

Technics and the Human at Zero-Hour: Margaret Atwood's *Oryx and Crake*

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MARGARET ATWOOD'S 2003 novel *Oryx and Crake* is a dystopic and satirical fable set in the aftermath of a biotechnological apocalypse. A plague of horrific proportions, disseminated as a "Trojan horse" virus hidden in a panacea sex pill, has liquefied most of the world's population, leaving the protagonist, Snowman, as the "Last Man" wandering a landscape overrun by predatory phactory-pharmed GM hybrids and populated by a tribe of genetically engineered post-human noble savages.

When expressed concisely, the scenario of the novel appears hyperbolic. *Oryx and Crake* is a text that mobilizes such a vast array of futurological speculations and mythological and literary archetypes, however, that no hyperbole is too absurd to describe it. Further, it is a text in which the function and value of language, rhetorical and otherwise, is consistently foregrounded.

The novel turns on a number of myths or archetypes. With the depiction of cloned and genetically engineered life-forms and viruses comes the Frankensteinian myth of ex-utero creation coupled with its Promethean twin of forbidden knowledge and technology out of control. The ambiguity of technoscience is foregrounded here, and the figure of the *pharmakon* — the poison that is also a cure — works as a key theoretical index of this ambiguity. As is fitting for a post-apocalyptic novel, there is also the invocation of the Last Man as survivor of the destruction and lone surveyor of all that is left, and the figuring of the apocalypse as a cleansing renewal making way for a millennial reign of peace. These myths are played out upon two background frameworks: the framework of a biotechnological revisiting of post-Cold-War eschatology; and the framework of a linguistic and literary "magic" performed by capitalist producers upon willing consumers, and by biotechnologists upon "nature." Within these frameworks, the Last Man is a survivor on two counts: he is a sole survivor of the destruction, but

also a sole representative of the “human” as a species potentially to be supplanted by genetically engineered post-human beings. In the novel, language, writing, and thus technics are linked to the beginning and end of “life” and the “human” as they are commonly understood. As well as examining the ambiguous and eschatological role of technics and biotechnology in Atwood’s text, this paper will explore the way in which the *tekhnai* of language and writing are implicated in the definition of human life.

The cumulative effect of these various myths and frameworks is to pose the question of “the end of the human.” Such a question has, these days, a reasonable amount of cultural currency, and it also has many dimensions, allowing examination across phenomenological, ontological, and biological arenas. And yet, at the same time, such a question is impossible to read — it is an *abyme* for thought, an incoherency. Regardless of the various ways in which it has been asked, it remains incumbent on us to question the question: How can we speak of the end of the human, when “we” are still here, insisting on our humanity? And could there ever not be a “we”? *Oryx and Crake* is thus a speculative fiction, a reflection on what it might mean to posit an end to the human within a biotechnological scenario. It places the human, as well as modernity and what is termed, often disingenuously, civilization, in jeopardy, partially in *crisis*, and most certainly in *question*.

Reviews of the novel have been decidedly mixed. Reviews written by pundits or writers of science fiction, such as John Clute’s review at Scifi.com, concentrate on the status of Atwood’s novel as speculative fiction not science fiction, choosing to lambaste Atwood for attempting to differentiate herself from the space travel, teleportation, and Martians aspect of sci-fi (Atwood “Writing”) while failing to write a novel that thinks outside the banality of “the near future as envisioned by Hollywood” (Clute). In the essay published on the *Oryx and Crake* website, Atwood states that she has written speculative fiction, not science fiction, because she wants her novel to be understood as a direct extrapolation from, and thus critique of, contemporary society and technology (Atwood, “Writing”). In her estimation, the difference between speculative and science fiction rests on differences in their relation to the future: speculative fiction takes a questioning and critical eye towards the future in order to reflect on the present, whereas science fiction is concerned more with an imagining of the future as such. Clute, however, argues that science fiction has always been speculative in Atwood’s sense, and interprets Atwood’s position, with Gary K. Wolfe, as *market* rather than *genre* differentiation: “She’s not demeaning the SF market

so much as protecting the Atwood market” (qtd. in Clute). Other reviewers not concerned with differentiating between speculative and science fiction still find the novel problematic. The *New York Times*’s Michiko Kahutani described it as a “lame piece of sci-fi humbug.”

In other circles, Atwood’s novel has been more warmly received. Stephen Dunning reads *Oryx and Crake* as a cautionary tale about the dangers of quantitative science and technology superseding, and exploiting, “qualitative human concerns” (89). Dunning’s argument rests on an implicit separation of “human” concerns from the concerns of science and technology, and he sees Atwood’s critique residing in the position that scientific practices must be tempered by human wisdom. For similar reasons, writers on biotechnology have also welcomed the novel because of Atwood’s argument that the book is concerned not so much with biotechnology *per se*, but with the human use of such techniques. A review published in *Nature Biotechnology* (a division of the Nature Publishing Group, which publishes the renowned scientific journal *Nature*) gleefully quotes Atwood’s claims that “It’s not biotech that’s dangerous It is people’s fears and desires” (Louët). Atwood herself, in a fascinating move, has made similar claims on the website that accompanies the book (www.oryxandcrake.com), to which readers are referred in the book’s Acknowledgements. There, she positions the book as a treatise on the ambiguous potential of powerful tools, and the role of humanity in determining the fit use for such tools: “Our tools have become very powerful. Hate, not bombs, destroys cities. Desire, not bricks, rebuilds them. Do we as a species have the emotional maturity and the wisdom to use our powerful tools well?” (“An Interview”).

