Contemporary Dystopian Fiction:
Literature as Social Critique

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0. Introduction

In this dissertation, I would like to dwell upon the traits and merits of a particular form of speculative writing: the literary dystopia or “bad place” (Moylan, “Scraps” 72). As the term suggests, these narratives usually have a bleak futuristic setting involving sinister technological advancements, controlling organizations and an unsettling atmosphere of conformity.

While these dystopian accounts have been written for over a century, they have in recent years become increasingly popular. Successful novels such as M. T. Anderson’s Feed (2002), Suzanne Weyn’s The Bar Code Tattoo (2004) and Scott Westerfeld’s Uglies (2005), for instance, have been accompanied by big-budget films like Surrogates (2009), The Hunger Games (2012) and Oblivion (2013). The animated web series Electric City (2012) and TV-series such as Firefly (2002-2003) and Fringe (2008-2012) furthermore touch upon many of the same themes, as do games like Bioshock (2007), Mirror’s Edge (2008) and Deus Ex: Human Revolution (2011).

This growing popularity raises two questions: why do these stories occupy such a prominent position in our contemporary society and has this status brought about any changes in their core characteristics? This paper is consequently divided into three sections, in which the first is used to provide a more detailed theoretical description of the dystopian tradition. Starting with a brief overview of its origins and history, this initial chapter is concerned with defining the key generic elements of the dystopian text.

This list of features is then used as a schematic tool to analyze three texts that have appeared in the last decade: Kazuo Ishiguro’s Never Let Me Go (2005), David Mitchell’s Cloud Atlas (2004) – in particular, the story “An Orison of Sonmi~451” – and Margaret Atwood’s MaddAddam-trilogy. This trilogy is comprised of the novels Oryx and Crake (2003), The Year of the Flood (2009) and MaddAddam (2013).

I have chosen these particular texts for several reasons. For one thing, they are all critically acclaimed and are thus excellent representatives of the genre. Ishiguro’s Never Let Me Go, for instance, was shortlisted for the Man Booker Prize in 2005. Oryx and Crake was nominated for the Man Booker Prize in 2003 and The Year of the Flood was shortlisted for
the Trillium Book Award in 2010. *Cloud Atlas*, then again, won the British Book Award for Literary Fiction in 2005.

Additionally, these novels have reached a wide audience and some of them were adapted into movies. *Never Let Me Go* appeared on the silver screen in 2010 and *Cloud Atlas* was adapted for film in 2012.

In the final part of this essay, these examinations are compared to discern whether the dystopian sensibility has undergone any modern alterations. Focusing on its link with cultural and socio-political influences, I try to explain its current popularity. To conclude, I touch on other possible approaches.
1. Defining Dystopia: A Theoretical Framework

A. History and Evolution

A.1 Classical Dystopia

Traditionally, the term dystopia was used to describe those literary texts that revolve around a grim futuristic – or at least imaginary – society in which an authoritarian state has taken a firm hold of the lives of its citizens. These somewhat ominous tales first rose to prominence near the end of the nineteenth century, when the strong Enlightenment faith in the benevolent power of science and ideologies such as socialism began to falter. Troubling works like Darwin’s *On the Origins of Species* (1859), which undermined rather than confirmed the exceptional status of human nature, started to appear at a time increasingly marked by disillusion (Booker, “Research Guide” 5-6):

> economic depression had bedeviled the capitalist economies of western Europe for some time and colonial misadventures such as the Boer War had contributed to an overall sense of crisis, perhaps most clearly embodied in the turn-of-the-century notion of *degeneration:* the theory that, far from moving inexorably forward in its social and biological evolution, the human race could quite possibly move backward toward savagery […] Such fears seemed all but confirmed a few years later when World War I, an event without any clear, logical purpose or cause, became the most deadly and destructive occurrence in human history. (Booker, “On Dystopia” 2)

