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Title: The human delusion: A discussion into the emergence of the posthuman through the deconstruction of the liberal humanist view of the self in Margaret Atwood's *Oryx and Crake* and Paolo Bacigalupi's *The Windup Girl*

Date: September 2013

Originally published as: University of Chester MA dissertation

Example citation: Kelly, S. (2013). *The human delusion: A discussion into the emergence of the posthuman through the deconstruction of the liberal humanist view of the self in Margaret Atwood's Oryx and Crake and Paolo Bacigalupi's The Windup Girl*. (Unpublished master's thesis). University of Chester, United Kingdom.

Version of item: Submitted version

Available at: <http://hdl.handle.net/10034/311993>

**University of Chester
Department of English
MA Modern and Contemporary Fiction
EN7306 Dissertation**

The Human Delusion:

A discussion into the emergence of the posthuman through the
deconstruction of the liberal humanist view of the self in
Margaret Atwood's *Oryx and Crake* and Paolo Bacigalupi's *The
Windup Girl*

G32723
September 2013

Abstract

This dissertation will serve to investigate the deconstruction of the liberal humanist vision of the 'self' through a posthumanist reading of the two dystopian novels *Oryx and Crake* and *The Windup Girl* by Margaret Atwood and Paolo Bacigalupi respectively.

By engaging with these two novels, this dissertation will focus primarily on a posthumanist reading of the texts and analyse the perceived image of the nineteenth century 'man' and discuss the possible disappearance of this view of what it means to be a human being. The introduction will explain the differences between the liberal humanist subject, the transhumanist subject and the posthumanist subject. The main body of the dissertation will then discuss key issues surrounding these three subjects.

By focusing on epistemic shifts, the blurring of boundaries between humans and animals and the end of a capitalistic model of living, this dissertation serves to prove how these two novels expose the threat that the liberal humanist subject poses to itself and highlights the inevitable move to the posthuman. This dissertation also serves to discuss the possibility of the human and posthuman being able to survive together.

Acknowledgments

In writing this dissertation, I have had some moments that have given me headaches but I have found the subject incredibly interesting and it has introduced me to a lot of aspects of the human 'self' of which I was not previously aware. I feel like I have made many discoveries and would like to thank a lot of people for pointing me in the relevant directions as to where significant knowledge could be discovered.

I would like to firstly thank my dissertation supervisor, William Stephenson, who has encouraged me during my lower moments when I was worrying that I had done everything wrong. His advice and support has been invaluable.

I would also like to thank my mother, Julie Kelly, who I am indebted to for the many hours she has sat down and supported me throughout the course of writing this dissertation.

Also, many thanks to the members of Chester library for helping me find elusive books and having an excellent reserve system for books that were mysteriously absent.

This dissertation would not have been possible without the help of all the English staff at The University of Chester, who have provided a wealth of information and direction for me over the last four years.

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Introduction

Pinpointing the Human: The emergence of the posthuman and rejection of the 'self' through the rejection of traditional humanist values.

Typically male subject. Centre of his world, that being *the* world. Defined by an extreme, rational intelligence and unique consciousness. Does not adhere to a higher divine being but acts in accordance with his own thoughts. These thoughts along with his actions are what create history.¹ Status: endangered.

The 'human' has long been regarded by traditional enlightenment and post-enlightenment humanism through the statements provided above. It is only now through the emergence of posthuman identities that this representation of the 'human' is becoming endangered and will ultimately disappear. By focusing on Atwood's two novels *Oryx and Crake* alongside Paolo Bacigalupi's *The Windup Girl*, this dissertation will serve to discuss the deconstruction of the human defined by traditional liberal humanism and investigate the subsequent, inevitable and unalterable move to posthumanism. This will discuss posthuman bodies with their own identity and ideologies that 'reject the assumed universalism and exceptional *being* of Enlightenment humanism and in its place substitute mutation, variation and *becoming*.'² Through the works of Atwood and Bacigalupi, the endangered status of the 'human' will also be addressed and it will be argued that it is a result of an impending epistemic shift.

Posthumanism and posthuman identity can be traced back to the late 1960's, when humanism was ultimately left deflated, most prominently through Nietzsche's abdication of God and his movement into Nihilism, and through Martin Heidegger's anti-humanist work *Letter on Humanism*. Existence for Heidegger meant 'ecstatic

¹ Myra J Seaman, 'Becoming More (than) Human: Affective Posthumanisms, Past and Future' in *Journal of Narrative Theory*, 37.2 (2007), p. 246.

² Seaman, 'Becoming More (than) Human: Affective Posthumanisms, Past and Future', p. 247.

involvement in the world, not simply self-consciousness raised to its limit.’³ He claimed that being was the source of meaning, contrary to those on the side of humanism such as Jean-Paul Sartre whose view of existence was ‘no more than the ecstatic but empty separation of consciousness from itself.’⁴ Heidegger rejects the humanist view for which the human is central and declares, “‘Thus, what matters in the determination of the humanity of man as ex-sistence is not that man is the essential, but that Being is the essential.’”⁵ Before this assault on humanism, there was no concept that the nonhuman/posthuman could exist as an autonomous, ontological entity and there was no room for the human and posthuman to co-exist as equal counterparts. Through humanist thought there is an absolute difference between the human and the nonhuman and this is that reason belongs solely to the human.⁶

In *Discourse on the Method* Descartes remarked that reason was the only thing that ‘makes us men and distinguishes us from the beasts.’⁷ Descartes essentially stated that human beings would forever be able to distinguish the distinction between the human and the nonhuman. It was considered unheard of that the nonhuman/posthuman could exist as an autonomous, ontological entity with more authority than the human. Descartes argued that alongside dialogues, action based on understanding would serve to affirm this distinction:

Even though machines might do some things as well as we do them, or perhaps even better, they would inevitably fail in others, which would reveal that they were acting not through understanding but only from the disposition of their organs [...] hence it is for all practical purposes impossible for a machine to have enough different organs to make it act in all the contingencies of life in the way in which our reason makes us act.⁸

³ Emmanuel Levinas, *Humanism of the Other* (Illinois: University of Illinois, 2006), p. xix

⁴ Levinas, *Humanism of the Other*, p. xix

⁵ Levinas, *Humanism of the Other*, p. xix

⁶ Neil Badmington, (ed), *Readers in Cultural Criticism: Posthumanism* (London: Palgrave, 2000), p. 4.

⁷ René Descartes, *Discourse on the Method* (Indiana: Hackett, 1998), p. 2

⁸ Badmington, *Readers in Cultural Criticism: Posthumanism*, pp. 3-4.

Descartes stated that rational thought and reason belonged solely to the human being and rendered it as the singular distinction between the human and the inhuman. At these times, God was not deemed as central to knowledge anymore, and the human ascended as the central figure of knowledge, conjuring Descartes' famous phrase 'I think, therefore I am.'⁹ Neil Badmington, although he does not suggest a precise point of origin, argues that the works of Marx and Freud opened a 'distinct possibility' into the realm of posthumanism. Alongside others such as Michel Foucault and Jacques Lacan, their thoughts provided a critical deconstruction of the liberal humanist subject. Together, the idea of imagining Marx's declaration that '[social] life [...] determines consciousness'¹⁰ and Freud's Ego, Superego and Id and the unpredictability of consciousness, was more than enough to knock man from his position as the central being of the universe and overcome the anthropocentric and godly mindset that had taken hold. Furthermore, in the progressive course of centuries, Badmington further explains that man was subject to more knocks. He recognises that the self-love and glorifying central stage position of 'man' was wounded when biological research accredited Darwin's theory of Evolution and 'man' had to come to terms with his own 'ineradicable animal nature.'¹¹ Then there was a further blow when humanity learnt of earth's position in relation to the rest of the cosmic system. Suddenly, man was feeling very small indeed and the liberal humanist subject was beginning to crumble.

The deconstruction of the liberal humanist subject and its impending endangered status is a view supported by Foucault. He was an opponent of the traditional humanist stance and supported the idea that for radical change to occur,

⁹ Badmington, *Readers in Cultural Criticism: Posthumanism*, p. 3.

¹⁰ Nicholas Churchich, *Marxism and Morality: A Critical Examination* (Cambridge: James Clarke & Co, 1994), p. 57.

¹¹ Badmington, *Readers in Cultural Criticism: Posthumanism*, p. 6.

then it would warrant the death of man and that already ‘man is in the process of disappearing.’¹² Foucault’s ideas were arguably more grounded in antihumanism, yet they deal with the inescapable shift and change in consciousness from the ‘human’ to the ‘posthuman’ not through a change of ‘good’ or ‘evil’ but through a change of ‘how we know.’¹³ The shift is not a steady improvement, but more a rapid and unpredictable moment where the consciousness develops and changes. The epistemological shift that Foucault references is the change in society, civilization and culture based on the framework of knowledge in that time. What Foucault calls the ‘episteme’ is defined as the ‘term for the body of ideas which shape the perception of knowledge at a particular period.’¹⁴ However, Foucault considered the term as encompassing a system ‘governed by rules, beyond those of grammar and logic, that operate beneath the consciousness of individual subjects and define a system of conceptual possibilities that determines the boundaries of thought in a given domain and period.’¹⁵ An epistemic shift has occurred before between the Enlightenment and the Romantic period, which meant there was a noticeable movement from the pragmatic, reason-based ideologies of philosophers, where, subject to reason, everything was valued on equal merit and that through rationalism, humans could improve the world through uncovering truths.¹⁶ The move to Romanticism, through the works of Jean-Jacques Rousseau and Immanuel Kant moved on to question whether there could be a determinate portrayal of the world around us, as they

¹² Michel Foucault, ‘The Order of Things: An Archaeology of the Human Sciences’ in *Readers in Cultural Criticism: Posthumanism* (London: Palgrave, 2000), p. 27.

¹³ <http://www-rohan.sdsu.edu/faculty/vinge/misc/WER2.html> - Vernor Vinge, ‘The Coming Technological Singularity: How to Survive in the Post-Human Era’ (Accessed 30th July, 2013)

¹⁴ <http://www.oed.com/view/Entry/63540?redirectedFrom=episteme#eid> - OED (Accessed 15th August, 2013)

¹⁵ <http://plato.stanford.edu/entries/foucault/> - Stanford Encyclopedia of Philosophy (Accessed 15th August, 2013)

¹⁶ <http://www.historyguide.org/intellect/lecture16a.html> (Accessed 15th August, 2013)

determined that all structures were subject to change due to the concept of historical development.¹⁷

Through the development of the posthuman condition, it is clear that an epistemic shift is occurring again but this time, as Foucault states at the end of *The Order of Things*, ‘man would be erased, like a face drawn in sand at the edge of the sea.’¹⁸ Foucault suggests that man must be understood as a new invention and is not, in current form, the result of an ‘eternal, naturally occurring phenomenon.’¹⁹ This suggests that through the mutable views and values of knowledge, Foucault was speculating in the mid nineteenth century that there would be another epistemic shift. He stated that man could disappear altogether if there was another change in the fundamental arrangements of knowledge such as which occurred between the Enlightenment and Romantic periods.

Foucault’s theory resonates particularly powerfully within both Atwood’s and Bacigalupi’s novels, which both create a setting where humans are sharing their worlds unequally with posthumans and transgenic beings. Yet the emphasis in both novels, and arguably the sympathy, lies predominantly with the posthumans and genetically modified creatures. After the two near apocalyptic events, the humans left alive in the novels result in either mourning the loss of their old ideologies and slowly being driven into despair or are accepting of the new ideologies of the posthumans, whilst still wanting to maintain dominance over them. At times they are unable to accept a being that is better than them both physically and mentally and they seek to commodify posthuman beings and hold onto their ‘human’ supremacy by turning the posthumans into private property. This highlights the struggle and challenges that

¹⁷ <http://www.historyguide.org/intellect/lecture16a.html> (Accessed 15th August, 2013)

¹⁸ Foucault, ‘The Order of Things: An Archaeology of the Human Sciences’, p. 29.

¹⁹ Badmington, *Readers in Cultural Criticism: Posthumanism*, p. 144.

humans face in regard to holding on to their perception of humanity and retaining their idea of what it means to be human. This poses the question of whether ‘man’ in terms of the liberal humanist subject will slowly disappear, as human beings’ ideologies begin to be superseded by the posthumans of the novels.

N. Katherine Hayles defines posthumanism through four key points articulating that ‘the posthuman subject is an amalgam, a collection of heterogeneous components, a material-informational entity whose boundaries undergo continuous construction and reconstruction.’²⁰ She pronounces that posthuman discourse will not only supersede but also do away with the “natural” self.²¹ Hayles argues that the terror of the posthuman, in particular the use of “post” with its dual connotation of superseding the human and coming after it, hints that the days of “the human” may be numbered.²² Hayles herself opposes this view, believing that the human body has a ‘physical structure whose constraints and possibilities have been formed by an evolutionary history that intelligent machines do not share.’²³ Hayles’ points take the same position that Foucault was trying to express. Instead of arguing that the posthuman will attain a position of being superior to the human and ruling them, they consider that the liberal humanist subject and their ideologies and arrangements of knowledge will vanish or change and that posthumanism does not mean the end of humanity as a physical entity. Hayles argues that:

It signals instead the end of a certain conception of the human, a conception that may have applied, at best, to that fraction of humanity who had the wealth, power and leisure to conceptualize themselves as autonomous

²⁰ N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), p. 3

²¹ William S Haney, *Cyberculture, Cyborgs and Science Fiction Consciousness and the Posthuman* (Amsterdam: Rodopi, 2006), p. 3

²² Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, p. 283.

²³ Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, p. 284.

beings exercising their will through individual agency and choice.²⁴

What appears to be the threat is not the posthuman but the transhumanist notion of taking the liberal humanist view of the self and transplanting it onto the posthuman. This is what creates the fear people have for posthumanism and transgenic beings. Hayles opposes the view of transhumanists who believe that humans can only stay alive by becoming machines themselves. Sharon Bell agrees with this opposition, agreeing with Hayles about the fear of positing the posthuman onto the liberal human self. She states:

One of the serious flaws in Transhumanism is the importation of liberal-human values to the biotechno enhancement of the human. Posthumanism has a much stronger critical edge attempting to develop through enactment new understandings of the self and other, essence, consciousness, intelligence, reason, agency, intimacy, life, embodiment, identity and the body.²⁵

Transhumanism is used as a social and political stance in order to transform humans into beings that can ultimately achieve immortality. Nick Bostrom states that a human would want to become posthuman as they have a desire to have a greatly enhanced capacity to stay alive and he suspects that ‘the majority of humankind already has such a desire implicitly.’²⁶ Yet, transhumanism is still importing the liberal human values to the enhancement of the human. There is more a drive to become perfect and stay on top through alteration of their bodies.