Setting aside the ramifications of Atwood’s decision to publish authorial comment on the novel in an electronic form that is directly “linked” to the novel itself (described by one critic as “an abstruse desire to manipulate the novel past what is generally perceived as the accepted limitations, or boundaries, of authorial influence” [Cole 1]), what does Atwood’s position suggest? She argues that it is not technics or technology or biotechnology that is dangerous; it is the uses human beings put these things to. The end of the human is a human problem, not a technical one. This is a common enough position: technology is “neutral”; guns don’t kill people — people do. And yet this is also to artificially separate the gun from the person who wields it, as if that person had nothing to do with the existence of the gun in the first place, as if the gun were forged in a void, bereft of politics and of culture. This is also to assume that the practice of using a gun is not a

technical practice. While Atwood may attempt to distance herself from a wholesale demonization of biotechnology by claiming that it is human fears and desires that drive events, I would argue that, perhaps despite itself, the novel in fact presents a different position, one more ambiguous and ultimately divided.

Firstly, the distinction between biotechnology as a technics and the hubristic human *use* of biotechnology is a false distinction. The hubris and overreaching that Atwood wishes to distinguish from some kind of dispassionate technical practice stems from the same context as the latter, and a cautionary tale about the dangers of overreaching must at the same time be a cautionary tale about technics. Thus, while critics like Stephen Dunning see no problem in keeping Atwood's *homo sapiens* separate from *tekhnē*, other critics, such as Chung-Hao Ku and Danette DiMarco, see Atwood's concerns focusing on the more ambiguous figure of *homo faber*, "man the maker," a properly technical "man" who is not separate from his tools (see Ku; see also DiMarco).

Secondly, while the end of the human may come about as a result of human hubris and anxiety, and is certainly presented as the end of a race or species, it is also positioned as the end of language, the end of an essentially technical, extra-human, or, in the terms of Bernard Stiegler, "epigenetic" infrastructure that radically exceeds anything to be considered *biologically* human. That is to say, the end of the human cannot be imagined without the end of technics, and any attempt to separate the human from the technical would be to elide the many ways in which humanity and technics are intertwined, sharing a joint zero-hour, both a beginning and an ending.

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The novel opens with Snowman living in a tree to avoid roaming packs of "wolvogs" and other hybridized creatures. Both civilization and the environment have broken down, humanity has been reduced to a static tableau of toxic corpses, and Snowman is left a scavenger, living off scrounged foodstuffs from abandoned trailer parks, and avoiding the burning rays of an ozone-depleted sun. Snowman also appears to act as caretaker to a group of naked innocents called the Children of Crake. It slowly emerges that these "children" are the biotechnological spawn of Crake's massive R&D budget and the Paradise Project, and that the genetically altered world Snowman lives in also came about as part of that process.

The book then begins to tell the story, in flashback, of how all this came about. It follows Snowman (a.k.a. Jimmy) through his life in the Compounds, walled corporate precincts for the totalitarian biotech companies that breed, amongst other organic contraptions, “pigoons” with extra kidneys for xeno-transplantation. Early in his life, Jimmy befriends Crake, a brilliant and somewhat diffident character whose intelligence and misanthropic ambivalence propel him quickly towards a career in the Compounds. Crake later becomes the head of the top-secret Paradise Project housed in the RejoovenEsense Compound, and it is this project that leads to the wholesale breakdown of civilization and humanity that we witness at the opening of the book. The book alternates between flashbacks to this past, and the present, where Snowman undertakes a dangerous journey to the scene of the crime, the Compound where Crake’s experiment began. The novel closes with Snowman returning to his home to discover that he is no longer alone; a few ragtag human survivors have made camp nearby, and he prepares to either greet them or kill them, his fellow remnants of a defunct race.

With evident rhetorical glee, Atwood populates this biotechnological nightmare with a number of satirical extrapolations from contemporary science and multinational capitalism. Biotechnology and pharmaceutical giants with names like HelthWyzer, OrganInc, and RejoovenEsense market a range of designer drugs, happy pills, and cosmetic surgery make-over packages: HappiCuppa, AnooYoo, NooSkin, BlyssPluss. Designer babies are ordered from Infantade, Foetility, and Perfectababe. Simulated foodstuffs and the product of biotechnologically altered animals abound: “ersatz but edible” shrimp paste (272), ChickieNobs Nubbins, SoyOBoy burgers and sardines. Laboratory-spliced hyperanimals of all kinds roam freely: the snat, the pigoon, the rakunk, the wolvog. In all, the world depicted is a fully altered world, and a fully alterable world. This is a post-genomic world, a world in which genomic sequencing is something that has already been surpassed, and that presents no barriers to science. At the same time, this “high science” is echoed in a “low science” that results in the aforementioned artificial foodstuffs. Hybridization, mutation, and simulation are the primary orders of the day, and these logics are threaded through culture and science at all levels.