This predominant feeling of unease was accordingly translated into a shift from utopian literature – a genre characterized by a steadfast confidence in the “possibilities of better human societies in which the social, political, and economic problems of the real present have been solved” (Booker, “On Dystopia” 4) – to its more pessimistic alternative. The hopeful and ideal futures featured in texts like Francis Bacon’s *New Atlantis* (1627) or H. G. Wells’ *A Modern Utopia* (1908) gradually disappeared into the background in favor of the dark prophetic visions depicted in for instance Yevgeny Zamyatin’s *We* (1921), Aldous Huxley’s *Brave New World* (1931) or George Orwell’s *Nineteen Eighty-Four* (1949).
These novels no longer focused on a visitor’s educative tour through a utopian paradise, but instead centered around the actions of a citizen in “a hell on earth, an absurd, death-bound social-political system where the elite deliberately conspires against its own people” (Gottlieb 18). At the start of the narrative the protagonist was usually blindly immersed in the system, sometimes even occupying a privileged position. As the story unfolded, however, he experienced a moment of alienation and thereafter became increasingly attuned to the true horrific nature of the situation (Moylan, “Scraps” 148).

While tracing the adventures of this character, the reader was regularly and systematically confronted by comprehensive accounts of the more questionable aspects of the totalitarian state. These often turned out to be products of the same optimistic ideals that had fueled the previous utopias or displayed a disturbing similarity with some developments in the author’s own contemporary society. Huxley’s nightmarish World State, for example, was founded on the veneration of science; the book-burning regime of Ray Bradbury’s Fahrenheit 451 (1953) was inspired by the anti-intellectualism and censorship of the so-called McCarthy era (Gottlieb 78, 90).

The detailed dystopian setting consequently fulfilled an important didactic function: by drawing attention to the possible dangerous – and partly exaggerated – consequences, it served as an incentive for the reader to think more critically about certain utopian promises or emerging trends.

A.2 Critical Dystopia

These cautionary tales gradually disappeared from mainstream western literature during the second half of the twentieth century. Incited by the destruction of the fascist regime, the years after World War II were characterized by a renewed and militant optimism. People were no longer content with the cynical acceptance of a defunct reality and “chose to carry on the fight for self-determination, economic and social justice, and personal freedom and fulfillment in a world of peace and plenty for everyone” (Moylan, “Scraps” 68). This rebellious energy manifested itself, among others, in the organized protests of the 1960s and in the resurging dominance of the literary utopia (Moylan, “Scraps” 67-68).
Influenced by the dystopian sentiment and the new poststructuralist paradigm, the modern utopias differed from the traditional expressions by adopting a more self-critical attitude towards their own oppressive impulses. On the one hand, these critical utopias still offered better alternatives to the socio-political systems in place. But at the same time they used literary tactics, both on the level of content and form, that resisted the genre’s tendency for “undemocratic, nonnegotiable social blueprints” (Moylan, “Scraps” 83).

As the 1970s drew to a close, however, it became clear that the oppositional movement of the previous two decades had failed. Instead of the anticipated step forward, the observer of the 1980s and 1990s was overwhelmed by messages of rising unemployment and homelessness, reports concerning irreparable damage to the rainforest and records about increasing acts of violence against women and gays. The ruthless principles of the free market furthermore undermined the social rights of the working population as corporations quickly expanded their influence across national borders (Moylan, “Scraps” 183-184). As a result, imaginative literature took another dark turn:

By the end of the 1980s – moving beyond the engaged utopianism of the 1970s and the fashionable temptation to despair in the early 1980s – several sf writers confronted the decade’s simultaneous silencing and cooption of Utopia by turning to dystopian strategies as a way to come to terms with the changing social reality. Works by Octavia E. Butler, Cadigan, Charnas, Robinson, Piercy, and Le Guin refashioned dystopia as a critical narrative form that worked against the grain of the economic, political, and cultural climate. (Baccolini, “Dystopia and Histories” 3)

Much like the critical utopias – and further inspired by popular writing styles such as cyberpunk – this revived dystopian sensibility moved past the classical structure to a more adaptable and self-reflexive framework. As Raffaella Baccolini and Tom Moylan state in their “Dystopia and Histories”, these critical dystopias no longer retain “utopian hope outside their pages” (7) but instead keep “the utopian impulse within the work […] by rejecting the traditional subjugation of the individual at the end of the novel” (7).