Throughout the nineteenth and twentieth century there have been instances in SF literature where genetic construction and alteration, both on humans and animals, highlights the strain between humans, nonhumans and the posthuman. Darko Suvin

²⁴ Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, p. 286.

²⁵ http://magazine.ciac.ca/archives/no_23/en/entrevue.htm - Shannon Bell Magazine article. (Accessed 5th August, 2013)

²⁶ Max More and Natasha Vita-More (eds), *The Transhumanist Reader* (West Sussex: Wiley-Blackwell, 2013), p. 33.

argued that for a text to be registered as SF it needs to actively interact with the presence of cognition and estrangement and for ‘the central novum [...] to be within the bounds of scientific reason.’²⁷ The novum within Atwood’s and Bacigalupi’s novels are seen as the genetic constructs of the Crakers and New People respectively alongside transgenic animals. The novum lies within the bounds of scientific reason as genetic experimentation is happening in current times yet does not go as far as the novels do due to moral issues and the fear of the ‘other’. Japanese roboticist Doctor Masahiro Mori explains through his thesis ‘The Uncanny Valley’ that when someone ‘sees something that is nearly human, [there is] just enough off-kilter to seem eerie or disquieting.’²⁸ Even in the nineteenth century, arguably the very first SF novel, Mary Shelley’s *Frankenstein*, portrays Frankenstein’s monster as a complete outcast, othered by how he appears and speaks and as Frankenstein does not give the creature a name, he denies it an identity, relegating it to subhuman. Atwood states that if you are going to use genetic modification on humans then ‘what you have to ask yourself is, do you want the human race to remain human?’²⁹ The deconstruction of the liberal humanist self is exemplified in Atwood and Bacigalupi’s novels, through their portrayal of posthuman subjects as first being perceived as the ‘other’ but then gaining their own agency as autonomous entities, where in the end they are seen to prevail.

Atwood introduces a post-apocalyptic world defamiliarised through the abuse of science and genetic engineering where transgenic animals and posthuman bodies become the dominant focus group and the human is marginalised as the minority.

²⁷ <http://rationalist.org.uk/437/the-science-of-fiction> - Bo Fowler, ‘The Science of Fiction’ (Accessed 9th August, 2013)

²⁸ <http://www.arclight.net/~pdb/nonfiction/uncanny-valley.html> - Moshi Mori, ‘The Uncanny Valley’ (Accessed 9th August, 2013)

²⁹ J. Brooks Bouson (ed.), *Margaret Atwood The Robber Bride, The Blind Assassin, Oryx and Crake* (London: Continuum, 2010), p. 125.

Similarly, Bacigalupi envisions a post-apocalyptic world where the world's food and energy sources are becoming dangerously scarce. In the future worldview of Thailand, Bacigalupi shows the near exhaustion of humankind's resource base and proposes how this agricultural catastrophe has led to the domination of the consumer market by large corporations through genetically modified crops. One of the basic needs for the preservation of life is the need to eat. Throughout history 'a sustainable food supply [has always been] a unique, foundational human need' that exceeds even reproduction.³⁰ Tragically, in an economic system where decisions, both political and public, are ruled by profit and material prosperity, food has been reduced to being classed as merely another commodity.³¹ This also applies to posthuman bodies in the novels, which are claimed as private property and traded as commodities, highlighting neo-colonisation, where those in power take what they want. In 'Writing Oryx and Crake,' Margaret Atwood agrees, as she observes: 'the rules of biology are as inexorable as those of physics: run out of food and water and you die. No animal can exhaust its resource base and hope to survive. Human civilisations are subject to the same law.'³² *The Windup Girl* demonstrates how global warming has devastated the world. Due to climate change and continual mutations of disease, means of producing food was taken away and, during the Expansion phase, the world was left with the inability to feed itself. Agricultural corporations then monopolized the food industry by delivering artificial food in order to produce mass profit and gain capitalist control.

Atwood's future dystopia also demonstrates a world altered by climate change

³⁰ John Hodges, 'Globalization and Sustainability in Agriculture: Role of Law and Ethics' in Jennifer Gunning, Soren Holm and Ian Kenway (eds.), *Ethics, Law and Society, Volume 4* (Surrey: Ashgate, 2009), p. 91.

³¹ John Hodges, 'Globalization and Sustainability in Agriculture: Role of Law and Ethics', p. 91.

³² Margaret Atwood, *Moving Targets: Writing with Intent, 1982-2004* (Canada: House of Anansi Press, 2004), p. 329.

and dominated by corporations. Marcy Galbreath points out that Atwood has created a ‘world that borrows from contemporary transgenic research and agricultural practices to extrapolate a logical and disturbing set of probabilities.’³³ This response applies perfectly to Bacigalupi’s future as well. It can be argued that ‘the environmental impacts of our actions are often hidden or indirect.’³⁴ Both novels have encountered ecological disaster but are still perpetuating engagement with consumerism. It is normally the rich or the elite in society who gain access and the capability to define ‘man’s’ image, creating a natural divide in the species. The Western episteme has followed a historical trajectory dating from the nineteenth century and fits snugly within this formulaic regime. Those in power dictate how people think, and what they know and are allowed to know. Nietzsche, in his collection of aphorisms, *Human, All Too Human*, writes that ‘Socrates and Plato are right: whatever man does he always does the good, that is to say: that which seems to him good (useful) according to the relative degree of his intellect, the measure of his rationality.’³⁵ It is through the extent of knowledge and the discourse of such knowledge that men are led to believe that what they are doing is the complete and absolute right and just way. In the case of *Oryx and Crake* and *The Windup Girl*, the outdated, consumer driven mindset of the current human race is slowly leading to mass population problems and ecological destitution.

Even in current society, concerns over genetic modification are rife, as many express anxiety that ‘altering genes could lead to unforeseen problems for future generations’ and that ‘it is wrong [...] food supplies could be controlled by the few

³³ Marcy Galbreath, ‘A Consuming Read: the Ethics of Food in Margaret Atwood’s *Oryx and Crake*’ in *Florida Gulf Coast University’s 2nd International Humanities and Sustainability Conference*, Fort Myers, Florida, October 7-9, (2010), p.1.

³⁴ Samantha Clark, ‘Strange strangers and uncanny hammers: Morton’s The Ecological Thought and the phenomenological tradition’ in *Green Letters: Studies in Ecocriticism*, 17, 2013, p, 98.

³⁵ Friedrich Nietzsche, *Nietzsche: Human, All Too Human: A Book for Free Spirits* (Cambridge: Cambridge University Press, 1996), p. 55.

who can afford the development costs.³⁶ Bacigalupi and Atwood address these current issues within their speculative novels as they portray a view where geneticists or ‘generippers’ are altering the genome of nearly every living organism available to them and although the authors do not overtly reveal it, it can be argued that these people are even creating and mutating strains of disease. Therefore, it can be argued that several corporations have waged silent wars on each other over control of how food will be grown in order to gain power through intellectual property rights and high profits. This is a feature of humanism. Shannon Bell argues that:

Altruism, mutualism, humanism are the soft and slimy virtues that underpin liberal capitalism. Humanism has always been integrated into discourses of exploitation: colonialism, imperialism, neoimperialism, democracy.³⁷

This quotation describes the exploitation occurring with the humans involved in the novels; it is through colonisation and imperialism that corporations are able to take control and manipulate. People are altruistic primarily to kin and close friends, they do not act as kindly to strangers or people rendered ‘other’. In terms of colonisation the two novels can be argued to be ‘neo-colonial’ in that they ‘continue to exploit the people in a way not dissimilar to the colonists.’³⁸ Except this time they use genetic engineering in order to capitalise.

³⁶ Janet Bainbridge (ed), *Foods for Our Future: Genetic Modification and Food* (London: Food and Drink Federation, 2000), p.16.

³⁷ http://magazine.ciac.ca/archives/no_23/en/entrevue.htm - Shannon Bell Magazine article. (Accessed 5th August, 2013)

³⁸ John Mcleod, *Beginning Postcolonialism Second Edition* (Manchester: Manchester University Press, 2010), p. 108.

1.
Neither Good nor Evil: On the epistemic shift from human to posthuman.

The farther backward you can look, the further forward you are likely to see.³⁹

- WINSTON CHURCHILL

ALL Bibles or sacred codes have been the causes of the following Errors: [...] 2. That Energy, call'd Evil, is alone from the Body; & that Reason, call'd Good, is alone from the Soul.⁴⁰

- WILLIAM BLAKE

Margaret Atwood's *Oryx and Crake* is a dystopic and satirical work of fiction, focusing on the aftermath of a biotechnological apocalypse. Coral Ann Howell points out that “many dystopias are self-consciously warnings. A warning implies that chance, and therefore hope, are still possible.”⁴¹ In the terms of ecological destitution, this novel would serve as a warning to look after the environment. Many eco-critics such as Timothy Morton believe that Atwood and Bacigalupi are presenting a view on what will happen when man begins to interfere with nature and morality in the quest for immortality and the detrimental effects it can have on nature and humanity. However, considering the epistemic shift registers change as being unpredictable, rapid and unstable, the novel acts less as a warning and more as an inevitable outcome of progression regardless of hope or chance.

The change from human to posthuman can be considered an epistemic shift as there are several instances that articulate how the posthuman has replaced the

³⁹ John P. Smol, *Pollution of Lakes and Rivers: A Paleoenvironmental Perspective* (Oxford: Blackwell, 2008), p. 12.

⁴⁰ William Blake, *The Marriage of Heaven and Hell* (Oxford: Oxford University Press, 1975), p. 16.

⁴¹ Coral Ann Howells (ed), ‘Margaret Atwood’s dystopian visions: The Handmaid’s Tale and Oryx and Crake’ in *The Cambridge Companion to Margaret Atwood* (Cambridge: Cambridge University Press, 2006), p. 161.

nineteenth century's idea of 'man' and his surrounding knowledge. This shift involves the consciousness of posthumans and Crake states the difference between the nineteenth century concept of 'man' and his own children of Crake:

Racism [...] had been eliminated. [...] Hierarchy could not exist amongst them [...] there was no territoriality: the king-of-the-castle hard-wiring that had plagued humanity had, in them, been unwired. [...] There would be no family trees, no marriages, no divorces [...] perfectly adjusted to their habitat [...] They would have no need to invent any harmful symbolisms, such as kingdoms, icons, gods, or money. Best of all they recycled their own excrement.⁴²

Crake also tells Jimmy that:

It no longer matters who the father of the inevitable child may be, since there's no more property to inherit, no father-son loyalty required for war. Sex is no longer a mysterious rite, viewed with ambivalence or downright loathing, conducted in the dark and inspiring suicides and murders. (p. 195)

Crake carries on with this idea, telling Jimmy, “how much needless despair has been caused by a series of biological mismatches [...] resulting in the fact that the one you love so passionately won't or can't love you” (p. 195) and argues that pair-bonding for life or ‘total guilt-free promiscuity’ (p. 195) would solve all problems and end sexual torment. Jimmy objects to this idea, telling Crake that “we'd just be a bunch of hormone robots [...] There'd be no free choice” (p. 196). After Crake confirms that he does believe that humans are merely faulty hormone robots, Jimmy becomes antagonised and almost in desperation asks Crake, “What about art?” arguing “When any civilization is dust and ashes [...] art is all that's left over. Images, words, music. Imaginative structures. Meaning – human meaning, that is – is defined by them” (p. 196). Jimmy holds on to language, signs and signifiers, which become

⁴² Margaret Atwood, *Oryx and Crake* (London: Virago, 2009), pp. 358-359. All further references will be given in the body of the text.

the main apparent difference between himself and Crake's posthuman creation: the Crakers.

Jimmy, defined as Snowman in the post-apocalyptic world, has not undergone transformation alongside the epistemic shift. He still retains his perception of humanity and humanism as he clings to the ideologies of a nineteenth century man which privileges humanism as the natural state of being. He is an outsider in the new world, a hideous figure, an 'other', that the Crakers neither distrust nor revere (until the potential hint of religion towards the end of the novel). He defines himself as 'the abominable snowman – existing and not existing' (p. 8). He is a liminal character that exists in the new posthuman world but he is not a creature of the new posthuman ideology and thus he is relegated to the category of the 'other'. Snowman's self, which was once believed to be centre of the universe from a humanist perspective, has now been transferred to existing as the minority. The posthuman Crakers have developed a consciousness without the concepts in knowledge of what the liberal humanist view of the self had visualized therefore they do not alienate Snowman in the same way that the 'other' has been categorised through prejudice, fear and ownership throughout history. They accept Snowman's monstrosity as 'they've known from the beginning he was a separate order of being' (p. 116). Snowman exists as the minority as he believes he is the only 'human' left on the planet. He aches to tell the Crakers that '*I'm your past. I'm your ancestor, come from the land of the dead. Now I'm lost, I can't get back, I'm stranded here, I'm all alone. Let me in!*' (p. 123). He accepts that his past human existence has vanished; yet he is still unable to fully let go of his human essence.

Atwood alludes to Mary Shelley's *Frankenstein* but inverts the original scientist/monster paradigm as she has developed a world where the creation is not

seen as the monster anymore.⁴³ The Crakers are ‘normal’ in the post-apocalyptic world, and although Snowman is not their creator, he is an artifact from Crake’s world and it is he, Snowman, that is seen as the monstrosity; the unknown, grotesque and ‘other’. Snowman is marginalised and ‘othered’ through his use of language and the relentless need to hold onto it. In the way that Frankenstein’s monster tries desperately to adapt to the society into which he has been thrown, Snowman contrastingly cannot let go of his old ideologies. Chung-Hao Ku emphasises this point in her essay as she argues that it is the death of language and its defunct use which makes ‘word man’ Snowman unable to relate to anybody else. Ku also states that: ‘it is the Frankenstein-Monster double that haunts and fascinates the public most. People tend to mistake Frankenstein for the Monster, and this “conflation,” according to Chris Hables Gray, “signifies that the doctor actually is monstrous in our minds.”’⁴⁴ The doctor is more relatable to Crake, yet as Snowman killed him, he is the last – he assumes – survivor of an old world and he never really tried to stop Crake in his creation of the Crakers, so partly he is to blame and thus accentuates his position as the monster.