Geopolitically, the world of the novel is divided into the producers and the consumers, the “kings and dukes” (28) who oversee and control the process of production, and the seething masses of the general public. Vaguely reminiscent of a feudal monarchist state (I think of Prince Harry escaping the castle and slumming it with Falstaff and the whores), this world

also invokes similar divisions in recent science fiction, such as the division between the “Multis” and the “Glops” in Marge Piercy’s *He, She and It*. Atwood manifests this divide between rich and poor, haves and have-nots, in the splitting of urban environments into the Pleeblands — places of filth, disease, poverty, bioterror, and chaos — and the Compounds — walled, secure, tightly-controlled and policed districts of biotechnological and capitalist production.

The Pleeblands, once called “cities,” are characterized as places of unrule, of chaos, of a dangerous, cloying multiplicity and plurality: “Asymmetries, deformities: the faces here were a far cry from the regularity of the Compounds. There were even bad teeth” (288). Even images of artistic and self-expression are, here, made to appear as mutations, as if the desire to express oneself artistically (as opposed to biotechnologically) is in some way a maladaptation. Indeed, mutation and pollution are the overriding factors of Pleebland life; manufactured bio-agents that liquefy their victims circulate freely; visitors from the Compounds are encouraged to inoculate themselves before entering, and to wear ‘nose cones’ to filter out microbes and particulate matter; sexuality in the Pleeblands is open, raw and licentious; prostitution and nudie bars abound.

There is the sense of a post-human bazaar economy, reminiscent of the street scenes in Ridley Scott’s *Blade Runner* (1982); there are cosmopolitan, clamouring spaces rich with variety, fecundity, sexuality, intrigue, and the fluid exchange of biocapital: “There was so much to see — so much being hawked, so much being offered”; “People come here from all over the world — they shop around. Gender, sexual orientation, height, colour of skin and eyes — it’s all on order, it can all be done or redone” (288, 289). The isolation and free exchange of biological elements that are characteristic of much biotechnological research, and their increasing particularization and thus commodification, have reached an apotheosis in this society. The Pleeblands are also both a testing ground or live-in laboratory for biotechnological and pharmaceutical possibilities, and an index of the changing state, and status, of the “human,” given such great possibilities for modification across all strata of biological being: epidermic, psychic, and genetic. In the same way that biotechnological practices of “pharming” use the body as a factory for the production of elements for xeno-transplantation, the laboratory, here, moves out of its traditional confined space and into the biosphere. The “experimental way of life” that Donna Haraway situates at the root of the scientific laboratory is “liberated” in Atwood’s text, and set

to run on automatic in the world at large (Haraway 15): “The whole world is now one vast uncontrolled experiment ... and the doctrine of unintended consequences is in full spate” (Atwood 228).

The Compounds, on the other hand, are safe, controlled, biologically monitored, and secure, and what they produce is done under the guise of an altruistic desire to better human life. They represent the height of corporatized, technoscientific, biotechnological culture. “CorpSeCorps” security personnel patrol the borders, interrogate visitors, and investigate untoward occurrences and suspicious persons. There is a distinctive lack of criticism, or of a plurality of viewpoints; indeed, any dissenting voices that are heard in the novel are usually heard posthumously, as a suicide turns into a murder and rumours spread about what they knew and who knew that they knew. In a speculative fashion, this scenario is a manifestation of the 1990s scene in the United States that Donna Haraway describes in *Modest_Witness*:

The spectrum of science policy discourse in the United States in the 1990s makes even mentioning such things [as democratic participation in technoscience or engaging in debates in education about science and technology] appear to be evidence of hopeless naïveté and nostalgia for a moment of critical, public, democratic science that never existed. (94)

The Compounds encapsulate corporate “yes” culture in a spatial metaphor of bringing together into one place all those who have “opted in,” who have internalized the goals, truth, and ethics of the company as their own, and excluding or expelling everything that is threatening to this homeostasis.

The distinction between Pleeblands and Compounds turns on the way in which biotechnological or manufactured agents and products are treated and represented. The “hostile” bioforms of the Pleeblands are considered quite distinct from the “friendly” bioforms of the Compounds: the pigeons, calmly and benevolently producing superfluous human kidneys in their bodies; the BlyssPlus pill and the NooSkin makeover, legitimate solutions to “medical” problems. The Pleeblands are not “productive” in the same way as the Compounds; they deal in revolt and disease, their “splices” are destructive, not therapeutic. Another distinction on which the difference between the Pleeblands and the Compounds turns is that between the arts and science, in which the arts are debased through their association with linguistic verbiage and ad copy, and the sciences are associated with the lofty aims of rearranging the “building blocks of life” for capital gain.

Of course, there is a satirical dimension to the manner in which the distinctions between Pleebland and Compound are drawn up that renders them

shaky. Despite an implicit valuing of scientific endeavour over marketing manipulation, the degree to which the product of scientific endeavour *relies* on marketing slogans and catchy brandnames to “perform” suggests that the inside/outside dialectic, which hovers behind the distinction between the Pleeblands and the Compounds, is already deconstructed. Recalling Haraway’s emphasis on the material-semiotic make-up of technoscience, science in Atwood’s text functions equally as a vehicle of rhetoric and fashion, and as a vehicle of scientific development. The “progress” science represents is in fact an imagined, fantasized progress, a lifestyle option disguised as a step forward. Despite an appearance of scientificity, the research conducted in the Compounds, and the products shipped from them, is fundamentally consumer-oriented. The litany of products produced at AnooYoo — “pills to make you fatter, thinner, hairier, balder, whiter, browner, blacker, yellower, sexier, and happier” (248) — suggest an inexorable and cyclical logic of product diversification and market differentiation. The Compounds need the Pleeblands, and science needs the market.