These modern stories moreover unsettled the dystopian mode through “an intensification of the practice of genre blurring” (7): they progressively introduced and combined elements from different genres, thus creating a new ambiguous and versatile form (7). By incorporating these strategies, the modern stories tried to oppose their inherent temptation to evolve into an outright anti-utopia – a category of texts that not so much
functions as a skeptical interrogation of certain advancements but as a conservative advocacy against any change whatsoever (Moylan, “Scraps” 195). Finally, these critical expressions also responded to the growing dominance of the multinationals:

From Yevgeney Zamyatin’s OneState to Margaret Atwood’s Gilead, the state is a major target of critique in the classical dystopian narrative. Yet in the dystopian turn of the closing decades of the twentieth century, the power of the authoritarian state gives way to the more pervasive tyranny of the corporation. Everyday life in the new dystopias is still observed, ruled, and controlled; but now it is also reified, exploited and commodified […] the corporation rules, and does so more effectively than any state, as its exploitative tentacles reach into the cultures and bodies of the people who serve it and who are cast aside by it. (Moylan, “State” 135-136)

B. Dystopian Features

B.1 Totalitarian Climate

Since its origins dystopian fiction has gone through some significant modifications: the original form developed into a more heterogeneous model, the authoritarian state was gradually replaced by ruthless enterprises and the protagonist’s rebellion became increasingly successful. Several key aspects, however, remained mostly unaltered. In both the classical and critical accounts, for instance, the ruling powers are primarily concerned with maintaining control and consequently have a rather unhealthy fixation with “the Other, the alien and the subversive” (Gottlieb 35). These outcasts then regularly serve as targets for licensed acts of violence.

The protagonist’s eventual defeat in these classic narratives usually leads to a trial and often forms the climax. The symbolical confrontation between the central figure and the established society – whether or not represented by a seemingly omnipotent leader – accentuates the central conflict between the reader’s world and the one in the text as the elite’s underlying justifications are illuminated just before the hero’s final punishment (Gottlieb 10). In the later critical expressions this event loses some of its significance, but references to savage executions and other lingering threats of brutality remain present to some degree.
Apart from this latent sense of intimidation, the community’s oppressive nature is also implicitly supported by the herd mentality of its population. As Allan Weiss remarks in his discussion of Atwood’s *The Handmaid’s Tale* (1985), “dystopian regimes are not so much imposed from above as sought from below” (127). It was after all the inhabitants’ fears or desires that initially allowed the establishment of a controlling organization. In the face of a crisis or problem, they instinctively chose “to surrender their freedom willingly to a government or other authority offering them security and freedom from uncertainty, danger, fear, hunger, etc” (126).

B.2 Religion and Science

While this tranquil compliance might seem inconceivable, it is important to realize that the situation is only evident to the reader because the narrative is primarily perceived through the eyes of an alienated character (Horan 55). Public obedience is moreover reinforced by the manipulative efforts of the powers-that-be. In addition to their more coercive tactics, they skillfully mold the disposition of their residents using what Louis Althusser calls *Ideological State Apparatuses*: official institutions such as schools, trade unions, churches and press (Althusser 92).

Althusser himself points to religions like Christianity – in which the individual is considered to be a reflection, and thus a subordinate, of one Absolute Subject – as the perfect example of dominant ideologies that subjugate their followers without relying on violence (Althusser 107). His analysis is complemented by the work of Sigmund Freud, who similarly highlights the link between Christianity and totalitarianism in his *Civilization and its Discontents* (1930). He notes, among other things, that it displays an identical demand for unequivocal conformity and “imposes […] its own path to the acquisition of happiness” by “depressing the value of life and distorting the picture of the real world in a delusional matter” (84).

As a result, dystopian regimes often incorporate elements from this and other successful belief systems in order to consolidate their grip on society.

While Christianity and its alternatives may serve as inspirational models, they themselves are generally considered to be disruptive to the dystopian structure and are therefore banned from its premises. Compared with the community’s prevailing ideology,
these conventional myths are after all too much alike and would endanger its position (Booker, “Dystopian Impulse” 71).

