in that it suspends 'normal' conventions of body, space, time and place. It is a world of sense without mediation, and representation without materiality. It also promises to reconstitute human agency into collective, cyborg or synthetic personalities. As the mediator between conventional human and posthuman worlds, therefore, cyberspace has the capacity to generate alternative ontologies. In its capacity to simulate or engender altered states of consciousness, computer-mediated communication is also represented as constituting a kind of 're-enchantment' of secular culture, and offering a form of religious experience supposedly equivalent to earlier generations' evocations of the transcendent, magical or ecstatic. Cyberspace is characterised as a 'charmed site',[38] a digitally-engendered version of an enduring human propensity to elevate themselves into a series of enchanted spaces or altered states.[39] In the future, according to Rheingold, virtual reality could be used to induce altered forms of consciousness as in the past, cultures have used intoxicants, ritual or other extreme mental states: 'someday, in some way, people will use cyberspace to get out of their minds as well as out of their bodies'.[40]

For some, this presents a means of escaping this mortal coil and ascending into a brilliant celestial realm. Cyberspace becomes effectively a portal into another world; cyber cowboys (in William Gibson's terms) are 'riders on the chariot of the internet'.[41] Online, bodies are abandoned in the 'bodiless exultation' of cyberspace,[42] and the connection between desire, disembodiment and a particular rendition of spirituality is reiterated. The drive to overcome the particularity and frailty of embodiment drives humanity to seek and assimilate into more ideal, more impermeable forms.

Part of the 'transcendent' nature of cyberspace seems to derive from its disembodied detachment from physicality. All this reflects a deep-rooted philosophical tradition in Western thought, a Platonic world-view in which the physical sensory world is but a reflection of a purer, ideal realm of perfect form. 'At the computer interface, the spirit migrates from the body to a world of total representation. Information and images float through the Platonic mind

without a grounding in bodily experience'.[43] Physical information can be transformed into the pure forms of disembodied intelligence and data; human ontology is digitalised. The disruption of temporal and physical conventions of time and space potentially offers transport into omnipresence and omniscience where 'every document is available, every recording playable', creating a playground, a library without limits,[44] affording access into a group mind never before experienced. It seems to be driven by a desire to 'become (like) gods', by striving towards semi-divine status and knowledge, either by contemplation or manipulation of the physical world as a means of gaining mastery and power over the world.

Many of these magical, mystical themes inherent within Western technoscience engender a symbolic of scientific enquiry as unveiling the hidden fragments of a deeper, transcendent reality which holds us enchanted by its magical prospects. There are, I believe, intriguing links between transhumanism and older belief-systems such as Gnosticism and Hermetism, especially in their tendency to regard the technological world (and especially computer-mediated environments such as cyberspace) as redolent with hidden wisdom, enchanted spirits and magical patterns.

Clearly, the science that has produced computer-generated communications is radically different from that of the alchemy, numerology, cryptography and other arts of the Gnostic metaphysicians.[45] The important connection lies in the significance of *information* as constituting the true essence of the universe— in a Platonic fashion?—in which there is an authentic world of pure form, the present material world being but a dim reflection. Even fleshly bodies may be dispensible in order for the essential form of human nature, intelligence, to evolve to its highest and fullest extent. Similarly, the idea of DNA as pure code—and genes, as the bearers of that information, constituting the motivating force of life itself, possessing an autonomous and self-directing *telos*, echoes the Gnostic understanding of a cosmos driven by inner, eternal wisdom.

David Noble is typical in claiming to identify a deeply-rooted religious impulse behind technological innovation.[46] Science and religion share a common symbolic of transcendence, fear of finitude, craving for immortality and god-like pretensions. It is not, says Noble, that Western culture, seeing the sterility of science, is returning to religion to compensate. There has never been a fundamental contradiction between the two disciplines. As Noble indicates, scientists are as full of messianic and apocalyptic expansive-ness about the transcendent potential of scientific innovation as ever. The signs of a preoccupation with omnipotence and transcendence is still apparent, he says, in the psychological investment we have in our technology, not merely as items of convenience and utility but as instruments of 'deliverance'.[47]

> [T]he present enchantment with things technological—the very measure of
> modern enlightenment—is rooted in religious myths and ancient imaginings.
> Although today's technologists, in their sober pursuit of utility, power, and
> profit, seem to set society's standard for rationality, they are driven also by distant
> dreams, spiritual yearnings for supernatural redemption. However dazzling and
> daunting their display of worldly wisdom, their true inspiration lies elsewhere,
> in an *enduring, other-worldly* quest for transcendence and salvation.[48]

Noble's quotation expresses the idea that contemporary technoscience is at root
a profoundly religious enterprise. The activities of scientific experimentation
and discovery are the outworkings of innate religious yearnings. It is certainly
possible to detect religious language in the enthusiasms of exponents of digital
and genetic technologies; but is it accurate to claim, as Noble does, that the
longings for transhuman aggrandisement and technoscientific expansionism are
the—'enduring, otherworldly'—*inevitable* outworkings of an innate spiritual
quest for transcendence of embodied finitude?