Crake, as one of the Compounds’ most prized researchers, encapsulates this dual logic, which is also the logic of the *pharmakon*. The term *pharmakon*, which appears numerous times in Plato’s *Phaedrus* and in other Platonic texts, and which plays a key role in the analysis of the *Phaedrus* Derrida conducts in *Dissemination*, can mean medicine, remedy, drug, charm, philtre, recipe, colour, pigment, and, most importantly, both poison *and* cure. *Pharmakon* can signify *either* a thing *or* its opposite, or, *both* a thing *and* its opposite. Just as “supplementarity” as Derrida uses it in *Of Grammatology* invites or reinstates the very thing it is used to expel, the *pharmakon* introduces the possibility of, from one perspective, a meeting of opposites, and from another, of opposition itself. To put a somewhat platitudinous spin on the term, we could characterize the *pharmakon* as something like a “necessary evil.” The terms “drug” and “medicine” encapsulate this ambiguity well, and when thought of in a contemporary context simultaneously foreground the etymological wormhole through which the pharmaceutical industry appears to us, today, imbued with an almost limitless power to save and to cure, and — especially as regards anti-depressants and Selective Serotonin Re-uptake Inhibitors (SSRIs) — to edit, to block, to inhibit, and, in doing so, to release.

Indeed, it is worth noting the powerful confluences between the connotations and perceived “mission” of the *pharmaceutical* industry and medical science; while these industries seem to delimit quite different practical

fields, they function under the same set of cultural connotations (relations to progress, development, the problematics of disease and death), and a strikingly similar investment in the *promise* and in imagined futures or the virtual. Donna Haraway unites these industries under the name “technoscience,” reminding us to see the technical practices at the core of so much that happens today in the name of “science,” “medicine,” “health,” and “progress”: “Technoscience extravagantly exceeds the distinction between science and technology as well as those between nature and society, subjects and objects, and the natural and artificial that structured the imaginary time called modernity” (3). Haraway’s technoscience is an important touchstone, as she explicitly positions it as an ongoing material-semiotic or science-fictional strategy of combination and category (con)fusion, a strategy of supplementarity, of the *pharmakon*.

Reflecting on the *pharmakon* in terms of contemporary society and its fascination with medical science and a pharmaceuticalized lifestyle provides an interesting context for understanding the ambiguous status of Crake’s technoscience. In contemporary culture, questions regarding “what is a disease?” and “what is a cure?” are increasingly complex and even absurd given the tight integration of, for instance, pharmaceutical companies and their branding/marketing firms, not to mention the demands to maximize profit placed on public companies by shareholders (questions of profit/loss, and cost/benefit, are equally rendered absurd in this scenario). The documentary *Selling Sickness* (2004) details the way in which pharmaceutical companies such as GlaxoSmithKline are increasingly designing not only drugs to aid in the treatment of “disorders,” but disorders themselves.

One of the world’s leading anti-depressants, Paxil, manufactured by GlaxoSmithKline (GSK), greatly expanded its markets by promoting the drug for a range of new psychiatric conditions. Shyness is thus transformed into “Social Anxiety Disorder” (SAD), constant worry has become “Generalized Anxiety Disorder” (GAD) and premenstrual tension is now “Pre-Menstrual Dysphoric Disorder” (PMDD).

(SBS Television)

This medicalization of fringe aspects of “normal” life, coupled with the pharmaceuticalization of ever-larger numbers of the populace (the film notes that up to twenty-five percent of the U.S. population could be considered candidates for Social Anxiety Disorder according to GSK’s definition of the condition), points to a powerful codetermination of disorder and cure, drug as remedy and drug as poison at the same time, in one and the same

drug; moreover, the identification of the “patient” — that is, *the being who is poisoned* — is enacted in the same moment, in one and the same movement, in which a *market* is identified and constructed.

The BlyssPluss pill Crake develops provides the simplest manifestation of this logic. As Crake explains to Jimmy, BlyssPluss is to be marketed on three characteristics: it will “protect the user against all known sexually transmitted diseases,” “provide an unlimited supply of libido and sexual prowess,” and prolong youth (294). It is an all-purpose sexual cure-all. A final characteristic Crake describes, which is not to be made public, is that BlyssPluss would also sterilize the user, “thus automatically lowering the population level” (294). Crake reminds Jimmy of the population problems the world is now facing: “As a species we’re in deep trouble, worse than anyone’s saying. They’re afraid to release the stats because people might just give up, but take it from me, we’re running out of space-time” (295). This characteristic too appears as a “cure,” although for a different ill. This pill, which of course “sells itself,” is at the same time designed with a different purpose in mind; the wholesale destruction of the human race. Having been marketed worldwide, when the virus in the pill is activated, a global pandemic emerges as in any fantasy of global outbreak, complete with outbreak centres dotting world maps with red flashing lights: “Then the next one hit, and the next, the next, the next, rapid-fire. Taiwan, Bangkok, Saudi Arabia, Bombay, Paris, Berlin. The pleeblands west of Chicago. The maps on the monitor screens lit up, spackled with red as if someone had flicked a loaded paintbrush at them” (324). Even *this* poison is, for Crake, a kind of cure for the malaise of humanity as such. The sentences he makes with his fridge magnets, which through the novel provide an index of his current preoccupations, turn distinctly metaphysical and open-ended towards the end of the book: “To stay human is to break a limitation”; “I think, therefore” (301). Crake’s misanthropy — “We’re hormone robots anyway, only we’re faulty ones” (166) — and his analysis of human frailty — the pettiness, addictions, emotional entanglements, violence, and urges he reduces human beings to — is solved by the two-part move of destroying the current human race and introducing the “Children of Crake” from the Paradise Project as the perfected “human” inheritors of the world.