The Crakers regard Snowman as something familiar, despite his unfamiliarity to themselves, and do not care for the differences they both have, yet Snowman is left being painfully aware of the distinction between them: ‘There’s a distant, peaceful murmur from the village: human voices. If you can call them human’ (p. 122). Snowman attempts to try and make them relatable and signify them to himself but always fails at the final hurdle. Even though they were created from alterations to the ‘ancient primate brain’ (p. 359), the physical and mental attributions of the Crakers

⁴³ Mary Shelley, *Frankenstein* (Oxford: Oxford University Press, 2008)

⁴⁴ Chung-Hao Ku, ‘Of Monster and Man: Transgenics and Transgression in Margaret Atwood’s *Oryx and Crake*’ in *Concentric: Literary and Cultural Studies*, 32 (2006), p.108.

are very far removed from the original template of man. Their skin smells of lemons to ward off mosquitoes; they produce ‘special piss’ (p. 183) allocated only to men, which creates a protective boundary around them and wards off predators; they have an incredibly fast pubescent growth period and are able to heal through purring. Apart from these physical attributes, the Crakers’ mental abilities are also changed as they are unable to think abstractly, contemplate intangible creations and understand jokes or art as Crake says: “‘For jokes you need a certain edge, a little malice’” (p. 359). There are no jokes anymore and the fundamentals of language are beginning to break down. Mary Galbreath states that the Crakers are ‘the ultimate eugenics experiment, the Crakers embody an anti-humanist rationale, with survival, not culture, their dominant trait.’⁴⁵ This suggests that it is not the posthumans that are a threat, as stated by Hayles earlier. The Crakers can be seen as a metaphor for change and highlight the deconstruction of the liberal humanist subject by prioritising survival over culture.

Snowman constantly asks himself why he is so bereft and feeling dejected all the time. He questions whether it is ‘because he doesn’t understand this kind of behavior? Because it’s beyond him? Because he can’t jump in?’ (p. 199). The world Snowman belonged to has slipped away and he has remained where he does not fit in and is slowly being driven to despair. His otherness is highlighted through the fact that ‘he feels excluded, as if from a party to which he will never be invited’ (p. 123). Ernst Cassirer argued against Heidegger’s *Letters on Humanism* summarising that ‘humanity [...] cannot be divorced from the essential idealism that lies in the objective or transpersonal character of its symbolic world as such, whether mystic,

⁴⁵ http://www.academia.edu/238034/Genomic_Bodies_Un-Natural_Selection_Extinction_and_the_Posthuman_in_Atwoods_Oryx_and_Crake - Mary Galbreath, ‘Genomic Bodies: Un-Natural Selection, Extinction and the Posthuman in Atwood’s *Oryx and Crake*’ (Accessed 20th August, 2013)

artistic, linguistic, religious or scientific.⁴⁶ Complying with Cassirer's beliefs, Snowman understands that he can never belong to the same world as the Crakers as they have a completely different set of ideologies and beliefs. This understanding also shows through the way in which Snowman tries desperately to maintain his grasp on his old world through his struggle with the remembrance of words and language, his human rituals and attempt at time keeping. It is also apparent in the way he hoards material items that are now defunct in the new environment: 'He keeps a can opener there too, and for no particular reason an ice pick; and six empty beer bottles, for sentimental reasons' (p. 4). It can be seen that Snowman is marginalising himself, as he simply cannot let go of his humanity and is unable to divorce himself from the symbolic essences of his lost ideals. In regards to food, he states 'they're protein, but they're not enough for him. Not enough calories. [...] Time to face reality. [...] He's slowly starving to death' (p. 175). Snowman is slowly fading away along with the old human world. Not only is he mentally losing a grasp on his humanist self, he is also physically being removed from the world through his starvation and his slowly decaying foot, which shows again a bleak outlook for mankind.

However, it can be argued that Snowman does slowly start to shake off the layers of nineteenth century thought and feeling and begins to deconstruct his own liberal humanist self. He begins to act more animal-like in direct comparison to the more human-like animals that emerged due to genetic experimentation. He begins to opt for survival, not culture. Snowman denounces the need for underpants and shoes. Where there is footwear available, he argues with himself that 'he can no longer stand the thought of footwear' and there are stacks of underpants, yet he asks himself 'why did he used to wear such garments?' (p. 393). Offered in Atwood's first speculative

⁴⁶ Levinas, *Humanism of the Other*, p. xxv.

piece of fiction, *The Handmaid's Tale*, is similar in this instance in that through her displacement from having equal human rights to being kept for 'breeding purposes'⁴⁷ in her role as a handmaiden, she begins asking herself questions such as: 'Did I really wear bathing suits, at the beach?' (p. 72). Instead of taking on animal like qualities, Offred encounters cultural change and difference, stating that now in her current condition, she would be classed as '*shameful, immodest*' (p. 72) but it is the same distancing move away from nineteenth century values. Clothes replace the body as the signifier of humanity, rather than the self, and the moral and social attitudes aligned to them. This corresponds to the ethnography of clothing as both Snowman and Offred have altered views on clothing now that they have been situated into new cultural conditions with different customs. Snowman also begins to question the use of retaining obsolete material items from the past, signifiers of a different time. He asks 'why hoard the stuff? Why wait? [...] He's served his evolutionary purpose' (p. 125). He begins to realise that he no longer has need for items, which belonged to a past era, a different ideology.

In addition to his abdication of material items, Snowman's own language and discourse begins to deteriorate as he is left clutching for words or meanings he once knew but which are now slowly leaking out of him along with the 19th century conception of man and art:

From nowhere, a word appears: *Mesozoic*. He can see the word, he can hear the word, but he can't reach the word. He can't attach anything to it. This is happening too much lately, this dissolution of meaning, the entries on his cherished wordlists drifting off into space. (p. 43)

In his past, Jimmy was known as the 'word person' whereas Crake belonged strictly to the sciences. Jimmy embodied art, creativity and irrational thought, yet after the

⁴⁷ Margaret, Atwood *The Handmaid's Tale* (London: Virago, 2007), p. 146. All further references will be given in the body of the text.

apocalyptic wipe out of human existence, Jimmy/Snowman starts to lose his bearing within the world of art, especially through language: ““When they’re gone out of his head, these words, they’ll be gone, everywhere, forever. As if they had never been”” (p. 78). Snowman aches to be able ‘to read, to view, to hear, to compile’ (p. 175) but he never has the chance. This is similar to Offred, whose story exemplifies a regressive epistemic shift in consciousness. In the way that Jimmy/Snowman slowly loses his grasp of language, Offred has the opportunity to explore language taken away from her as she says that she ‘can be read to [...] but cannot read’ (p. 98) and it is considered a taboo and punishable act for her to be allowed to read. The act of reading is interesting in Snowman’s case as he is in his own last-man narrative without anybody else to leave his story to. He calls himself a castaway but then laments on that idea: ‘Even a castaway assumes a future reader. [...] Snowman can make no such assumptions: he’ll have no future reader, because the Crakers can’t read. Any reader he can possibly imagine is in the past’ (p. 46). In Snowman’s mind, language will meet its end with him.

Both characters lose their grasp on language and this highlights the centrality of language as the problem of the human. ‘Man’ is characterised by what he knows and how he expresses such knowledge, thus Snowman’s slow loss of words shows his shedding of humanity and the deconstruction of the liberal humanist subject. The death of ‘man’ and the movement to posthuman is emphasised by the fact that the Crakers do not need written language. This is different with Offred, as the language restrictions emphasise her subjugation by the male populace of the novel and the backwards episteme in which she is trapped. Hilde Staels argues that ‘we construct

and project a version of self and identity through the language we use.⁴⁸ Snowman is clearly at a loss with his own self and human identity as he is struggling to comprehend the new world and where he fits in. He is confused and mourns his past life, wishing for something to read and constantly having ‘rag ends of language [...] floating in his head’ (p. 175). Snowman shouts out loud that he used to be ‘erudite’ (p. 175). Erudite meant to show great knowledge or learning, yet now in this new world the word erudite is relegated to ‘a hopeless word’ (p. 175). Snowman is in a state of grief for ‘all those things he once thought he knew’ and is constantly wondering ‘where have they gone?’ (p. 175). Through his use of the word erudite to symbolise himself, Snowman is effectively regarding himself as ‘hopeless’ and projecting the hopelessness of the future of language and therefore, of mankind also.⁴⁹

Interestingly, the last believed human being, Snowman, is seen through a series of flashbacks as the young Jimmy, a boy who is constantly undermined throughout the novel. His parents ignore him; he never matches up to the ideals of the CorpSeCorps guards; both Oryx and Crake undervalue him and use him for their own means and he deems himself, on more than one occasion, to be insignificant and worthless. He tells himself that if he had been from a Module school or “‘the public system’” then he would have ‘shone like a diamond in a drain’ (p. 204). But compared to the Compound school which were inundated with brilliant genes, Jimmy’s ‘talents shrank by comparison’ (p. 204). Yet, when he becomes Snowman, Jimmy shouts out loud: “‘I am not my childhood’” (p. 68). He refuses to be how he was before and therefore refuses to be treated or regard himself as the victimised and lonely boy he once was. Not only is Jimmy victimised and bullied constantly by both

⁴⁸ Gina Wisker, *Margaret Atwood: An Introduction to Critical Views of her Fiction* (Hampshire: Palgrave Macmillan, 2012), p. 9.

⁴⁹ http://lib.ugent.be/fulltxt/RUG01/001/457/834/RUG01-001457834_2011_0001_AC.pdf - Tom Van Steendam, ‘Paratextuality and Parody in a Post-cataclysmic Wasteland: Margaret Atwood’s *Oryx and Crake*’ (Accessed 28th August, 2013)

Oryx and Crake but he also seems to be an outcast within his own narrative.

Snowman chooses the name 'Abominable Snowman' to 'other' himself but it also hints at something monstrous and feared. Yet, as the novel progresses, Snowman begins to think:

Maybe he's not the Abominable Snowman after all. Maybe he's the other kind of snowman, the grinning dope set up as a joke [...] his pebble smile and carrot nose an invitation to mockery and abuse. Maybe that's the real him, the last *Homo sapiens* – a white illusion of a man, here today, gone tomorrow, so easily shoved over, left to melt in the sun, getting thinner and thinner until he liquefies and trickles away altogether. (p. 263)

This paragraph dually exposes Snowman's childhood as a victim of mockery and abuse and the loss he feels for the liberal humanist self, who once believed itself superior to any other species but is now 'so easily shoved over' (p. 263). Snowman consistently tells his story in the third person and Coral Ann Howells suggests that this directly parallels Jimmy's displacement in the posthuman world, as he is no longer the central figure physically or metaphysically.⁵⁰

Timelessness also plays a large part in Jimmy's loss of centrality as the dominant species. From the beginning of the novel, Snowman is afraid of looking at his watch and noticing that it is 'zero hour' and that 'nobody nowhere knows what time it is' (p. 3). Snowman is left being unable to keep track of time or dates any longer: 'At that time he'd had a knife, but he lost it a week later, or was it two weeks? He must keep better track of such things as weeks' (p. 42). Through the use of 'such things', Atwood is already showing the effect of the epistemic shift within the novel, as time is not recorded in the same way as before the apocalyptic virus broke out. The use of the word 'week' is no longer regarded as an abstract noun relatable to and is instead relegated to a 'thing'. Snowman grumbles at himself:

⁵⁰ Wisker, *Margaret Atwood: An Introduction to Critical Views of her Fiction*, p. 155.

He has to find more and better ways of occupying his time. *His time*, what a bankrupt idea, as if he's been given a box of time belonging to him alone, stuffed to the brim with hours and minutes that he can spend like money. Trouble is, the box has holes in it and the time is running out, no matter what he does with it. (p. 44)

There is no concept of time anymore, merely an ongoing progression that has left behind humanism, humanist thought and the humanist subject. Time for Snowman is running out and the final sentence of the novel reverts back to this as Snowman is left thinking, 'Zero hour, [...] Time to go' (p. 433). This essentially poses a directive for all of mankind as well and it is possible that through the symbolism of Snowman, it is time for all mankind to go.

The epistemic shift from human to posthuman can also be seen in Bacigalupi's novel *The Windup Girl*, another text which takes place in a future world and, which having already suffered through a global warming crisis, is at threat from total ecological disaster and ruin. The loss of nature and essentially humanity within the novel is an outcome from having too much control over it. Everything in Bacigalupi's world is basically genetically engineered. Despite the apparent contrast in terms of resources this setting is strikingly similar to Atwood's genetically manipulated world. There is a massive extinction of species, which occurs through the novel due to genetically modified disease and ecological decline. This ecological destitution – especially towards the end of the novel – highlights the end of moral ethics surrounding anthropocentrism and instead creates the new issue of 'the reconstruction of social structures and norms.'⁵¹ The conventional image of the 'human being' is dissolving, as all the characters 'appear caught in a space between a disintegrating paradigm and a still amorphous paradigm yet to emerge in its place.'⁵²

⁵¹ <http://www.crsdd.uqam.ca/pages/docs/09-2012.pdf> Corinne Gendron, René Audet et Bernard Girard, 'Thinking post-ecological societies with science-fiction', p. 21.

⁵² Andrew Hageman, 'The Challenge of Imagining Ecological Futures: Paolo Bacigalupi's *The Windup Girl*' in *Science Fiction Studies*, 39 (2012), p. 293.

The deconstruction of the liberal humanist view of the self can be seen through the representations of the genetic reject windup Emiko and the scientist Gibbons or Gi Bu Sen. Andrew Hageman notices how Bacgalupi attempts to deconstruct the liberal humanist subject within the novel. To illustrate, Francis Fukuyama's *Our Posthuman Future*, states that 'human biotechnology differs substantially from agricultural biotechnology insofar as it raises a host of ethical questions related to human dignity and human rights that are not an issue for GMOs.'⁵³ Hageman notices how Fukuyama preserves the idea of liberal humanist 'human being'; the centrality of the human being and the hierarchal ordering that situates them above nonhumans and nature.