This rather dualistic attitude is also discernible when it comes to religion’s age-old counterpart, science. Although many dystopian administrations are fueled by technological advancements, an unchecked exploration of new theoretical avenues might in the long run yield undesirable consequences for them. Scientific research in these novels is subsequently restricted to developing methods of control to preserve the established order (Booker, “Dystopian Impulse” 29). Much like Theodor Adorno and Max Horkheimer note in their *Dialectic of Enlightenment*, the authorities’ pursuit of knowledge ultimately “aims to produce neither concepts nor images, nor the joy of understanding, but method, exploitation of labor of others, capital” (2).

Apart from genetic and psychological conditioning, the management in place is mostly concerned with gathering intelligence. Echoing Michel Foucault’s analysis of modern society, they recognize that power is first and foremost based on surveillance. Nothing, after all, “so weakens the machinery of the law than the hope of going unpunished” (“Discipline” 96). As a result, they tend to monitor their residents quite extensively.

B.3 Culture and Language

In addition to collecting information, dystopian institutions also distribute huge amounts of data. Idle facts and meaningless entertainment are used to not only dumb down the population, but also to teach them to reason in the same superficial ways. As Adorno and Horkheimer remark (Booker, “Media Culture” 76-77):

All are free to dance and amuse themselves, just as, since the historical neutralization of religion, they have been free to join any of the countless sects. But freedom to choose an ideology, which always reflects economic coercion, everywhere proves to be freedom to be the same. […] The most intimate reactions of human beings have become so entirely reified, even to themselves, that the idea of anything peculiar to them survives only in extreme abstraction: personality means hardly more than dazzling white teeth and freedom from body odor and emotions. (135-136)
Bland cultural expressions thus increasingly take over the position of high art, such as literature and poetry, which is considered to be too subversive and is therefore frequently outlawed.

Besides culture, totalitarian regimes also frequently target language. Language, as Edward Sapir and Benjamin Whorf have argued, is more than simply a means of communication. It functions as a “guide to ‘social reality’” and “powerfully conditions all our thinking about social problems and processes” (162). As a result, the powers-that-be often try to manipulate the population’s disposition towards society by managing and adjusting its everyday speech.

As several poststructuralist thinkers have asserted, however, language is far from unequivocal and therefore hard to regulate. According to Jacques Derrida, Newspeak’s words will spontaneously start generating new and unpredictable meanings. Mikhail Bakhtin notes that all linguistic systems are inherently dialogic, so no single philosophy can completely dominate a language. Even in the most rigorous of communities, language thus seems to harbor rebellious energies and the protagonist’s first act of resistance is regularly a verbal one (Baccolini, “Dystopia and Histories” 5-6).

B.4 History and Memory

Once the dystopic protagonist begins to re-appropriate his speech, he is not only able to voice his own aberrant thoughts but he also gains access to those narratives that are locked away by the dystopian management. Such stories include, among others, the ones concerning the years before its rise to power (Moylan, “Scraps” 149). Knowledge of this past is usually a hazardous subject, as even the mere notion of a time in which things were different could inspire people to hope for a future in which they would be again. Records of earlier ages are therefore either erased or censored quite extensively (Booker, “Dystopian Impulse” 43-44).

In Orwell’s Oceania, for example, newspapers and other documents with a link to the Party’s history are constantly altered in order to conform with its most recent policies. The past is only allowed to exist as an extension of the present, attributing a seemingly infinite quality to the regime. Any evidence of its lies and failures are moreover swiftly deleted, thus preventing any form of opposition to gain a foothold (Orwell 39). Huxley’s World State, on the other hand, discards the old completely and instead focuses on the continuous production
of new merchandise to keep its residents occupied with looking forward to the next best product (Booker, “Dystopian Impulse” 63).

The end result, though, remains the same. Life in both communities is characterized by an exaggerated emphasis on the now, denying citizens the possibility to distance themselves from the current situation and gain a critical perspective. Breaking through this temporal paralysis constitutes an important step in the main character’s revolt.