Crake is a kind of bioterrorist of the inside, a *pharmakeus* who leads all who follow him into opposition with themselves. He works within the system of the corporates, but maintains an unpredictable streak of calculating anarchy that allows him to be both inside and outside, poison and cure at

the same time. Crake, who so perfectly manages to play the corporate game that he is given an almost unlimited R&D budget for his Paradise Project, ultimately wishes to rewrite all the rules of the human condition and begin again with Version Two of the Human. Behind air-locks and locked doors, in the secure heart of the Compound, and under the very noses of the RejoovenEsense top brass, Crake builds the future of the human, and prepares for the extinction of Version One, fervently engineering the end of the society that feeds and maintains both the Compounds and the Pleeblands.

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Atwood's speculative fiction speaks directly to contemporary life, presenting a world that may not necessarily have "happened," but which has certainly already been dreamt of, war-gamed, speculated upon, and which already exists in a less hyperbolic or carnivalesque fashion. The Pleeblands, despite their depiction as dens of absolute iniquity (which owes more to a discursive need to set up an easy polarization of urban spaces than any real sense of abjection), are nevertheless composed of most of the aspects of the everyday that constitute life in the West in the early years of the twenty-first century: cities as localities of great plurality and multiplicity, open (and closed) sexuality, hyperconsumption and capitalism; sex, drugs, and personal expression; biotechnology and bio-terrorism; and protests against the movements of multinational corporations, G8 and WTO summits. The Internet in the novel, awash with pornography and fetishes of every imaginable kind, is not a great deal different from the current state of the Internet as of this writing; the difference is simply that Atwood chooses to downplay the commercial aspects of the Internet in favour of the sexual and voyeuristic.

The properties of the pills, medicines, and drugs in the book are also not very far removed from contemporary "medicine." BlyssPluss appears as a combination of Viagra, Human Growth Hormone (HGH), and standard vaccinations, a catch-all panacea wonder drug, the encapsulation of current fantasies of the transcendence of human frailty. Indeed, Jimmy's ironic litany of promises espoused by the AnooYoo pills resembles nothing more than a concatenation of the promises found in any survey of contemporary "spam" marketing emails, and the questionability of the *promise*, here, is of prime importance. Spam is an important referent, as its tone almost perfectly matches the overblown hyped-up promises of an achievable and perfected post-humanity evinced by the products in Atwood's text. Spam messages

are driven by a hyperbolic logic of breathless case-studies and amazing facts, underpinned by faith in the technoscientific panacea:

We have been on the spray for just 3 weeks now, and besides the tremendous energy we both feel, my husband's allergies and spells of depression have lifted. I am healing extremely fast after an accident and have lost 7 lbs. without trying!

Pheros is a lovely fragrance with a touch of human pheromones, packaged in a [*sic*] exclusive crafted box. Pheros is a foolproof tool of seduction, the scent and the pheromones together make a foolproof combination. No one can resist the wearer of this mysterious fragrance! Pheros combines high tech science with the well-known function of the scent of a luxurious [*sic*] perfume.¹

Spam functions almost solely on the weight and value of the promise, that which is always yet-to-come, for what is bought and sold is never done so in terms of the here and now. Atwood's world is a world according to spam; a world of barrages of media messages raining down on a waiting populace: a world in which diseases, disorders, and conditions that, like GlaxoSmithKline's Social Anxiety Disorder and Generalized Anxiety Disorder, are created in one and the same movement as their "cures" are "discovered"; a world in which biotechnology and medical science experiment with "the art of the possible." Biotechnology presents a number of possibilities, a number of avenues down which science may wish to travel and biology to follow. These possibilities are expressed, in the book, through the simplicity of the act of splicing. But the book also presents biology *in potentia*, as a virtuality, a thing that is always coming into being, not yet here. It is not the case that the biotechnological promise presents us with *faits accomplis* — it is not that the products of biotechnological experimentation have all already been envisioned, laid out, planned, and just need to be "realized." They are not "possible" in that sense. Rather, biotechnological experimentation presents us with a virtual biology, an unpredictable virtual biology in the process of being actualized. The "human," in this schema, is something that has simultaneously already been surpassed, and has also never been reached. "Humanity" is always virtual, always coming into being, always up for grabs by or *promised to* whatever regime has the rhetorical power to grasp hold of it for however long, and the scientific/economic power to back up its truth claims. The human, in Atwood's text, is both something on its way out, due to be replaced, an old model that has done its time, and also a promise, something always yet to appear.