Hageman states that:

The Windup Girl illustrates all too horrifically that the borders policed by Fukuyama and the ideological position he represents were only ever virtually erected. Even for those who would insist on clinging to the separation of the "human being" from other beings, this novel exemplifies the interconnectedness of all beings through disease and death.⁵⁴

Bacigalupi portrays this interconnectedness by insisting that everyone is equal on a spiritual level, after death, when there is no claim to power anymore. Somchai, a minor character in the novel, tells the fighting tiger Jaidee: 'We're so few in comparison to the past, where did all the souls go? Maybe to the Japanese? Maybe into windups?'⁵⁵ Jaidee masks his uneasiness at Somchai's words highlighting the borders between human and inhuman and his ideological position that anything genetically engineered is beneath him, unnatural and inhuman as 'no soul fills them' and they have no religion (p. 248).

⁵³ Francis Fukuyama, *Our Posthuman Future Consequences of the Biotechnology Revolution* (London: Profile Books, 2003), p. 213.

⁵⁴ Hageman, 'The Challenge of Imagining Ecological Futures: Paolo Bacigalupi's *The Windup Girl*', p. 293.

⁵⁵ Paolo Bacigalupi, *The Windup Girl* (London: Orbit, 2010), p. 249. All further references will be given in the body of the text.

In the same way, the Crakers in *Oryx and Crake* are by instruction from Crake to Jimmy, not to be introduced to any sort of religion and Crake even proclaims that they do not have the mental ability to comprehend religion. Similarly, Gibbons in *The Windup Girl* tells Kanya that ‘we all know windups have no souls [...] They will have to find their own gods to protect them. Their own gods to pray for their dead’ (p. 345). The windups or New People do not have the same ideologies as a nineteenth century ‘man’ and the concept of religion does not seem important nor needed for the world in which the windups live. Interestingly, it is the religious communities of the liberal humanist subject that condemn Emiko:

Certainly not the devils that the Grahamites warn against at their pulpits, or the soulless creatures imagined out of hell that the forest monk Buddhists claim; not a creature unable to ever achieve a soul or a place in the cycles of rebirth and striving for Nirvana. Not the affront to the Q’ran that the Green Headbands believe. (p. 50)

Emiko presents a situation where she is the maligned ‘other’ and inverts the reception that Snowman received from the Crakers. He understands that they know he is different from them but they do not judge him or act negatively towards him whereas Emiko is still the paradigm for rejection of the ‘other’. Hageman carries on to state readers should ‘identify with Emiko and her plight by relinquishing a rigid notion of the “human being” and cultivating hospitality to her as a being who is “new” only from a position invested in preserving the conventional liberal-humanist subject.’⁵⁶ It is only by deconstructing the liberal humanist subject that one can understand and accept Emiko in her own right as an autonomous equal being. Through the use of Gibbons, it is clear to see he does accept Emiko as a posthuman body but adopts a transhumanist approach, advocating genetic improvement but still embodying a liberal humanist mindset.

⁵⁶ Hageman, ‘The Challenge of Imagining Ecological Futures: Paolo Bacigalupi’s *The Windup Girl*’, p. 293.

Gibbons tells Emiko that perhaps he ‘will be that one’, a god, which the windups can follow and revere (p. 345). The human still seems to strive to reconstruct nineteenth century social structures and elevate himself to a more powerful position within that society. Similar to the Crakers who build an effigy of Snowman and mumble his name, almost trying to summon him back once he has left for Paradise, Snowman is reminded of what Crake used to say: ‘Symbolic thinking of any kind would signal downfall [...] Next they’d be inventing idols, and funerals, and grave goods, and the after-life, and sin, and Linear B, and kings, and then slavery and war’ (p. 420). And even though Snowman does not implicitly act as the Crakers ‘god’, he does tell them abstract stories in which both Oryx and Crake are revered as creators. Foucault mentioned that the idea that discourse can be described not as a sign of what is known but as a condition for knowledge, emphasises that what we actually know depends on how we phrase it.⁵⁷ The way in which Gibbons and Snowman talk about gods and creators highlights that they still exist in a mental framework of admiring and emulating a transcendent higher power that they will never fully understand. This is evident also in Atwood’s *The Handmaid’s Tale* where Atwood shows that change in context affect our attitudes and behaviours as the character Offred repeatedly mentions throughout the novel that ‘context is all’ (p. 144, 192). Gibbons precedes this sentiment about becoming New People’s god by telling Kanya that:

“Everyone dies. [...] But you die now because you cling to the past. We should all be windups by now. It’s easier to build a person impervious to blister rust than to protect an earlier version of the human creature. [...] you people refuse to adapt. You cling to some idea of humanity that evolved in concert with your environment over millennia, and which you now, perversely, refuse to remain in lockstep with. [...] If we wish to remain at the top of the food chain, we will evolve. [...] Evolve or die [...] and yet you white shirts seek to stand in the way of inevitable change. If you would just let me, I could be your god.” (p. 345)

⁵⁷ <http://plato.stanford.edu/entries/foucault/> -Stanford Encyclopedia of Philosophy (Accessed 15th August, 2013)

Through this statement, Gibbons is effectively taking on the role of god regarding genetic experimentation in exactly the same way that Crake abuses his own power and takes on a god-like role. Both of these men want to create posthumans or better humans and believe that there is no room left for humans in their current state. This shows that humans are seriously under threat, not from their posthuman counterparts, but from themselves as they are leading themselves to their deaths. As Gibbons points out, in order to stay at the top of the food chain ‘we will evolve.’ Yet this sentence in particular is consistent with the episteme in which nineteenth century thought would fall into; it is the mindset of an anthropocentric ideology to stay at the top as the ultimate being. Gibbons is still constrained by his own humanity, and is hypocritical as he argues for Kanya to let go of her humanity and embrace being posthuman. Towards the end of the novel Emiko meets Gibbons and she tells him ‘I hate your kind’ (p. 504). He replies with ‘you’re as close as anyone ever comes to meeting God. Come now, don’t you have any questions for God’ (p. 504). Emiko returns with ‘If you were my God, you would have made New People first’ (p. 504). Emiko does not idolise Gibbons. Emiko states that if New People had been made first then her people ‘would have beaten you. Just like the cheshires’ (p. 505). Gibbons smiles at this and says ‘Someday, perhaps, all people will be New People and you will look back on us as we now look back at the poor Neanderthals’ (p. 505). Hageman states that: ‘Bacigalupi has created a future populated by posthuman beings whose subjectivity undermines the ontological stability of “human beings” in the novel.’⁵⁸ Human beings believe the posthumans are a threat but ultimately they are the threat to themselves.

⁵⁸ Hageman, ‘The Challenge of Imagining Ecological Futures: Paolo Bacigalupi’s *The Windup Girl*’, p. 293.

Both Bacigalupi and Atwood have deconstructed the liberal humanist view of the self by introducing posthuman bodies that represent neither an 'evil' threat to human beings nor are presented as an inherent 'good'. Instead they both use the posthuman identity to criticise the liberal humanist subject and portray human beings as a threat to themselves. They display characters who, once removed from their position as the central figure within the narrative, have their world crumble into despair whilst others are highlighted as persistently acting as though they are in control, even when they are not.

2. The Reprogrammable Human.

2.1 The blurring of boundaries between humans and animals.

How much is too much, how far is too far?⁵⁹
- ORYX AND CRAKE

Human beings have always had a complex relationship with animals.⁶⁰ They have been used as objects by which to define human identity, with humans naturally discerning them as the ‘other’ and consistently finding ways in which they can differentiate themselves. Many have tried to fathom and define the animal-human relationship, yet philosophers ranging from Aristotle to Descartes generally perceive the animal to be devoid of rational thought and behaving as a machine-like entity. Although, according to bioethicist Peter Singer, animals are viewed ‘as beings of no ethical significance, or at best, of very minor significance’⁶¹ and critiques what he calls the speciesism of human beings – the unjust favouring of our species over others.⁶² Yet, in the last fifty years, advancement in medicine, cloning and genetic experimentation have unsettled previous conceptions of human identity. In 2005, scientists endowed living mice with functioning human cells in their brains.⁶³ Such research was regulated and therefore a new legislation led to the prohibition of the creation of a chimera, defined by the National Geographic as a human-animal hybrid. The experiment garnered much controversy and criticism with many fearing it as a

⁵⁹ Atwood, *Oryx and Crake*, p. 242.

⁶⁰ *Embodying the Animal: Questioning Human Identity in Literature and Circus* by Emily Kate Vallillo

⁶¹ Peter Atterton and Matthew Calarco (eds), *Animal Philosophy* (London: Continuum, 2004), p. 11.

⁶² Fukuyama, *Our Posthuman Future Consequences of the Biotechnology Revolution*, p. 143.

⁶³ http://news.nationalgeographic.co.uk/news/2005/12/1214_051214_stem_cell.html - ‘Mice with Human Brain Cells Created’ (Accessed 1st September, 2013)

‘slippery slope.’⁶⁴ Interestingly, the term ‘slippery slope’ is one that Atwood uses herself when she asks the reader ‘*what if we continue down the road we’re on. How slippery is the slope?*’⁶⁵ The balance between humans and animals has generally been placed within a binary opposition, yet many thinkers have opposed this view, stating that humans are actually equal with animals. Most prominent is Jacques Derrida in his work *The Animal, Therefore I Am*. Derrida argues for how so much heterogeneity can be labelled under one umbrella term: the animal. And further he critiques the notion that the human cannot fully identify and define itself, yet it can define what it is not: an animal. So, what will happen to the status of the human once the boundaries between animals and humans begins to blur? Atwood and Bacigalupi serve to blur, if not completely abolish, the boundaries between human and animal as the transgenic animals in the novels begin to develop human characteristics and humans begin to regress to bestial traits.

Transgenic animals were introduced in *Oryx and Crake* as ‘an after-hours hobby on the part of one of the OrganInc biolabs hotshots’ (p. 57). This is uncannily close to how the cheshires were created as a ‘party favour’ (p. 38) in *The Windup Girl*; they are both made on a whim by humans and it was determined by all scientists that ‘create-an-animal was so much fun’ (p. 57). Legislation surrounding moral ethics has long been thrown out the window in the two dystopic works as genetic experimentation is regarded as the norm due to either corporate rule and devastation or catastrophic ecological disaster. Onus is taken off the moral ethics as humans turn to genetics in order to create new commodities for business ventures but scarily, it is

⁶⁴ http://news.nationalgeographic.co.uk/news/2005/12/1214_051214_stem_cell.html - ‘Mice with Human Brain Cells Created’ (Accessed 1st September, 2013)

⁶⁵ J. Brooks Bouson (ed.), *Margaret Atwood The Robber Bride, The Blind Assassin, Oryx and Crake* (London: Continuum, 2010), p. 155.

frequently being used more to merely have fun and pass time. Atwood does show how the geneticists did exterminate experiments they deemed, on the surface, dangerous: ‘who needed a cane toad with a prehensile tail like a chameleon’s that might climb in through the bathroom window and blind you while you were brushing your teeth’ (p. 57). The geneticists believed themselves as gods, able to determine an animal’s life and worth and tried, unsuccessfully, to determine the hybrid’s threat to themselves. This is evident through the animals that were created merely as a control, for instance, bobkittens. Their sole purpose, and reason for construction, was to kill feral cats in order to increase the songbird population. Worryingly, the control the geneticists had created soon began in turn to get out of control: ‘Small dogs went missing from backyards, babies from prams; short joggers were mauled’ (p. 193). Due to the bobkittens deriving from genetic experimentation, there was no background history on them. The scientists lacked the level of knowledge over them in regard to their breeding and intelligence levels, which is exactly what occurs with the cheshires in Bacigalupi’s novel.

The cheshires are a genetically engineered cat, first designed as a birthday present at a child’s party and Bacigalupi highlights the tension building between the human and the animal as he demonstrates the overflowing hate humans hold for the cheshires. Emiko, the posthuman, on the other hand is surprised to hear that they are hated: ““You like cheshires?” Anderson asks. Emiko looks at him in surprise. “You do not?”” (p. 164). Lake replies with the answer ““Back home, we can’t kill them fast enough”” (p. 164). Lake displays features of the ideologies of a nineteenth century man and liberal humanist subject. He fears anything he suspects as a threat to him, and on a larger scale, that is a possible threat to mankind. He mentions that ‘even the Grahamites offer blue bills for their skins’ (p. 164). This shows that even so-called

peaceful tribes of men who focus on 'niche and nature' (p. 165) want the cheshires dead and find their uncontrollable breeding rate and the fact they can potentially outnumber mankind as an immediate threat to the human race. The blurring of human-animal boundaries becomes apparent, as man no longer has control over the animal. They can hunt them, and attempt to keep numbers down, but in the end they cannot control them. This presents a scary and unknown situation for man but is seen only as a threat to their need to be in control.

Again, it is only Emiko and the geneticist Gibbons who possess an empathy with the cheshires and claim to understand the creatures and believe that they are nothing to fear. Towards the end of the novel, Emiko does not seem to notice or care when a cheshire appears and muses that it is because 'she and it are siblings. Sympathetic creatures, manufactured by the same flawed gods' (p. 346). Cynically, Emiko describes the 'gods' who were perceived as omnipotent and omniscient as 'flawed', emphasising her negative thoughts towards human ideologies. Emiko thoughtfully states that 'they are too much improved for this world' (p. 164). The fact that Emiko has the empathy to side with not only a transgenic creature but also an animal shows that she is removed from the anthropocentric mindset of the nineteenth century. The boundary between the posthuman and animals has never been established as Emiko regards the cheshire as a sibling, created by the same 'god'. Gibbons on the other hand still embodies nineteenth century ideologies, as his thoughts regarding the cheshires still remain hierarchal, even though he does not fear them:

I know everything about these felines here. If I cared enough, I might even be able to drop a genetic bomb in them that would strip away their camouflage and over the course of generations turn them back into their less successful version. (p. 504)

Due to the use of the words ‘cared enough’, Gibbons is showing that animals are still beneath him and is highlighting the control he has over their livelihood. After the cheshires, the geneticists soon realised their mistake was allowing reproduction to occur as the breeding rate was ridiculously fast. Thus, Emiko also laments the fact that ‘if they had made New People first’ she would no longer be a ‘genetic dead end’ (p. 164). As she voices these concerns, Lake considers it would have been catastrophic for humans if New People were created first as he believes that if she were able to reproduce then ‘Emiko might have had the opportunity to supplant the human species entirely with her own improved version’ (p. 164). Therefore Bacigalupi is demonstrating that the posthuman entities and the transgenic animals are still something which the human deems they should have dominance over and be able to control. The liberal humanist subject sees the posthuman only as an improved version of themselves, something to both fear and admire with an underlying need to control it.