Contemporary writers such as these who suggest an affinity between
Western technoscience and religious impulses are nevertheless implicitly
colluding with a number of assumptions about religion, culture and gender.
Firstly, they assume that there is an innate drive towards disembodied
transcendence deeply embedded in every human psyche, regardless of gender,
racial or religious background. Secondly, a spiritual quest is equated with the
search for disembodied omnipresence of a kind discerned in the perfect forms
of information and mastery. All this talk of 'cyberspace as sacred space',
however, must not assume that the religious revivals and preoccupations of
twentieth and twenty-first century late capitalism are a particularly reliable
indicator of universal human spiritual motivations, or that 'technochantment' is
the only mode of discerning transcendence in the material and technological
world.

According to Noble, however, technoscience betrays its spiritual aspirations
even in the modern era. 'Masked by a secular vocabulary and now largely
unconscious, the old religious themes nevertheless continued subtly to inform
Western projects and perceptions'.[49] Noble's use of 'unconscious' is intri-
guing here. Is it intended to mean 'implicit', 'secularised' or simply requiring
no further explanation? Noble's argument needs closer examination. His book
is certainly a comprehensive study into the co-incidence of science and
religion, but a definitive causal link remains unproven. There is a difference
between saying that "technology is the outworking of essentially and
inescapably religious impulses", and "religion and scientific rationality can,
despite all the prophecies of the Enlightenment, co-exist." The former view
posits some clear causal link between science and religion, but the latter
merely states that one of the core precepts of modernity—namely its
secularism—may have to be re-evaluated. Simply because science has not

extinguished religion, as many Enlightenment thinkers once assumed, is no guarantee that science is the manifestation of some kind of innate transhistorical spiritual instinct. In other words, can we still be sure this scientific impulse could not be articulated in some other way—perhaps in terms of psychological *cathexis*, for example—if it had not been presented as a specifically religious world view?

In its logic of salvation, in its valorisation of immortality and fear of death, Western modernity implicitly constructs a model of God as omniscient, disembodied and immutable. The notion of science as making humanity into gods brings with it an institutionalisation of particular notions of knowledge, progress, human development, power and truth. Whilst Extropianism is resolutely secular and rationalist, eschewing the kind of extravagant religious imagery favoured by someone like Michael Benedikt, we may neverthe-less detect some very clear similarities between the aspirations of trans-humanism and those who extol the metaphysical properties of cyberspace. In the aspirations of technoscientific futurism and transhumanism it is apparent that there are vital yet unexamined, let alone unchallenged, assumptions about human destiny, empowerment and self-transcendence.

Nietzsche's Modem

Kroker and Weinstein's reference to Friedrich Nietzsche as 'the patron saint of the hyper-texted body'[50] occurs in the context of their paean to the technological sublime of virtuality, 'the perfect evolutionary successor to twentieth-century flesh'.[51] Given his popular association with ideas of the 'Overman' who, transcending Christian values, harnesses the 'will to power' in the pursuit of a courageous vision of self-actualisation, Nietzsche may seem the perfect prophet of a libertarian, apocalyptic transhumanism. His thought seems ostensibly to issue an open invitation for Extropians, transhumanists and technocrats everywhere to cast aside the outmoded constraints of ethics, altruism and humanism in favour of a technologically-realised super-humanism. A closer reading, however, suggests that Nietzsche would have abhorred what he might have regarded as an excessive and uncritical transcendentalism.