As a speculative fiction, then, Atwood's text sits in a "not too distant future" that is yet alarmingly familiar. The fact that nothing in the book really comes as a surprise does not, however, lessen its impact or its importance. Atwood foregrounds certain aspects of modernity through a strategy of "masquerade," of critique through hyperbole, and forces a second look at contemporary life, revealing the power plays, marketing strategies, and processes of mythography that are already at work in its construction and constant re-realization. Most importantly, she turns considerable satirical scrutiny on biotechnology and technoscience. In doing so, she exposes a deeper seam at which the material and the semiotic meet: the biotechnological and capitalistic manipulation of nature, technology, and the human. Despite her stated desire to question not biotechnology but human hubris, which translates into an unstated desire to keep human actions and intentions separate from techno-scientific practice, Atwood dramatizes the ease with which distinctions between these formations can be done away with. She does this through rhetorical strategies of linguistic usage and writing that easily elide distinctions between the biological and the technical.

In the first instance, Atwood creates a world in which the brand is highly performative, and is central to the experience and constitution of life. Everything is branded, and everything is owned; the logo is the *logos*, Word of the capitalist God. Donna Haraway's New World Order Inc, with its postulation of "Man the brand", "Nature™ and Culture™," finds its fictional manifestation in the world Atwood creates (Haraway 74, 112). The advertising slogans and brand names are obviously cynical, over the top; they exhibit their dreamed-up-ness almost as a badge of authenticity. They also echo their actual (or imagined) function in their names; AnooYoo promises precisely that, a new you, through their endless range of self-help and self-improvement products. NooSkins makes the same promise — a new skin. Where contemporary pharmaceuticals tend to pack their brand names with a pseudo-medical aura of scientificity and a hint of joy or freedom (e.g., Xanax, Viagra, Prozac, Claritin, Cele-brex), Atwood's brands strip off the scientific veneer and go straight for the consumer's primary pulsion, the all-purpose medical lifestyle solution.

In depicting a world so starkly reducible to brands, slogans, and technoscientific panaceas, Atwood presents a "masquerade" of contemporary Western society, in which brands have become powerful signifiers of identity, and in which pharmaceutical companies create diseases and cures at the same time. Rather than couching her critique in academic language,

however, Atwood's critique is packaged as a condensed expression of Marxist and Frankfurt-school-style critical theory. All that has been said about mass culture's production of consumption and concurrent manufacture of lack, desire, and product/solution, all that has been said about the false consciousness of commodity fetishism and a life lived according to the dictates of advertising media, is ironically encapsulated in a product like NooSkins, which answers the dream of regained youth with the promise of an entirely new epidermis. No mere quick-fix surface-level laser treatment, NooSkins is marketed as the key to crossing a whole new threshold of epidermal regeneration. Atwood's masquerade is manifest in the hyperbolic promise of the product.

At the same time, the omnipresence of the brand, and of multinational capitalist power, places life itself within the purview of the logo, or, more properly, the *logos*. Life, and increasingly the human, as things that are open to biotechnological tinkering, are now generated within the multinational capitalism of biotech firms, which operates according to the dualist logic of intellectual property and the market economy. In this sense, both what is biological and what is technological are structured *by* the logo, which brings with it all the power conferred upon any bearer of the *logos*: the power of the word, of definition and of truth, of patronage and filiation.

Secondly, the names given to the products of biotechnological experimentation indicate the ambiguous power of language itself. Alphabetic language is inherently recombinative; change a letter here and there, and you change a word, and a meaning. Combine two words, two separate semantic units, and you create a new semantic unit that takes connotations from both words to create a hybrid. Grammar — the technical system of *la langue* — provides us with the rules of this game. Atwood foregrounds this recombinative nature of language, and implicitly relates it to the highly recombinant technoscience of the novel. The brand names and hybrid animals she has dreamt up are indicative of the performative function of much biotechnological rhetoric. There is a way in which language cleanly encapsulates all that technoscience accomplishes, through the simple joining of words. Indeed, the word used in both Atwood's text and in many other writings on biotechnology to describe these hybridizations — “splice” — testifies to the apparent simplicity of this operation. Splicing, like the “cut and paste” of most software applications, provides not merely a non-scientific metaphor for actual practices, but a model or program of possibility. The rakunk, the wolvog, and the spoot/gider all come into being at the moment that two

simple nouns are merged, and they do so in the guise of a pseudo-science based, in the public estimation of it anyway, on the free transferability of generic genetic particles or matter, an open recombinative possibility. As a signifier, the spoot/gider's signified is not tardy, as it is the result of a simple rhetorical act of addition, and "decoding" the spoot/gider is the work of a moment. A combinatory matrix codes everything that takes place in either language, technoscience or the market, and it renders everything accomplishable *through* language, which is to say through writing, which itself echoes a similarly recombinative nature.

Making her reference explicit by having Crake attend the *Watson Crick* Institute, Atwood aims her critique at the "building blocks of life" theories of the early molecular biologists, and, by implication, at more recent biotechnological experiments. Crake is a biological determinist, believing also in a logical biology, a biologic of sense. Art, for instance, exists for a purely biological function: "The male frog, in mating season, makes as much noise as it can. The females are attracted to the male frog with the biggest, deepest voice.... So that's what art is, for the artist.... An empty drainpipe. An amplifier. A stab at getting laid" (168). Everything is there for a reason, and nothing should be there for *no* reason. In his design for the Children of Crake, nothing extraneous is included, and all indeterminacy is removed.