Lack of control and fear of the unknown by the liberal humanist subject highlights the anthropocentric hierarchy and binary opposition between humans and animals. Regarding killing a cheshire, Jaidee states ‘it carries no karmic cost. They have no soul’ (p. 247). Yet, a minor character in the novel, Somchai, one of Jaidee’s trusted and loyal men urges Jaidee not to kill the cheshires stating ‘they bleed like any other animal’ (p. 247). He mentions that he has ‘killed six men in my life and never regretted any of them, but I’ve killed thousands of cheshires and have never felt at ease’ (p. 248). Donna Haraway in ‘Becoming-with-companions’ states that:

Every other living being except Man can be killed, but not murdered. To make merely killable is the height of moral outrage, indeed, it is the definition of genocide. Reaction is for and toward the unfree; response is for and toward the open. Everything but Man lives in the realm of reaction and so calculation – so much animal pain, so much human good, add it up, kill

so many animals, call it sacrifice. Do the same for people, and they lose their humanity.⁶⁶

Somchai feels empathy towards the creatures, yet Jaidee merely comes to the realisation that the reign of the cheshires will never cease. In the end Jaidee puts his gun away, musing that it would be a waste of ammunition as ‘there are always more’ (p. 248). The fact that Jaidee, a man of high standing and power, immediately relegates anything different from him as having no soul shows his resistance to changing ideologies and his religious roots. He believes that anything he himself decides does not possess a soul is then fair game to be killed and it is for the greater good. As Haraway stated, Jaidee is of the consciousness of ‘man’ in which animals can only be killed or sacrificed. Though, further on in the novel, as Jaidee is coming to face Akkarat and meet his untimely death, he starts to tell Somchai about what will happen if they die there and Somchai interrupts with, ‘then you will come back as a cheshire’ (p. 254). Partly, due to Jaidee calling himself the ‘tiger’ and it ‘always being in his nature’ (p. 254) to act like one, Somchai is also reiterating his point that a good ‘human’ soul can be reborn within a posthuman, genetically modified creature.

Another who does not believe the cheshires are inherently evil is Hock Seng, a Chinese immigrant, who is considered inferior in Thailand’s society. He calls the cheshires ‘devil cats’ (p. 37) but admits that he has a ‘measure of respect’ (p. 37) for them. He is in awe at how they can thrive in places, even when they are despised: ‘The Green Headbands in Malaya hated the Chinese and the cheshires equally, but as far as Hock Seng knows, the devil cats still thrive there’ (p. 38). Hock Seng is as equally hated as the transgenic animals, yet he is unable to thrive in a world where he

⁶⁶ Donna J Haraway, ‘Becoming-with-companions’ in Tom Tyler and Manuela S. Rossini (eds), *Animal Encounters* (Leiden: Hotei Publishing, 2009), p. 122.

is despised. He admires the cleverness of the cheshires.

Unfortunately, in the case of Emiko and other windups, she is forced to submit to a degrading imperialistic, misogynistic and patriarchal rule, as when creating her, geneticists had ‘learned’ from their mistakes, and made her people infertile and submissive to all humans as she is as ‘servile as a dog (p. 262). In Kyoto, Japan, Emiko reminisces that windups ‘were sometimes well-respected. Not human, certainly, but also not the threat that the people of this savage basic culture make her out to be’ (p. 50). Hiroko, another windup, says that ‘new people are more Japanese than the Japanese’ (p. 425) This sentiment is nearly perfectly analogous to *Blade Runner*: the film version of Philip K. Dick’s *Do Androids Dream of Electric Sheep* where there is a sign relating to androids by the Tyrell Corporation stating ‘More Human than Human.’⁶⁷ They are perceived as the improved human, yet they are only improved in what the liberal humanist subject deems necessary. The posthumans are seen as a commodity which ‘man’ can manipulate and create in whatever way he pleases, not recognising the posthuman as an autonomous being, such as an animal.

The humans of the novel also regard Emiko on several occasions as an animal. She is called ‘some other creature’ (p. 155) and ‘an animal’ (p. 154). Similar to Jaidee describing the cheshires as having no souls, Kanya carries on with the notion that windups ‘have no souls and have no *kamma*’ (p. 302). Following on from his short story ‘Yellow Card Man’, Bacigalupi had already stated that, “‘it is perhaps the only thing a good Buddhist and a good Muslim and even the *farang* Grahamite Christians can agree on: windups have no souls.’”⁶⁸ The posthuman and transgenic beings within the novel are regarded by humans as unnatural, soulless and a being that is not and

⁶⁷ Ridley Scott (dir.), *Blade Runner* (Warner Bros., 1982)

⁶⁸ Paolo Bacigalupi, *Pump Six and other stories* (Canada: Nightshade Books, 2011), p. 172.

never will be regarded as human or equal to humans. A similar concept arises in Kazuo Ishiguro's *Never Let Me Go*. Ishiguro's dystopian novel introduces cloned inhabitants of a special school called Hailsham, who are believed by the majority of the population to not possess souls as 'people tried to convince themselves that [they] weren't really like [the clones].'⁶⁹ Hailsham was set up in order for the students to create art so the teachers could portray to the world that these children did have souls as people tried to convince themselves that the clones were less than human. It did work for a period of time until more advanced clone research began to unfold and people were reminded of their fears:

It's one thing to create students, such as yourselves, for the donation process. But a generation of created children who'd take their place in society? Children demonstrably *superior* to the rest of us? Oh no. That frightened people. They recoiled from that.⁷⁰

This is an example of Descartes' view on humanism that only humans possess a cognitive identity and both Ishiguro and Bacigalupi are critiquing this mindset and humanist ideology. Interestingly though, Hock Seng, on more than one occasion, refers to the white dominant males, Anderson Lake and the other '*gaijin*' as creatures. And even Gibbons tells Kanya that 'it's easier to build a person impervious to blister rust than to protect an earlier version of the human creature' (p. 345). There is an instance of a matter of perspective in the hierarchal ordering of not only humans and animals, but humans between themselves. Hock Seng is filled with vehemence for those that can control him and Gibbons simply believes he has potential control over anything; from his viewpoint, the whole human race is regarded as a 'creature' and effectively a prototype towards true human perfection highlighting his transhumanist views once again.

⁶⁹ Kazuo Ishiguro, *Never Let Me Go* (London: Faber and Faber, 2006), p, 241.

⁷⁰ Ishiguro, *Never Let Me Go*, p. 241.

The treatment of animals is no different in Atwood's *Oryx and Crake* and *The Year of the Flood* where hybrid creatures are created at every turn. Alongside bobkittens (smaller than bobcats and less aggressive) there are also liobams (a mixture of lion and lamb melded together by a religious group); rakunks (the clean smell of a raccoon and temperament of a skunk, normally used as pets); wolvogs (dangerous wolf dogs); Mo'hairs (sheep with multi coloured hair) and pigoons. The mere fact that Jimmy was allowed a rakunk as a pet when he was younger highlights just how normal it had become to view the genetically modified creatures as something acceptable.

Most notable of the transgenic animals are the pigoons. The pigoon is used to harvest organs for humans. Yet, the pigoon ends up being endowed with human characteristics: 'we now have genuine human neocortex tissue growing in a pigoon. Finally, after all those duds!' (p. 63). This later develops into a theme of underlying irony, which Atwood incorporates to show how 'man' is going too far in playing God. Atwood shows how the pigoons see Jimmy/Snowman as an enemy, and vice versa:

There are too many pigoon tracks around here. Those beasts are clever enough to fake a retreat, then lurk around the next corner. They'd bowl him over, trample him, then rip him open, munch up the organs first. He knows their tastes. A brainy and omnivorous animal, the pigoon. Some of them may even have human neocortex tissue growing in their crafty, wicked heads. (p. 276)

The fact that the pigoons have 'human neocortex' inside them highlights the nefarious actions of humankind. Yet it also seems to criticise that once the humans know there is human DNA within an animal, it immediately becomes more clever and more of a threat. In *The Year of the Flood*, Toby states 'pigs are smart, they'll keep her in mind, they won't forgive her.'⁷¹ The human – animal boundary has blurred so that the

⁷¹ Margaret Atwood, *The Year of the Flood* (London: Virago, 2011), p. 22. All further references will be given in the body of the text.

transgenic animals begin to have human characteristics. Even in *The Handmaids Tale*, devoid of genetic mutation, the pig marketers in the time said that ‘the pigs were curious, they liked to have something to think about’ (p. 79) which creates an uncanny feeling between humans and animals and whether animals do have conscious and rational thought. When Jimmy was younger, he was already worried when he visited the pigoons as ‘they glanced up at him as if they saw him, really saw him, and might have plans for him later’ (p. 30). The hierarchal difference between humans and animals is inverted within the novel, starting with Jimmy’s unease at being around them, to his inability to eat meat in case it contained pigoon flesh, to the pigoons stake-out of him during his trip to Paradise. When he was younger Jimmy says that:

[He] was confused about who should be allowed to eat what. He didn’t want to eat a pigoon, because he thought of the pigoons as creatures much like himself. Neither he nor they had a lot of say in what was going on. (p. 24)

Jimmy aligns himself with his mother who is the voice of irony, when she asks ‘that’s all we need, more people with the brains of pigs. Don’t we have enough of them already?’ (p. 64). Eventually Jimmy’s mother joins a rebel group intent on stopping genetic experimentation. Fukuyama points out that ‘there is today around the world a very powerful animal rights movement [...]. The radical fringe of this movement has on occasion turned violent, bombing medical research labs and chicken processing plants.’⁷² Atwood incorporates this into her two novels by creating the rebel group ‘Maddaddam’ who attack corporations who profit through using genetic engineering on plants and animals and turning them into a commodity.

To refer back to Derrida’s *The Animal, Therefore I Am*, he claims that ‘by means of genetic experimentation’ this has caused the

⁷² Fukuyama, *Our Posthuman Future Consequences of the Biotechnology Revolution*, p. 143.

reduction of the animal not only to production and over- active reproduction of meat for consumption but also of all sorts of other end products, and all of that in the service of [...] the so-called human well-being of man.⁷³

This demonstrates how it is not a matter of how posthuman entities are treated but instead focuses on man's 'well-being'. Derrida goes on to mention that '*Animal* is a word that men have given themselves the right to give'⁷⁴ highlighting further the liberal humanist stance that humans take when deciding that animals are their own private property. The role reversal with the pigeons exemplifies the deconstruction of the liberal humanist subject as barriers begin to break down between the distinction of humans and animals.

⁷³ Jacques Derrida, *The Animal That Therefore I Am* (Fordham: Fordham University Press, 2008), p. 394

⁷⁴ Derrida, *The Animal That Therefore I Am*, p. 394.

2.2 The problem of extinction and immortality.

To stay human is to break a limitation.⁷⁵

- ORYX AND CRAKE

Human beings have always striven to reach perfection and ultimately create a Utopian dream world, especially in the nineteenth century, which was so ‘cluttered up with them.’⁷⁶ It was only during the turn of the century and throughout the twentieth century that dark and horrific dystopian worlds began emerging. Atwood asks, ‘why is that when we grab for heaven [...] we so often produce hell? [...] Maybe it’s the lumpiness of human beings. What do you do with people who [...] don’t or won’t fit into your grand scheme?’⁷⁷ Due to the disastrous events in the twentieth century, for example Nazi Germany and the desire for an Aryan race, many became suspicious and wary of Utopian ideas, which could be a double-edged sword with unforeseen negative consequences. The desire for immortality and perfection is a huge flaw within the society of Atwood and Bacigalupi’s novels, resulting in the cataclysmic events that unfold within the novel and ask the reader: should we be seeking to improve ourselves beyond recognition? The transhumanist view promotes the idea that humans should be determined to improve themselves and follow the path of perfecting themselves and moving towards immortality, constantly bettering the previous model. Nick Bostrom argues that it would be good for us to become posthuman and defines the posthuman as possessing at least one ‘posthuman capacity.’⁷⁸ These capacities he limits to three main features: healthspan, cognition

⁷⁵ Atwood, *Oryx and crake*, p. 354.

⁷⁶ Margaret Atwood, *In Other Worlds SF and the Human Imagination* (London: Virago, 2011), p. 81.

⁷⁷ Atwood, *In Other Worlds SF and the Human Imagination*, p. 84.

⁷⁸ More and Natasha Vita-More (eds), *The Transhumanist Reader*, p. 28.

and emotion. Atwood and Bacigalupi raise the question of how effective is the change in a human when their posthuman counterparts are still partially ‘hard-wired’ to make the same mistakes despite how they are designed?

As shown by Gibbons in *The Windup Girl*, improved healthspan and quality of life is what he is campaigning for with the move to the posthuman: ‘Evolve or die’ (p. 345) is his mantra, ‘refuse, and go the way of the dinosaurs and *Felis domesticus*’ (p. 345). He views the extinction of a species as the right method in ridding the world of a weaker, defunct version. He tells Kanya, that it’s easier to build a person impervious to disease and aging than to ‘protect an earlier version of the human creature’ (p. 345). Kanya instead insists that the New People are just a machine that ‘apes the motions of humanity [...] a dangerous experiment that has been allowed to proceed too far’ and ‘a genetically engineered beast’ (p. 427). Gibbon’s transhumanist vision, is the threat to humankind. Whereas Kanya represents the liberal humanist subject, unable to accept the ‘other’ and fears it, Gibbons instead promotes an unhealthy version of New People and transgenic animals. Hayles states that if a subject ‘seems to present the posthuman as a transformation to be feared and abhorred rather than welcomed and embraced, that reaction has everything to do with how the posthuman is constructed and understood.’⁷⁹ Even though Gibbons is accepting and welcomes the posthuman transformation, he himself still maintains an ownership over the end product. He himself has not ventured into the realm of posthumanism, instead he is decaying, surrounded by his posthuman servants. Because he is a creator of the new posthuman subject, he believes himself a god amongst them. Yet, as Haraway says at the end of *The Cyborg Manifesto*, she would ‘rather be a cyborg than a goddess.’⁸⁰

Gibbons may believe himself to be a god, yet ironically he is subpar to the new

⁷⁹ Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, p. 291.