Certainly Nietzsche subscribed to the principles of secular humanism, continued by transhumanism in the form of a search for 'the evolution of intelligent life beyond its currently human form and limits by means of science and technology, guided by life-promoting principles and values, while avoid-ing religion and dogma'.[52] Transhumanists such as Max More stand, like Nietzsche, in the tradition of Ludwig Feuerbach, inveighing against traditional theism. Feuerbach saw the exposure of the fiction of God as heralding the dawn of a new age in which humanity, acknowledged as the true authors of their world, could achieve emancipation. Writing at the other end of the age

of reason, however, Nietzsche saw no such absolute promise of redemption. The death of God may be necessary for the shattering of all other-worldly appeals to morality and truth, but with God's dethronement the entire edifice of morality, meaning and purpose crashes into ruins. Nietzsche saw this collapse as such a radical, iconoclastic event as to place the very survival of Western civilisation in question.

Nevertheless, Nietzsche regarded such an attrition as essential if humanity were to attain a new maturity. He conceived of the solution as a reworking of the Christian myth of sacrifice and resurrection, in a narrative of 'eternal return', repudiating temporal teleology in favour of a reborn figure. Nietzsche parodied the Christian narrative of the sacrificial suffering of Christ, using the figure of the ancient sage Zarathustra as a new saviour, who is reborn into innocence as the overman (*Übermensch*). Having done away with the creator of the universe (God), the overman must become the creator of his (sic) own reality. However, whilst humanity is now free (via the exercise of the will to power) to realise and effect its own destiny, Nietzsche was reluctant to reinscribe ultimate values or appeals to 'transcendent' visions. After the repudiation of Christianity, what he termed 'Platonism for the people', all metaphysical systems were to be renounced. Dogma cannot be reinvented. Only a courageous fortitude endures, sufficient to 'light the lamps' in the darkness. This is a vision far removed from the values of transhumanism, which merely secularises—without abolishing—Christian narratives of transcendence and redemption, offering a late twentieth-century version of Auguste Comte's 'religion of humanity' in which the imperatives of progress, unity and reason were to be serviced by a secular cult. In its aspirations towards the logic of immortality, invulnerability and omniscience, transhumanism exposes its vestigial craving for a perfect transcendent world 'Apart, Beyond, Outside, Above'[53] the messy contingencies of this one. We might expect Nietzsche to hold transhumanism culpable for reiterating rather than transvaluing (purging, renouncing) a pathological dependence on metaphysics. His thought is more properly an indictment rather than an endorsement of the transhumanist endeavour.

Advocates and critics alike of techno-transcendence assume that 'religion' and 'transcendence' can be equated; and that 'transcendence' is synonymous with Nietzsche's 'Apart, Beyond, Outside, Above'. Similarly, critics follow Feuerbach in representing religion as a vain, opiate-like projection onto which humanity affixes the yearnings properly reserved for a temporal or humanistic endeavour. But the question then is, could there be an alternative religious symbolic that enabled us to articulate different kinds of relationships to the material world, and to value different kinds of scientific epistemologies and technological endeavours? The question is whether Noble's solution, of a secularised 'successor' science, free of hubristic and imperialistic impulses,

would actually serve up a more equitable model of scientific practice and technological development. It seems to me that far more than dualistic religion is feeding Western technoscience. The pursuit of monetary gain is a considerable factor in determining the direction of scientific and technological change. There are huge profits to be made in the programmes associated with the Human Genome Project, not least by the private biotechnological corporations who are funding the research, patenting the 'genes' and marketing the applications. I suspect, therefore, that religion is less the sole underwriter of science *per se* than one of many ideological bolsters of a voracious consumer capitalism that encourages particular patterns of relationship and engagement with technology, 'nature' and social order. Although it is important to reconfigure the religious symbolic in order to dismantle the equation of religion and 'transcendence', it is also imperative to consider the economic and political dimensions too. In particular, we might try to address the co-existence of the urged-for transcendence—a surrender of materialism the better to attain quasi-divinity—with the constant stimulation of consumer desires.

It seems to me we can take one of two possible routes: one that takes flight from the material world in pursuit of ultimate knowledge and power; or another which sacralises the known world and infuses material experience with the possibilities of divinity. I certainly do not think that we can simply trade extreme technophilia for its opposite, technophobia, or the idea that humanity will be robbed of its uniqueness, its essence, by its tools and artefacts. Our models of what it means to be human should not exclude technical and scientific skills, which would hold out a number of possibilities for thinking about human engagement with technology and with humanity's own creative potential (especially to create and enhance life and to transform our material surroundings with beauty and utility), and of continuing to consider how that engagement with the material might be an avenue into 'transcendence' or divinity, via a more incarnational or sacramental engagement with the material world.