Crake's world view is thus of an infinitely malleable, editable world made up of discrete entities linked by cause and effect. As a graduate of the Watson Crick Institute, he inherits Watson and Crick's reductionist "Central Dogma." The Central Dogma formulated by molecular biologists in the 1950s held that the base sequence of genes, or DNA, directly and completely specified the sequence of amino acids in a protein. It further "assumed that the amino acid sequence of a protein determines its three-dimensional structure and, by implication, its function. Hence, it seemed logical that the shape of hemoglobin, its colour, and the way it transports oxygen in the blood are all determined by 'the hemoglobin gene'" (Hubbard 44). From this Central Dogma stemmed the various popular genetic-determinist beliefs in genes as "programmes" for life, and Crake's technoscience is the manifestation of this belief. His answer, for instance, to the problem of death is to re-interpret immortality as the absence of the fear of death; using a particularly literary metaphor, he suggests that you simply "edit out the fear" (303). His design for the Children of Crake is similarly additive or subtractive. The Children of Crake are vegetarian, eating mostly leaves, nuts, and twigs. To get the maximum benefit from their diet, Crake designed

them, like hares and rabbits, to recycle their own feces two or three times a week. Other convenient and biologically determinist splices involve borrowing mating rituals from the baboons, and “the expandable chromosphores of the octopus” (164). Through Crake’s reductionist technoscience, and through the cut-and-paste naming strategies for the outcomes of biotechnological splicing, the function and power of language is explicitly linked to the practices of technoscience and bio-informatics.

From a slightly different angle, there is a conflation made between genetic diversity and linguistic diversity, or between race and language. Part of the biotechnological eschatology that informs the book is the idea that with the death of the human race comes the death of language. This is an idea that is not uncommon in post-apocalyptic texts, generally figured within a cold-war, nuclear scenario. For instance, Russell Hoban’s novel *Riddley Walker* is written in a broken-down, post-apocalyptic pidgin English: “On my naming day when I come 12 I gone fornt spear and kilt a wyld boar he parbly ben the las wyld pig on the Bundel Downs any how there hadnt ben none for a long time befor him nor I aint looking to see none agen” (Hoban 1). After the end of civilization and the decimation of humanity through a nuclear war, survivors must rebuild not merely their technological infrastructure, but their linguistic, cultural, and mythic infrastructure as well. Scavengers for food and technology, the survivors must also be linguistic scavengers, constructing new myths out of the remnants of old ones. The language of the desert-children in *Mad Max Beyond Thunderdome* (1985) evinces the same mixture of pidgin-English and reworked cultural myth. Without going to the extremes of *Riddley Walker* or *Mad Max*, Atwood suffuses her book with the sense of a lament for language, for words, and for the creative endeavours conducted with words. At the opening of the book, Snowman sits in his tree, trying to remember the sources and meanings of phrases that pop into his head unbidden: “‘In view of the mitigating,’ he says. He finds himself standing with his mouth open, trying to remember the rest of the sentence” (5). Throughout the book, there is a constant sense that language is slowly slipping away from him. He recites litanies of archaisms to himself, reminding himself that he is the final archive and repository of language and all that this entails: “‘Hang on to the words,’ he tells himself. The odd words, the old words, the rare ones. *Valance. Norn. Serendipity. Pibroch. Lubricious*. When they’re gone out of his head, these words, they’ll be gone, everywhere, forever. As if they had never been” (68).

Similarly, born in the relative vacuum of the laboratory, and bereft of

the inheritance of human culture, the Children of Crake speak a simplified, stripped-down language. They constantly ask questions of Snowman because his language refers to things that are now long gone:

Toast is when you take a piece of bread — What is bread? Bread is when you take some flour — What is flour? We'll skip that part, it's too complicated. Bread is something you can eat, made from a ground-up plant and shaped like a stone. You cook it ... Please, why do you cook it? Why don't you just eat the plant? Never mind that part — Pay attention. You cook it, and then you cut it into slices, and you put a slice into a toaster, which is a metal box that heats up with electricity — What is electricity? Don't worry about that. While the slice is in the toaster, you get out the butter — butter is a yellow grease, made from the mammary glands of — skip the butter. So, the toaster turns the slice of bread black on both sides with smoke coming out, and then this "toaster" shoots the slice up into the air, and it falls onto the floor. (98)

Snowman's language, with which he explains his world and must explain the world also to the Children of Crake, is a storehouse, a mnemo-technic and archive, but what it preserves no longer exists. It is in this sense that the end of the human is figured — as a crisis of language and thus of memory. We can think this in terms of Bernard Stiegler's postulation of the different kinds of memory. In *Technics and Time I: The Fault of Epimetheus*, Stiegler distinguishes between three types of memory through which the human develops: genetic memory, epigenetic memory, and epiphylogenetic memory (140). His concern is primarily to propose that it is the second and third types of memory that inform the first in the "invention" of the human; in Stiegler's words, his interest lies in "*the pursuit of the evolution of the living by means other than life*" (135). That is to say, in a profound break with or minimally a *challenge to* evolutionary biology, that the human is not reducible to a genetic program, but rather, that the genetic is *informed* by what is epigenetic, or extra-genetic. As Richard Beardsworth puts it, "Humanity 'transcends' its genetic program in pursuing its life through means other than life (matter)." The prefix "epi" signifies an upon, over, above or in-addition-to. Stiegler's formulation of epigenetic memory refers to the cultural memories, inscriptions, programs, and codes that we are not born *with* but that we are born *into*. Epigenetic memories exist before us, we acquire them on top of our genetic make-up, and yet we live *with* them and according *to* them, at the same time as we build *upon* them: "To acquire something outside our genetic programming, then, this thing must exceed the biological. The epigenetic structure must pre-exist us; it must exist beyond our short lives to

be subject to inheritance and transmission” (Barnet). Epigenetic memories exist externally to the human, but, through enculturation, through our entry into culture and all that this entails, become internal.