⁸⁰ Badmington, *Readers in Cultural Criticism: Posthumanism*, p. 84.

‘improved’ New People and will be left along with the extinct population of humans if he were to get his way of ‘evolve or die’ with no middle ground.

Evolutionary change can be identified through three of the major characters in Atwood’s *Oryx and Crake*.⁸¹ Glenn (Crake) picks the codenames for the game Extinctathon and names Jimmy, Thickney – ‘a defunct Australian double-jointed bird that used to hang around in cemeteries’ (p. 93). Glenn names himself after the ‘Red-necked Crake’, a rare bird that has a secretive nature. Then there is Oryx, who has no given name except by the men in her life who label her. Oryx does choose her own name based on the ‘Oryx Beisa’ but it is from a list that Crake hands her and had ‘liked the idea of being a gentle water-conserving East African herbivore’ (p. 365). The transition from ordinary human names to animal names, particularly extinct or endangered animals, parodies the degeneration of man and deconstruction of the liberal humanist self. The animals, which are now extinct, are being used to characterise human traits and ‘man’ is regressing. Adding to this, Jimmy loses the name Thickney and transpires as ‘Snowman’ in the after apocalypse; an entity that is unrecognisable to the posthuman Crakers: ‘they don’t know what a snowman is, they’ve never seen snow’ (p. 8). The liminal structure of Jimmy’s differing names, portrays the shift from ‘man’ to ‘posthuman’. Jimmy is initially characterised by an extinct bird, something that used to exist but now does not. Then he moves to the name Snowman, at first an object unknown to the new posthumans but he adds, only to himself that he is the ‘Abominable Snowman – existing and not existing [...]

⁸¹ http://lib.ugent.be/fulltxt/RUG01/001/457/834/RUG01-001457834_2011_0001_AC.pdf - Tom Van Steendam, ‘Paratextuality and Parody in a Post-cataclysmic Wasteland: Margaret Atwood’s *Oryx and Crake*’ (Accessed 28th August, 2013)

known only through rumours' (p. 8). Jimmy becomes an intangible entity, something not of the world, as he himself is a product eschewed from this new world.

Interestingly, the degeneration of man is itself parodied further in the novel by Jimmy's pet rakunk, a product of 'create-an-animal' fun (p. 57). His mother, disdainful of the pet, asks will he call it 'Bandit' and Jimmy, in order to disagree with his mother instead opts for 'Killer', a more savage and criminal name, embodying one of human nature's most terrible sins. Yet, Jimmy's mother liberates Killer and Jimmy is outraged: 'Killer was a tame animal, she'd be helpless on her own, she wouldn't know how to fend for herself' (pp. 70-71). Also it echoes when Haraway stated, 'every other living being except Man can be killed, but not murdered.'⁸² Killer, the animal is harmless but it highlights human beings humanist perception that an animal cannot be murdered they are simply killed.

In *The Year of The Flood*, these names become more common. The members of MaddAddam all possess names governed by extinct animals: 'BLACK RHINO. WHITE SEDGE. IVORY-BILLED WOODPECKER. POLAR BEAR. INDIAN TIGER. LOTUS BLUE. SWIFT FOX' (p. 351). Crake tells Jimmy 'these people *are* Extinctathon' (p. 351). As Patrick Murphy observes, 'the western paradigm of human exceptionalism sustains the "belief in the radical independence of human beings from all else" including processes of evolution and extinction.'⁸³ Atwood serves to expose this view as a statement human beings can hide behind. The text questions whether extinction is a more serious condition when it threatens the human and not the non-

⁸² Donna J Haraway, 'Becoming-with-companions' in Tom Tyler and Manuela S. Rossini (eds), *Animal Encounters* (Leiden: Hotei Publishing, 2009), p. 122.

⁸³ http://www.academia.edu/238034/Genomic_Bodies_Un-Natural_Selection_Extinction_and_the_Posthuman_in_Atwoods_Oryx_and_Crake - Mary Galbreath, 'Genomic Bodies: Un-Natural Selection, Extinction and the Posthuman in Atwood's *Oryx and Crake*' (Accessed 20th August, 2013)

human and also asks ‘if the idea of justice applies to the nonhuman other.’⁸⁴ Human beings have not noticed how long they have served the nonhuman an injustice in society. In Atwood’s *The Handmaid’s Tale* Offred notes that society will not be able to notice the detrimental effect it is causing itself as she muses that ‘nothing changes instantaneously: in a gradually heating bathtub you’d be boiled to death before you knew it’ (p. 66). The reader is told that ‘we are a society dying [...] of too much choice’ (p. 35). Yet the subject of ‘choice’ is a slippery term within itself, as the nonhuman other, those relegated to the status of ‘animal’ or posthuman do not have a choice.

Simplifying programming is a common feature of the dystopian genre where people are segregated and at least one portion of the population are reduced to serving one elementary function. In *The Handmaid’s Tale*, Offred is kept ‘for breeding purposes’ (p. 146), regarded as a ‘national resource’ (p. 75) and a ‘worthy vessel’ (p. 75) and is often ‘washed, brushed, fed, like a prize pig’ (p. 79). A similar thing occurs in Ishiguro’s *Never Let Me Go*. Ishiguro highlights the boundaries between the human and the posthuman through the portrayal of the students at Hailsham. The students primarily exist for one function and this deprived them of any humane depiction.

For a long time you were kept in the shadows, and people did their best not to think about you. And if they did, they tried to convince themselves you weren’t really like us. That you were less than human, so it didn’t matter . . . Here was the world, requiring students to donate. While that remained the case, there would always be a barrier against seeing you as properly human.⁸⁵

It can be argued that the clones are situated on the same level as animals, through the way in which they are treated. Helena Pederson argues that ‘Hailsham operates on the

⁸⁴ http://www.academia.edu/238034/Genomic_Bodies_Un-Natural_Selection_Extinction_and_the_Posthuman_in_Atwoods_Oryx_and_Crake - Mary Galbreath, ‘Genomic Bodies: Un-Natural Selection, Extinction and the Posthuman in Atwood’s *Oryx and Crake*’ (Accessed 20th August, 2013)

⁸⁵ Ishiguro, *Never Let Me Go*, p. 240.

double logics of repression and protection – not unlike animal welfare organisations working for ‘humane’ treatment and improved conditions for animals who in the end still are destined for use and slaughter.’⁸⁶ Originally in *Oryx and Crake*, the pigoons are created for one purpose only:

The goal of the pigoon project was to grow an assortment of foolproof human-tissue organs in a transgenic knockout pig host – organs that would transplant smoothly and avoid rejection, but would also be able to fend off attacks by opportunistic microbes and viruses, of which there were more strains every year. (p. 25)

In *Oryx and Crake* Jimmy asks Crake, “‘What pays for all this?’” (p. 344) in relation to the tour of the RejoovenEsense compound which is full of state-of-the-art luxuries and Crake replies: “‘Grief in the face of inevitable death [...] The wish to stop time. The human condition’” (p. 344). Crake defines the human condition as the desire and struggle for immortality and the impending mortality destined for humans. Atwood states: ‘We’re stuck with us, imperfect as we are; but we should make the most of us’ She argues that we should try to make things better but not to strive for perfection as ‘that path leads to mass graves.’⁸⁷ This foreshadows what occurs at the end of *Oryx and Crake* as Crake leads most of the human population to near extinction and as Gibbons says, ‘an accidental plague kills just as surely’ (p. 351).

⁸⁶ Helena Pederson, ‘Is ‘the posthuman’ educable? On the convergence of educational philosophy, animal studies, and posthumanist theory’ in *Discourse: Studies in the Cultural Politics of Education*, 31, 2010, p. 239.

⁸⁷ Atwood, *In Other Worlds SF and the Human Imagination*, p. 95.

3.

Human Commodification: The posthuman as a commodity may come to exceed the destiny intended for it in a capitalist model of production and consumption.

There is a stark contrast, which occurs in both Atwood's and Bacigalupi's novels, which highlights intolerance for diversity of any kind, through the power struggle of the Corporations at the top and the dire treatment of the proletariat at the bottom. In the nineteenth century 'when one thought about the economy in that period, the focus was almost always on production.'⁸⁸ Yet, in the future worldviews that the two novelists provide the reader with, it seems that the focus lies heavily on consumption and as Mary Galbreath states: 'human exceptionalism provides justification for humanity's consumptive habits through self-separation and dominance, over other life forms.'⁸⁹ Both novels view the posthuman being as a commodity, as private property, which they can distribute and deign to do whatever they wish with. To demonstrate the deconstruction of the liberal humanist subject, Atwood and Bacigalupi present a binary opposition between the apparent commodification of posthuman entities and the less noticeable commodification of humans themselves by each other. The human being wishes to dominate other life forms whereas the posthumans aim to break out of their subservient role in the capitalist model of production and consumption.

In Atwood's novels, there is no need for a government body as the Corporations and their subsidiaries hold all the power through global capitalism where 'the compounds produce and market food, medicine, and entertainment with no apparent government regulation and no intervention on the part of non- corporate

⁸⁸ Nathan Jurgenson and George Ritzer, 'Production, Consumption, Prosumption: The nature of capitalism in the age of the digital 'prosumer' in *Journal of Consumer Culture*, 13 (2010), p. 14

⁸⁹ Marcy Galbreath, 'A Consuming Read: the Ethics of Food in Margaret Atwood's *Oryx and Crake*' in *Florida Gulf Coast University's 2nd International Humanities and Sustainability Conference*, Fort Myers, Florida, October 7-9, (2010), p.1.

society.⁹⁰ The Corporations attempt to take control of everyone and it is the pleeblanders from the compounds that are treated the worst, being considered substandard human beings. They are used as test subjects by the compound scientists in a similar way to animals during the nineteenth century, which were also seen as lesser creatures.⁹¹ Crake uses the pleeblanders to first test his BlyssPluss pill on. This is a direct comparison between the capitalist, Crake, and the proletariat, the pleeblanders, who are commodified in order to test a drug which will become fatal to nearly all humankind. Crake can be identified as having the same mindset as Gibbons; people are not human to him, everything is a subject which can be turned into a commodity for his own end gain. Atwood uses dark humour in order to satirise the cold, unfeeling way the scientists treated the proletariat: ‘A couple of the test subjects had literally fucked themselves to death, several had assaulted old ladies and household pets, and there had been a few unfortunate cases of priapism and split dicks’ (p. 348). And Crake counts on ‘the tide of human desire, the desire for more and better’ (p. 296) to profit greatly and to drive forward sales.

Cleverly, Atwood inverts the natural capitalistic dominance through the use of Crake. Since he is creating a drug to wipe out the human race, he has not set his sights on any monetary profit. Crake capsizes the impending vision of a totalitarian dystopian future with the invention of the Crakers. Crake tricks HelthWyzer into believing he is creating the Crakers in order for people to pick their favourite genetic combinations, whilst instead he is plotting the extinction of the human race as Jimmy says ““Didn’t you get a bit carried away”” (p. 359). Crake’s posthuman creations are his utopian dream. He strives for a world where there is no technology, no religion, no

⁹⁰ Beth Irwin, ‘Global Capitalism in *Oryx and Crake* in *University of Wisconsin Oshkosh. Oshkosh Scholar*, 4 (2009), pp. 45.

⁹¹ <http://www.stanford.edu/group/hopes/cgi-bin/wordpress/2010/07/animal-research/> - ‘Animal Research: The Ethics of Animal Experimentation’ (Accessed 29th August, 2013)

massive overpopulation worries or ecological decline. It is through his means of achieving this utopian world that Atwood highlights the fine balance between utopian ideas and dystopian results. Crake creates the BlyssPluss Pill that simultaneously would protect against sexually transmitted disease, provide an unlimited supply of libido and sexual prowess and prolong youth. Yet, the fourth capability, Crake decides not to advertise but references it to Jimmy as acting also as ‘a sure-fire-one-time-does-it-all-birth-control pill’ (p. 347) not only sterilising them, as Jimmy thinks, but exterminating them.

Throughout the novel, drugs are used consistently in order to control human beings. One evening, Crake walks Jimmy through a hypothetical scenario where he states that sooner or later all diseases will be cured by the large outfit HelthWyzer and he asks Jimmy, what will happen after that. Jimmy, un-responding, is prompted by Crake who states, “‘You’d need more sick people, Or else – and it might be the same thing - more diseases’” (p. 247). Jimmy, quite naively, replies that they keep discovering new diseases and Crake dismisses this: “‘Not discovering [...] they’re creating them’” (p. 247). Crake describes how HelthWyzer imbed hostile bioforms into their vitamin pills to infect the population and naturally they develop the antidotes at the same time, but hold them in reserve, in order to accumulate high profits. Crake states that, “‘the best diseases, from a business point of view, [...] would be those that cause lingering illnesses’” (p. 248). Therefore, the health corporations are controlling the population and gaining a maximum profit through the production and consumption of new diseases and their subsequent, yet scarce, antidotes. This is hinted at in the case of Toby’s mother in *The Year of the Flood*. Due to Toby’s father refusing to sell his house, her mother suddenly develops a ‘strange illness’ (p. 31) and having never been ill before and always taking ‘a dose of

HelthWyzer Hi-Potency VitalVite supplements daily' she continued to 'wither away' (p. 31). This emphasizes the control that the Corporations have over the lives of human beings. Toby explains how the CorpSeCorps had 'started as a private security firm for the Corporations, but then they'd taken over when the local police forces collapsed for lack of funding' [...] and people liked that at first [...] but now CorpSeCorps were sending their tentacles everywhere' (p. 30). They not only control what people are buying, they also control life and death, bordering again on assuming the position of a god. Already, in current conditions, 'a number of commentators have argued, biomedical research has now become inseparable from the drive to generate intellectual property, with the consequence that illness and health have become major fields for corporate activity and the generation of the shareholder.'⁹² Atwood seems to drive this message that anything can become corporate property.