Futuristic fantasies of how technoscience will create a prosperous world are politically charged. Exemplary and normative visions of what it means to be human fuel transhumanist ambitions, but they may leave some people unrepresented altogether. It is clear that further examination is required into the way in which a particular construction of 'religion' has been co-opted into the transhumanist project in order to naturalise its predilections for omnipotence, invulnerability and immortality. The symbolic of transcendence must itself be placed in cultural, political and gendered context.[54] In respect of Nietzsche's genealogical thinking it would be better understood as an attempt to call all value-systems to account for their implicit idolatries, a question, ultimately, about what, in its representations

of the posthuman, Western culture has chosen to elevate as its objects of worship.

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3 B.E. Brasher, 'Thoughts on the Status of the Cyborg: On Technological Socialization and its Link to the Religious Function of Popular Culture', LIX *Journal of the American Academy of Religion* IV (1996) 815.

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7 J.G. Nellist and E. Gilbert, *Understanding Modern Telecommunications and the Information Superhighway* (New York: Artech House, 1999).

8 See B. Agnew, 'Will We Be One Nation, Indivisible?', 10 *Scientific American* 3 (1999) 76–9; also K.S. Brown, 'Smart Stuff', *op. cit.*, pp. 72–3; and G. Zorpette, 'Muscular Again', *op. cit.*, pp. 27–31.

9 B. Agnew, 'Will We Be One Nation, Indivisible?', (1999) 76–9.

10 G. Zorpette, (1999), 'Muscular Again', 10 *Scientific American* 3 (1999) 27.

11 See R. Kurzweil, *The Age of Spiritual Machines* (London: Orion, 1999); also R. Kurzweil, 'The Coming Merging of Mind and Machine', 10 *Scientific American* 3 (1999) 56–61; and M. Kaku, *Visions: How Science will Revolutionize the Twenty-First Century and Beyond* (Oxford: Oxford UP, 1998).

12 Cryonics traces its origins in R.C.W. Ettinger, *The Prospects of Immortality* (1964). Ettinger proposed a method of deep-freezing living tissue in order to preserve it until such a time when cures or recuperative treatments might be available. Ettinger was confident that, in time, every known disease would find a cure; and that modern science would also discover ways of slowing or even halting the ageing process. This technique would also discover ways of slowing or even halting the artificial preservation of tissue at low temperatures awaiting recuperative intervention, by conventional means or nanotechnological cell repair machines. E. Regis, *Great Mambo Chicken and the Transhuman Condition: Science Slightly over the Edge* (Reading, MA: Addison-Wesley, 1990), pp. 85–8.

13 'Nanotechnology' and 'nanoengineering' derive from 'nano' meaning one billionth of a metre, or five carbon atoms. Their principles were first mooted in a lecture by the physicist Richard Feynman in

December 1959, entitled 'There's Plenty of Room at the Bottom', in which he argued that there was nothing in the laws of nature to prevent matter being manipulated at the most basic level possible, that of individual atoms. Nano-technology is founded on a model of building life 'from the bottom up', atom by atom by molecule. Feynman's vision involved the building of tiny machines that would then build increasingly smaller versions of themselves. Feynman saw nothing in the laws of physics to prevent such an outcome. In the mid-1970s, Eric Dexter, inspired by the discover of DNA, began to explore the possibilities of building synthesised molecules: mini-robotic devices capable of manipulating other small particles such as molecules. Why note use such nanotechnology to rebuild cells when damaged or dying? Nanomachines would go into the affected area and reorganise the DNA of the cells to revitalise them, molecule by molecule. M. Kaku, *Visions: How Science will Revolutionize the Twenty-First Century and Beyond*, pp. 266–71, and E. Regis, *Great Mambo Chicken and the Transhuman Condition: Science Slightly over the Edge* (Reading, MA: Addison-Wesley, 1990), pp. 109–43.

14 Thanks to the growth rate articulated in Moore's law, which asserts the computer power doubles every eighteen months (M. Kaku, *Visions: How Science will Revolutionize the Twenty-First Century and Beyond*, p. 14). I suggest the probable correlation of something we might term 'Gates' law', which states that personal computers decrease in retail price (and physical size) by a similar exponential rate.

15 M. Kaku, *Visions: How Science will Revolutionize the Twenty-First Century and Beyond*, p. 14.

16 M. More, *The Extropian Principles: A Transhumanist Declaration* (1998) Version 3.0, available at http://extropy. org.extprn.html [accessed 19 March 1999], p. 2.

17 'Extropians FAQ List: What do "transhuman" and "posthuman" mean?'