The epigenetic is culture, or from a different perspective “the symbolic order,” which is received through and informed by language — it becomes the knowledge and memory of the central cortex, and for each of us as “individuals,” it dies when we die. However, epigenetic knowledge also exceeds us, in that language itself — both speech *and* writing as *tekhne* — does not die when each of us dies; language remains as a storage system for the repetition and, crucially, *reanimation* of material and semiotic artifacts: “This epigenetic sedimentation, a memorization of what has come to pass, is what is called the past, what we shall name the *epiphylogenesis* of man, meaning the conservation, accumulation, and sedimentation of successive epigeneses” (Stiegler 140). Similarly, other technical artifacts remain also, spanning individual lives and deaths: our many and varied machines, the technologies that now fill and often even enable contemporary life. It is through these artifacts and memory supports that the human is constantly formed and reformed. This function of technics, as the ongoing support of consciousness, is what Stiegler calls epiphylogenetic, and this is also his image of human “evolution,” wherein the human is maintained and thus develops through the technical memory support.

Language and technics, then, are both part of the human. In Atwood’s text, the epigenetic function of culture, and the epiphylogenetic function of language and technical artifacts, are both foregrounded through their destruction. Without the epigenetic and epiphylogenetic function of language and technics, Atwood suggests that there would be no human, only meaningless questions and meaningless answers — the meaninglessness of toast without a toaster, for instance. The human is always in flux, always becoming, always materializing, transducing, taking itself apart, putting itself back together, dis- and re-membering. Without memory, however, and therefore without memory supports, there can be no re-membering.

This is, essentially, the biotechnological eschatology of the novel. Atwood’s novel inherits the discourses of the apocalypse and of the Last Man, and places them in the what-if scenario of the moment. Hers is an apocalypse *of* the human as much as it is of the world, civilization, and modernity. Not merely the end of the human as a population or race, but as a concept, and a set of biological *and* technical structures. It is the end of the human as constituted by a certain arrangement of DNA, and by the

epigenetic and epiphylogenetic memory supports. Snowman/Jimmy is not merely the last man left standing, the sole survivor of the cleansing apocalypse — he is also the Last Man, the last of the humans. We are presented throughout the novel with the possibility of the end of the human, and we have this ending systematically worked out through the disappearance or diminution of language, the destruction of the technological system, as well as the liquidation of most of the world's inhabitants. Through the entire book, we live with this palpable sense of the end. Jimmy ekes out an existence scavenging amongst the remnants, trying vainly to remember the words that structure what for him constitutes human life, culture, and creativity. Whenever he speaks with the Children of Crake, those meek, laboratory-born inheritors of the earth, he is reminded of all that is gone; his words make no sense, they break down in his mouth.

Of course, there are others; the novel ends in hope, garbled voices on the radio, a plume of smoke, another ragtag band of travellers; the Last Man is not *the* last, but one of a band. We can rebuild. Although the ending smacks somewhat of a banal *dénouement* included for the purpose of tying up the narrative on a slightly hopeful, if ambiguous, note, we are reminded that the end may not necessarily be the end. The end of one understanding of the human is the beginning of another; as Donna Haraway might say, what *counts* as human will shift. Given time, even the Children of Crake may come to count as human, as their language develops, as they mythologize and epigeneticize.

According to Atwood's definition, the novel is not *science* fiction but *speculative* fiction; it is a reflection on the various states or statuses of contemporary human being, doing and ending. In her novel the human appears in many guises, and language and technics play different roles in this performance. The human is something organic that has been destroyed by something pharmaceutical; it is physical, something susceptible to disease. The human is also an organization of biological particles that has had its day, supplanted by the biotechnological spawn of the laboratory. The human is a function of memory supports and the trace, of language and technical infrastructure; with the disappearance of these supports, the status of the human is threatened. On all these levels, Atwood's text charts an end to the human. Yet the human is also a promise, a virtual biology that exists as a function of technoscientific writing and capitalistic speculation. The human is something that has both come and gone and is always yet to arrive; its temporalization is heterogeneous.

If, simultaneously, biotechnological practices present a threat to the human when left to spiral out of control, we are reminded that the human is already technical, and thus cannot exist without technics — that is, without external memory supports, without linguistic and technical infrastructure. Similarly, there is no technics without the human, and we are reminded that the human is fundamentally implicated in biotechnology, and vice-versa. While the overreaching of biotechnology is taken to alarming and satirical extremes in the novel, at the same time, technics as such is revealed as essential to the very thing that *biotechnics* seems to be putting in danger, that is, the human.

NOTE

¹ These quotations are taken from “spam” e-mail marketing messages I received during 2002-2003.

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