Anderson Lake also comments on human nature's indulgence in creating and making freely available, products that will gain themselves profit rather than benefit the needs of other human beings. After rolling a cigarette, Lake is amused that 'the Thai's, even amid starvation, have found the time and energy to resurrect nicotine addiction. He wonders if human nature ever really changes' (p. 91). In direct comparison to this, the Crakers are able to break free from the capitalistic model of production and consumption, in terms of control through drugs, in that Crake creates them so they have 'immunity from microbes, [that] what had until now been done with drugs would soon be innate' (p. 358). The Crakers are seen as the 'floor models' (p. 305), initially a commodity created by Crake in order to design consumers' perfect traits. Yet, their creation destabilises the status quo on which late capitalism was built, as the Crakers are physically superior to their creator.

⁹² Clare Hanson, *Eugenics, Literature, and Culture in Post-war Britain* (Oxon: Routledge, 2013), p. 156

A similar theme occurs in Bacigalupi's *The Windup Girl*. Thailand is seen as a third world country and the fact that they have their own food supply is a threat to Anderson Lake's business empire. Constantly on Lake's mind is the fact that: 'Blister rust is mutating every three seasons now. Recreational generippers are hacking into our designs for TotalNutrient Wheat and SoyPRO. Our last grain of HiGro corn only beat weevil predation by sixty percent' (p. 8). Lake is left wondering on more than one occasion that 'somewhere in this city a generipper is busily toying with the building blocks of life. Re-engineering long-extinct DNA to fit post-Contraction circumstances, to survive despite the assaults of blister rust, Nippon genehack weevil and cibiscosis' (p. 93-94). In his future world, 'generipping' is seen as recreational. It could even be argued that the illegitimate genehacking is a revolution against the corporations who, not only have to fear each other's competition, but also that of vigilantes or malicious hackers. Similar to the Crakers, the posthuman subjects of 'windups' are created so that they 'have perfect eyesight and perfect skin and disease and cancer-resistant genes' (p. 50). They are not involved in the arms race between producing and consuming different diseases and the effects of this on human society. They are created instead so that they are impervious to this strain of capitalist and economic control.

Bangkok, Thailand, is presented as a nation-state, and one that has not yet succumbed to the economic colonisation that the agri-corporations, notably from Western countries, have implemented in several other countries. Thailand has stayed independent against the rest of the world, acting against takeover by the large corporations since the Contraction and resulting in one of the most habitable countries left with a thriving population. Trade Minister Akkarat tells Lake: 'The seedbank has kept us independent of your kind. [...] When India, Vietnam and Burma all fell to you

we stood strong' (p. 217). One such product from the Thai seedbank is the Ngaw, which Lake encounters in the very first pages: '[he] turns the strange hairy fruit in his hand. It carries no stink of cibiscosis. No scab of blister rust. No graffiti of genehack weevil engraves its skin. [...] *Ngaw*. A mystery' (p. 2). From the introductory pages of *The Windup Girl*, the reader is instantly being alerted to the fact that a fruit which 'shouldn't exist. Yesterday it didn't' (p. 2), is already being scrutinized for disease and parasites and that it is unfathomable for Lake, and also dangerous to realise its resistance to these strains. In order for his company to maintain its position of power as one of the corporate leaders of the global food chain, Lake is resolute to uncover the seedbank and halt the speed in which new products are being created. This is similar to Jimmy's dad in Atwood's novel, where he argues that 'the kidnapping of a pigoon and its finely honed genetic material by a rival outfit would have been a disaster' (p. 29). If another Corporation got its hands on the Pigoon then they would lose out on the ultimate profit to be made.

There is no transformation of the state economically in Thailand and as much as the Environmental Ministry despises the transnationals, General Akkarat of the Trade Ministry still allows the '*farang*' (p. 60) or '*gaijin*' to trade and with this economic dependence on the West, there is no real freedom from colonialism. John Hodges argues that 'in general, Western society has lost its balance by allowing, or encouraging, the business and economic component of society to dominate the whole of life and to shape human community.'⁹³ Jaidee, the fighting tiger of the Environment Ministry, even confesses that he feels this way when he tells Kanya, 'why else do we let them squat out on Koh Angrit? In case we need them. In case we

⁹³ John Hodges, 'Globalization and Sustainability in Agriculture: Role of Law and Ethics' in Jennifer Gunning, Soren Holm and Ian Kenway (eds.), *Ethics, Law and Society, Volume 4* (Surrey: Ashgate, 2009), p. 11.

fail, and must go begging for their rice and wheat and soy' (p. 115). The Thai society is trying to be independent but there is still a need for the Calorie companies. The detestation is constantly flowing underneath the text, as is the vehemence the Thai feel due to their dependence on these corporations. Even Emiko, the hated, genetic reject who is seen as worthless, wonders: 'If they met her or an AgriGen calorie man, it is hard to say which they would rather see mulched first' (p. 54). In Atwood's novel, in a neo-colonial sense, when Jimmy asks Crake where did he get the test subjects from for his clinical trials, Crake replies, "'From the poorer countries. Pay them a few dollars, they don't even know what they're taking'" (p. 349). In both novels, the vulnerable in society are being colonised by corporations or living with the threat of colonisation by the calorie companies and the resultant exploitation for profit.

Timothy Morton argues that 'what's wrong about genetic engineering is that it turns life forms into private property to enrich huge corporations.'⁹⁴ The critic Andrew Hageman compares this sentiment towards Emiko from Bacigalupi's *The Windup Girl*, who is seen as 'private property' but to expand further on this idea, it can be argued that any 'life form', anything with living cells, can be transformed into private property, such as crops and disease as described above. Even in Atwood's novel, the reclusive genius Crake himself is seen as a commodity: 'Crake was top of the class. The bidding for him by the rival EduCompounds at the Student Auction was brisk, and he was snatched up at a high price by the Watson-Crick Institute (p. 173). Though, the posthuman subject, Emiko, in Bacigalupi's novel is able to liberate herself from being defined as someone else's possession and in the process destabilises the status quo of production and consumption. Emiko first tells Anderson

⁹⁴ Timothy Morton, *The Ecological Thought* (Harvard: Harvard University Press, 2010), p.86.

Lake that, “my body is not mine [...] The men who designed me, they make me do things I cannot control. As if their hands are inside me. Like a puppet, yes?” (p. 262) Emiko remembers the lessons she had to learn: “*What are you?*” “*New People.*” “*What is your honour?*” “*It is my honour to serve.*” “*Who do you honour?*” “*I honour my patron*” (p. 220). Emiko’s old patron Mizumi-sensei tells her, alongside other windups, that ‘their duty was to serve, their honour was to serve, and their reward would come in the next life, when they became fully human’ (p. 221). This statement parallels Gibbons’ views that humans must become windups in order to survive. The liberal humanist subject begins to fall apart as the windups, the superior beings, are told their goal is to become fully human in a world where humanity is constantly being critiqued. For most of the novel, Emiko does adhere to her servile life, facing gross degradation as a sex slave for the entertainment of human beings. Emiko does try to civilly leave her position as she asks Raleigh, “I wish to leave this place” (p. 226) even though she does not have a new patron. Raleigh humours her by telling her that she can leave, though he knows she never will. Ultimately, towards the end of the novel, something snaps within Emiko and after she kills Raleigh mercilessly, she massacres one of the most powerful men in Thailand, the Somdet Chaopraya and his men, stating ‘all of them are moving too too slow. None of them are New People’ (p. 368). Yashimoto tells Kanya “it is surprising [...], that one has shaken off her training. Unwelcome news. New People serve us. It should not have happened” (p. 425) Even though Emiko is able to liberate herself from the men ‘who hurt her most’ (p. 367) and exceed the destiny set out for her, there is still a long way to go until all windups are able to break free from their servile roles under human rule. This is particularly powerful at the end of the novel where Gibbons tells her he can create fertile windups, give her a purpose and her own fate and ‘much much

more' (p. 505.) Ultimately, it is the posthuman entities that are able to break down liberal humanist values and release themselves from the capitalistic model.

Conclusion

The Rise of the Posthuman: How humans and posthumans can survive together.

There are signs already in place that signify the blurring of the boundaries between the human and the posthuman. The deconstruction of the human defined by liberal humanism, an ideology based on human values and concerns, paves the way for an inevitable move to posthumanism. As already discussed, the human is in danger of disappearing completely and this has been demonstrated through the issues of another epistemic shift, the blurring of boundaries between humans and animals and the ownership and capitalist domination of anything deemed by the liberal humanist as 'other'. Though, it is not completely the end for human beings, it is more the disintegration and subsequent demise of the ideologies of the nineteenth century 'man' along with all his human values and concerns. Though Foucault speculated that 'man' would disappear, it does not necessarily mean that all of humankind would perish. Hayles mentions that:

Although some current versions of the posthuman point towards the anti-human and the apocalyptic, we can craft others that will be conducive to the long-range survival of humans and of the other life-forms, biological and artificial, with whom we share the planet and ourselves.⁹⁵

There is a chance that human beings and posthuman beings will be able to coexist as equal subjects. Ultimately, it can be argued that it is not the posthuman being that acts as a threat to humanity and that it is the current values and concerns of human beings in the present that are a threat to themselves. The 'god like' need to have control and dominance over any other species and deem themselves superior is potentially human beings' greatest pitfall and will eventually lead to their downfall. Posthumanism states

⁹⁵ Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, p. 291.

that the human does not need to be the only, or even the central, model for a worthwhile, valuable life.

Bacigalupi explores the central model as being something that is not determined by wealth, position or even gender. This ending verges on a Utopian culmination, where there are no longer any corporations left within the world. In a biblical sense, an eschatological flood at the end of the novel, has taken what was wrong with the world and has left the survivors to create a new world, one with a different ideology that will not be consumed by greed and capitalistic profit. At the end of the novel, the two genetic creations: Gibbons' ladyboy Kip, who represents an amalgamation of gender, and Emiko are left with Gibbons. The decision to end the novel with these three characters highlight Bacigalupi's want for a new future where it is not controlled and determined by society's elite. Gibbons, even though he possesses traits of the liberal humanist subject, tells the windups that he can progress their race and will ultimately die soon. Interestingly, Emiko also embodies an Eve like figure, yet exceeds the boundaries of being regarded as a construct made merely for man's company. Atwood's *Oryx and Crake* follows this same premise with the 'waterless flood', a biblical analogy to the termination of liberal humanist ideology.

The two other novels that complete Atwood's trilogy, *The Year of the Flood* and *Maddaddam* are more primarily concerned with the effect of the human and posthuman in respect to ecology and environmentalism. The last novel in Atwood's trilogy, *Maddaddam*, only recently released, portrays a dismal fate where Toby dreams that 'the world has been changed utterly; that the familiar is long dead; that everything she used to love has been swept away' (p. 32). She carries the same ideology as 'Snowman-the-Jimmy' that her past world is now gone, and she is still clutching to remnants of the past. *Maddaddam* mentions that 'speculations about what

the world would be like after human control of it ended had been [...] a queasy form of popular entertainment' (p. 32). It had been entertaining to view the fate of the world, yet signified by the word 'queasy', it is still something which scared and unnerved most people who would not want to share their world with a being potentially more powerful and more improved than them. In relation to this, Toby laments that 'history is over' (p. 33). Yet, arguably, it is only the history of the liberal humanist subject that has ceased to exist, it is their history that will not continue, as they will not survive in a world where human beings and posthuman beings can be coequal and not have a god-like presence over them. To reiterate Haraway's final words, 'I'd rather be a cyborg than a goddess.'⁹⁶

⁹⁶ Badmington, *Readers in Cultural Criticism: Posthumanism*, p. 84.

Bibliography

PRIMARY WORKS

- Atwood, Margaret, *Oryx and Crake* (London: Virago: 2009)
- Atwood, Margaret, *Maddaddam* (London: Bloomsbury, 2013)
- Atwood, Margaret, *The Year of the Flood* (London: Virago, 2011)
- Atwood, Margaret, *The Handmaid's Tale* (London: Virago, 2007)
- Bacigalupi, Paolo, *The Windup Girl* (London: Orbit, 2010)
- Bacigalupi, Paolo, *Pump Six and other stories* (Canada: Nightshade Books, 2011)
- Blake, William, *The Marriage of Heaven and Hell* (Oxford: Oxford University Press, 1975)
- Ishiguro, Kazuo, *Never Let Me Go* (London: Faber and Faber, 2006)
- Shelley, Mary, *Frankenstein* (Oxford: Oxford University Press, 2008)

SECONDARY WORKS

- Appleton, Sarah A., 'Marketing Death in Margaret Atwood's *Oryx and Crake* and *The Year of the Flood*' in *LATCH*, 4 (2011), pp. 63-73.
- Armstrong, Philip and Laurence Simmons (eds), *Knowing Animals* (Cambridge: Cambridge University, 2007)
- Ashcroft, Bill, Gareth Griffiths and Helen Tiffin (eds.), *Key Concepts in Post-colonial Studies* (London: Routledge, 1999)
- Atwood, Margaret, *Curious Pursuits: Occasional Writing* (London: Virago, 2005)
- Atwood, Margaret, *In Other Worlds SF and the Human Imagination* (London: Virago, 2011)
- Atwood, Margaret, *Moving Targets: Writing with Intent, 1982-2004* (Canada: House of Anansi Press, 2004)

- Badmington, Neil (ed), *Readers in Cultural Criticism: Posthumanism* (London: Palgrave, 2000)
- Bailey, Britt and Marc Lappe, *Against the Grain: The Genetic Transformation of Global Agriculture* (London: Earthscan Publications Limited, 1999)
- Baille, Harold W. and Timothy K. Casey (eds.), *Is Human Nature Obsolete: Genetics, Bioengineering, and the Future of the Human Condition* (Cambridge: MIT Press, 2005)
- Bainbridge, Janet (ed), *Foods for Our Future: Genetic Modification and Food* (London: Food and Drink Federation, 2000)
- Bar-Cohen, Yoseph and David Hanson (eds.), *The Coming Robot Revolution: Expectations and Fears About Emerging Intelligent, Humanlike Machines* (New York: Springer, 2009)
- Baumgartner, Holly Lynn and Roger Davis (eds), *Hosting the Monster* (Amsterdam: Rodopi, 2008)
- Bergthaller, Hannes, 'Housebreaking the Human Animal: Humanism and the Problem of Sustainability in Margaret Atwood's *Oryx and Crake* and *The Year of the Flood*' in *Ecocriticism and English Studies*, 91 (2010), pp. 728-743.
- Bloom, Harold (ed.), *Bloom's Modern Critical Views: Margaret Atwood – New Edition* (New York: Infobase, 2009)
- Bonnet, John. 'N. Katherine Hayles's How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics' in *Journal of Association for History and Computing*, 3 (2000).
- Bouson, J. Brooks (ed.), *Margaret Atwood The Robber Bride, The Blind Assassin, Oryx and Crake* (London: Continuum, 2010)
- Bouson, J. Brooks, "'It's Game Over Forever" Atwood's Satiric Vision of a Bioengineered Posthuman Future in *Oryx and Crake*' in Harold Bloom (ed), *Bloom's Modern Critical Views: Margaret Atwood – New Edition* (New York: Infobase, 2009)
- British Medical Association (eds,) *Our Genetic Future: The Science and Ethics of Genetic Technology* (Oxford: Oxford University Press, 1992)
- Bronowski, J, *Science and Human Values* (New York: Harper and Row, 1965)
- Carpi, Daniela (ed.), *Bioethics and Biolaw through Literature* (Berlin: Hubert & Co, 2011)
- Churchich, Nicholas, *Marxism and Morality: A Critical Examination* (Cambridge:

James Clarke & Co, 1994)

Clark, Samantha, 'Strange strangers and uncanny hammers: Morton's The Ecological Thought and the phenomenological tradition' in *Green Letters: Studies in Ecocriticism*, 17, 2013, pp. 98-108

Clough, Peter and Cathy Nutbrown (eds.), *A Student's Guide to Methodology Third Edition* (London: Sage, 2012)

Cooke, Grayson, 'Technics and the human at zero-hour: Margaret Atwood's *Oryx and Crake*' in *Studies in Canadian Literature*, 31 (2006), pp. 63-83.