(Extropian Institute, 1996) available at http://www.extropy.org/faq/transpost. html [accessed 19 March 1999].

18 M. More, *The Extropian Principles: A Transhumanist Declaration*, p. 6.

19 *Ibid.*, p. 1.

20 E. Regis, 'Meet the Extropians', *Wired Magazine* (October 1994), available at http://wired.com/wired/archive/2.10/ extropians_pr.html, [accessed 2 March 1999], p. 7.

21 B.E. Brasher, 'Thoughts on the Status of the Cyborg: On Technological Socialization and its Link to the Religious Function of Popular Culture', LIX *Journal of the American Academy of Religion* IV (1996) 817.

22 M. Kaku, *Visions: How Science will Revolutionize the Twenty-First Century and Beyond*, (Oxford: Oxford UP, 1998), p. 19.

23 *Ibid.*, p. 337.

24 K. Robins and F. Webster, 'Athens Without Slaves … Or Slaves Without Athens? The Neurosis of Technology', 49.

25 R. Jolly (ed.), *Human Development Report 1999* (New York: Oxford UP, 1999).

26 *Ibid.*, p. 5.

27 *Ibid.*

28 K.S. Brown, 'Smart Stuff', 10 *Scientific American* 3 (1999) 72.

29 D.F. Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention*, 2nd edn (New York: Penguin, 1999), p. 4.

30 M. Wertheim, *Pythagoras' Trousers: God, Physics and the Gender Wars* (London: Fourth Estate, 1997); also M. Wertheim, *The Pearly Gates of Cyberspace* (London: Virago, 1999).

31 J. Bennett, 'The Enchanted World of Modernity: Paracelsus, Kant, and Deleuze', 1 *Cultural Studies* 1 (1997) 17.

32 E. Davis, 'Techgnosis: Magic, Memory, and the Angels of Information', 92 *The South Atlantic Quarterly* 4 (1993) 586.

33 K. Robins, 'Cyberspace and the World We Live In', 1 *Body & Society* 3 (1995) 147.

34 'Introduction' in M. Benedikt (ed.), *Cyberspace: First Steps* (Cambridge, MA: MIT Press, 1993), p. 6.

35 *Ibid.*, p. 3.

36 E. Davis, 'Techgnosis: Magic, Memory, and the Angels of Information', (1993) 587.

37 M. Benedikt (ed.), *Cyberspace: First Steps* p. 15.

38 A. Kroker and M. Weinstein, 'The Hyper-Texted Body, Or Nietzsche Gets A Modem', p. 1.

39 See M. Benedikt (ed.), *Cyberspace: First Steps*, pp. 6–7; and H. Rheingold, *Virtual Reality* (London: Secker and Warberg, 1991), pp. 355–7, 378–91.

40 H. Rheingold, *Virtual Reality*, p. 356.

41 M. Lieb, *Children of Ezekiel: Aliens, UFOs, the Crisis of Race, and the Advent of End Time* (Durham, NC: Duke UP, 1998), p. 69.

42 W. Gibson, *Neuromancer* (London: Victor Gollancz, 1984), p. 12.

43 M. Heim, *The Metaphysics of Virtual Reality* (Oxford: Oxford UP, 1993), p. 75.

44 See M. Benedikt (ed.), *Cyberspace: First Steps*, p. 2.

45 See E. Graham, *Representations of the Post/Human: Monsters, Aliens and Others in Popular Culture* (Manchester: Manchester UP and New Jersey: Rutgers, 2001), esp. chapters 2 and 4. I argue for an affinity between elements of 'techno-transcendence' and ancient Kabbalistic and Hermetic emphases on the theophanic power of letters, numbers, codes and other secret *gnosis*.

46 D.F. Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention*.

47 *Ibid.*, p. 6.

48 *Ibid.*, p. 3, my emphasis.

49 *Ibid.*, p. 104.

50 A. Kroker and M. Weinstein, 'The Hyper-Texted Body, Or Nietzsche Gets A Modem', p. 2.

51 *Ibid.*, p. 1.

52 M. More, *The Extropian Principles: A Transhumanist Declaration*, p. 6.

53 B.D. Ingraffia, *Postmodern Theory and Biblical Theology: Vanquishing God's Shadow* (Cambridge: Cambridge UP, 1995), p. 92.

54 J.R. Carrette and R. King, 'Giving "Birth" to Theory: Critical Perspectives on Religion and the Body', 19 *Scottish Journal of Religious Studies* (Special Edition: Beginning with Birth) 1 (1998) 139–40.