Correa, Delia Da Sousa and W.R. Owens (eds.), *The Handbook to Literary Research Second Edition* (Oxon: Routledge, 2010)

Derrida, Jacques, *The Animal That Therefore I Am* (Fordham: Fordham University Press, 2008)

Descartes, Rene, *Discourse on the Method* (Indiana: Hackett, 1998)

Domingo, Andreu, "'Demodystopias': Prospects of Demographic Hell' in *Population and Development Review*, 4 (2008), pp. 725-745.

Dreyfus, Huberts L. and Paul Rabinow (eds), *Michael Foucault Beyond Structuralism and Hermeneutics* (Chicago: Chicago University Press, 1983)

Ewart, Chris, 'Kidneys to Go: Dis-Ordering the Body in a Pretty Dirty Economy' in *Queen's Journal of Visual & Material Culture*, 3 (2010), pp. 1-22.

Foucault, Michael, 'The Order of Things: An Archaeology of the Human Sciences' in *Readers in Cultural Criticism: Posthumanism* (London: Palgrave, 2000)

Fukuyama, Francis, *Our Posthuman Future Consequences of the Biotechnology Revolution* (London: Profile Books, 2003)

Galbreath, Marcy, 'A Consuming Read: the Ethics of Food in Margaret Atwood's *Oryx and Crake*' in *Florida Gulf Coast University's 2nd International Humanities and Sustainability Conference*, Fort Myers, Florida, October 7-9, (2010), pp. 1-7.

George, F.H and J.D. Humphries (eds.), *The Robots are Coming* (London: NCC Publications, 1974)

Glover, Jayne, 'Human/Nature: Ecological Philosophy in Margaret Atwood's *Oryx and Crake*' in *English Studies in Africa*, 52 (2009), pp. 50-62.

Goldacre, Ben, *Bad Science* (London: HarperCollins, 2009)

- Goodman, David and E. Melanie DuPuis, 'Knowing Food and Growing Food: Beyond the Production-Consumption Debate in the Sociology of Agriculture' in *Sociologia Ruralis*, 42 (2002), pp. 5-22.
- Gunning, Jennifer, Soren Holm and Ian Kenway (eds.), *Ethics, Law and Society, Volume 4* (Surrey: Ashgate, 2009)
- Hageman, Andrew, 'The Challenge of Imagining Ecological Futures: Paolo Bacigalupi's *The Windup Girl*' in *Science Fiction Studies*, 39 (2012), pp. 283-303.
- Haney, William S, *Cyberculture, Cyborgs and Science Fiction Consciousness and the Posthuman* (Amsterdam: Rodopi, 2006)
- Hanson, Clare, *Eugenics, Literature, and Culture in Post-war Britain* (Oxon: Routledge, 2013)
- Haraway, Donna J., *Simians, Cyborgs, and Women The Reinvention of Nature* (London: Free Association Books, 1991)
- Haraway, Donna J., 'Becoming-with-companions' in Tom Tyler and Manuela S. Rossini (eds), *Animal Encounters* (Leiden: Hotei Publishing, 2009)
- Harfield, Timothy D., 'Exposing Humanism: Prudence, *Ingenium*, and the Politics of the Posthuman' in *Journal of Historical Sociology*, 26, 2013, pp. 264-288.
- Hayles, Katherine N, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999)
- Hodges, John, 'Globalization and Sustainability in Agriculture: Role of Law and Ethics' in Jennifer Gunning, Soren Holm and Ian Kenway (eds.), *Ethics, Law and Society, Volume 4* (Surrey: Ashgate, 2009)
- Howells, Coral Ann (ed), *The Cambridge Companion to Margaret Atwood* (Cambridge: Cambridge University Press, 2006)
- Irwin, Beth, 'Global Capitalism in *Oryx and Crake* in *University of Wisconsin Oshkosh. Oshkosh Scholar*, 4 (2009), pp. 44-51.
- Jurgenson, Nathan and George Ritzer, 'Production, Consumption, Prosumption: The nature of capitalism in the age of the digital 'prosumer' in *Journal of Consumer Culture*, 13 (2010), pp. 13-36
- Ku, Chung-Hao, 'Of Monster and Man: Transgenics and Transgression in Margaret Atwood's *Oryx and Crake*' in *Concentric: Literary and Cultural Studies*, 32 (2006), pp.107-133.
- Kurzweil, Ray, *The Singularity is Near* (London: Duckworth Overlook, 2013)
- Labudová, Katarina, 'Power, Pain and Manipulation in Margaret Atwood's *Oryx and Crake* and *The Year of the Flood*' in *Brno Studies in English*, 36, (2010), pp. 135-146.

- Levinas, Emmanuel, *Humanism of the Other* (Illinois: University of Illinois, 2006)
- Lyotard, Jean-Francois, *The Inhuman* (Cambridge: Polity Press, 1991)
- Mcleod, John, *Beginning Postcolonialism Second Edition* (Manchester: Manchester University Press, 2010)
- More, Max and Natasha Vita-More (eds), *The Transhumanist Reader* (West Sussex: Wiley-Blackwell, 2013)
- Morton, Timothy, *The Ecological Thought* (Harvard: Harvard University Press, 2010)
- Mosca, Valeria, 'Crossing Human Boundaries: Apocalypse and Posthumanism in Margaret Atwood's *Oryx and Crake* and *The year of the Flood*' in *Altre Modernità*, 0.9, 2013, pp. 38-52.
- Nietzsche, Friedrich, *Nietzsche: Human, All Too Human: A Book for Free Spirits* (Cambridge: Cambridge University Press, 1996)
- Parry, Jovian, 'Oryx and Crake and the New Nostalgia for Meat' in *Society and Animals*, 17, 2009, pp. 241-256.
- Pederson, Helena, 'Is 'the posthuman' educable? On the convergence of educational philosophy, animal studies, and posthumanist theory' in *Discourse: Studies in the Cultural Politics of Education*, 31, 2010, pp. 237-250.
- Pepperell, Robert, *The Posthuman Condition: Consciousness Beyond the Brain* (Oregon: Intellect, 2003)
- Plows, Alexandra, *Debating Human Genetics: Contemporary Issues in Public Policy and Ethics* (Oxon: Routledge, 2011)
- Radomska, Marietta, 'Towards a Posthuman Collective: Ontology, Epistemology and Ethics' in *Academia.Edu*, pp. 95-105.
- Roos, Henriette, "'Not Properly Human": Literary and Cinematic Narratives about Human Harvesting' in *Journal of Literary Studies*, 24 (2008), pp. 40-53.
- Seaman, Myra J., 'Becoming More (than) Human: Affective Posthumanisms, Past and Future' in *Journal of Narrative Theory*, 37.2 (2007), pp. 246-275.
- Scott, Ridley (dir.), *Blade Runner* (Warner Bros., 1982)
- Smelik, Anneke (ed.), *The Scientific Imaginary in Visual Culture* (Goettingen: Socrates, 2010)
- Smol, John P., *Pollution of Lakes and Rivers: A Paleoenvironmental Perspective* (Oxford: Blackwell, 2008)
- Vallillo, Emily Kate, 'Embodying the Animal: Questioning Human Identity in Literature and Circus' *Honors Theses*, 261 (2009), pp. 1-83.

Waters, Brent, *From Human to Posthuman Christian Theology and Technology in a Postmodern World* (Hampshire, Ashgate Publishing, 2006)

Watkins, Susan, 'Future Shock: Rewriting the Apocalypse in Contemporary Women's Fiction', in *Literature Interpretation Theory*, 23 (2012), pp. 119-137.

Wisker, Gina, *Margaret Atwood: An Introduction to Critical Views of her Fiction* (Hampshire: Palgrave Macmillan, 2012)

http://www.etd.ceu.hu/2010/marin_florin.pdf - Florin Marin, 'The Battle for the Human: Gender, heteronormativity, and the attack of the clones.'

http://lib.ugent.be/fulltxt/RUG01/001/457/834/RUG01-001457834_2011_0001_AC.pdf Tom Van Steendam, 'Paratextuality and Parody in a Post-cataclysmic Wasteland: Margaret Atwood's *Oryx and Crake*'

<http://fp-max.blogspot.co.uk/2012/11/paolo-bacigalupi-windup-girl.html> -Paolo Bacigalupi, *The Windup Girl*

http://media.library.ku.edu.tr/reserve/resfall07_08/comm101_AmnestyExam/SowingforApocalypse.pdf - John Seabrook, 'Sowing for Apocalypse: The Quest for Global Seed Bank' in *Annals of Agriculture*, pp. 60-71.

<http://www.orbitbooks.net/2011/05/03/interview-with-paolo-bacigalupi-part-1/> - James Long, 'Interview with Paolo Bacigalupi'

http://www.academia.edu/1554312/Multinational_companies_The_movers_and_shakers_of_the_global_food_system - Kathryn James, 'Multinational Companies: The movers and shakers of the global food system.'

http://www.academia.edu/3570100/Cyberpunk_Goes_East_Challenging_the_Western_Culture_in_Contemporary_Science_Fiction - Krzysztof Solarewicz, 'Cyberpunk Goes East, Challenging the Western Culture in Contemporary Science Fiction'

http://www.academia.edu/1815007/Utopia_in_Trans-_and_Posthumanism -Michael Hauskeller, 'Utopia in Trans- and Posthumanism'

http://www.academia.edu/238034/Genomic_Bodies_Un-Natural_Selection_Extinction_and_the_Posthuman_in_Atwoods_Oryx_and_Crake - Mary Galbreath, 'Genomic Bodies: Un-Natural Selection, Extinction and the Posthuman in Atwood's *Oryx and Crake*'

<http://www.griseldaonline.it/temi/ecologia-dello-sguardo/atwood-ecological-disaster-vigilance.html> - Françoise Couturier-Storey, 'Ecological disaster, literature and eternal vigilance in Margaret Atwood's *Oryx and Crake*'

<http://www.geneticsforum.org.uk> - Genetics Forum

<http://www.kluyver.stm.tudelft.nl/efb> - European Federation of Biotechnology Task Group on Public Perceptions of Biotechnology

<http://www.washingtonpost.com/wp->

[dyn/content/article/2010/07/07/AR2010070704582.html](http://www.guardian.co.uk/science/2010/07/07/AR2010070704582.html) - Paolo Bacigalupi's "The Windup Girl," winner of the Nebula Award

<https://www.gov.uk/government/policies/making-the-food-and-farming-industry-more-competitive-while-protecting-the-environment/supporting-pages/genetic-modification> - 'Making the food and farming industry more competitive while protecting the environment'

<http://www.guardian.co.uk/world/2002/oct/31/globalisation.simonjeffery> - 'What is Globalisation'

<http://www.guardian.co.uk/books/2010/dec/18/windup-girl-paolo-bacigalupi-review> - 'The Windup Girl by Paolo Bacigalupi Review by Adam Roberts'

<http://rationalist.org.uk/437/the-science-of-fiction> - Bo Fowler, 'The Science of Fiction'

<http://www.csus.edu/indiv/t/tanakar/eng1190c/paper02.htm> - 'More Human than Human'

<http://www-rohan.sdsu.edu/faculty/vinge/misc/WER2.html> - Vernor Vinge, 'The Coming Technological Singularity: How to Survive in the Post-Human Era'

<http://www.arclight.net/~pdb/nonfiction/uncanny-valley.html> - Moshi Mori, 'The Uncanny Valley'

http://www.nietzschercircle.com/AGONIST/2011_08/Dream_of_Transhumanism.pdf

<http://plato.stanford.edu/entries/foucault/> Stanford's Encyclopedia of Philosophy

<http://www.nickbostrom.com/papers/history.pdf> - A History of Transhumanist Thought

http://magazine.ciac.ca/archives/no_23/en/entrevue.htm - Shannon Bell Magazine article.

<http://www.crsdd.uqam.ca/pages/docs/09-2012.pdf> Corinne Gendron, René Audet et Bernard Girard, 'Thinking post-ecological societies with science-fiction'

http://news.nationalgeographic.co.uk/news/2005/12/1214_051214_stem_cell.html - 'Mouse with Human Brain Cells Created'

<http://www.stanford.edu/group/hopes/cgi-bin/wordpress/2010/07/animal-research/> - 'Animal Research: The Ethics of Animal Experimentation'

<http://www.historyguide.org/intellect/lecture16a.html> - 'The History Guide: Lectures on Modern European Intellectual History'

https://www.carnegiecouncil.org/studio/multimedia/20020510/index.html/:pf_printable