In classical dystopias, this attempt is only marginally successful. Although the protagonist generally does manage to establish a link with former generations, be it via childhood memories or concrete texts, he fails to get a coherent picture of those days. His notion of the past is furthermore restricted to mere nostalgia and disappears again when he is defeated near the end. In the later critical texts, however, his endeavors become more lucrative and he is able to engage in an active dialogue with history. His insights are no longer restricted to his individual mind, instead they are put to use in the present and serve as a basis for collective resistance (Baccolini, “Memory” 130).

B.5 Sexuality and Women

This altered use of the past is not the only discernible difference between traditional and modern dystopian expressions. Another important variation concerns their attitudes towards sexuality, which has always been a rather crucial and yet ambiguous subject in this type of fiction. Depending on the story in question, sexual desires and the behavioral quirks that are associated with it are either portrayed as having a liberating or an oppressive function (Booker, “Theory” 26, 31).

Zamyatin’s We, for instance, is a perfect illustration of the latter, as the One State actively propagates loose sexual conduct in order to keep the population calm.

Freud, on the other hand, challenges this connection in his Civilization and its Discontents. According to him, sexual relationships are essentially dangerous to societal structures, since they are merely concerned with two entities “whereas civilization depends on relationships between a considerable number of individuals” (108). The strong emotions that accompany it, moreover, defy most logical reasoning and frequently prove to be unpredictable, making it harder to create a stable and manageable environment (112).
Dystopian establishments influenced by this theory will therefore sooner attempt to repress – instead of co-opt – sexual behavior via strict laws and taboos (Booker, “Dystopian Impulse” 76).

In Margaret Atwood’s *The Handmaid’s Tale*, the Republic of Gilead has taken complete control over the carnal instincts of its residents: masturbation is strictly forbidden, erotic magazines are immediately burnt when found and innocent flirting can lead to execution. Women have lost any control over their own bodies and are assigned to the highest-ranking men. Wealthy women can serve as wives, others have to work as handmaids whose only purpose is to provide healthy babies for the leaders’ families (31-32). But even in this rigorous regime, love and lust occasionally break through the cracks and create moments of rebellion:

As we walk away I know they’re watching, these two men who aren’t yet permitted to touch women. They touch with their eyes instead and I move my hips a little, feeling the full red skirt sway around me. It’s like thumbing your nose from behind a fence or teasing a dog with a bone held out of reach, and I’m ashamed of myself for doing it, because none of this is the fault of these men, they’re too young. Then I find I’m not ashamed at after all. I enjoy the power; power of a dog bone, passive but there. I hope they get hard at the sight of us and have to rub themselves against the painted barriers, surreptitiously. (32)

The first-person female narrator in this scene brings us back to the distinction between the classical and critical dystopia as mentioned at the start of this chapter. In the former, women play a more or less superficial role. They are either cast as firm supporters of the system – figuring as representatives of “the code of values of this society” (Gottlieb 97) – or as sexual rebels that seduce the protagonist and cause him to see the world from a new angle. For the most part, however, the plot focuses on a male point of view. This is adjusted in the later texts, which increasingly introduce a feminine perspective and can be partially linked to the various feminist movements that turned up near the end of the century (Gottlieb 103).
B.6 Hope

Finally, dystopian narratives tend to display a fairly complicated attitude towards the concept of hope. While not as optimistic as their utopian relatives, they are also rarely as cynical or defeatist as overt anti-utopias. Instead, each installment in the genre seems to negotiate its own particular position on the spectrum between these two opposite poles. The more recent novels – whose heroes or heroines are able to escape control – can usually be located near the positive or militant end. The classical dystopias, on the other hand, frequently occupy a space close to the pessimistic side (Moylan, “Scraps” XIII).

This distinction, however, is far from absolute. Zamyatin’s book, for example, closes on an implicitly yet undeniably hopeful note. Although its main character – the space engineer D-503 – eventually winds up re-indoctrinated, the possibility for a revolution seems far from quenched by the end of its final pages. There are, after all, several other elements that openly defy the rule of the One State and that remain more or less untouched. Most of the Mephi resistance is still alive, for instance, and so is the tribe of people living freely outside of the State’s Green Wall (Moylan, “Scraps” 160-161).

Whether or not a dystopian text can be categorized as utopian or anti-utopian consequently depends on more than just the actions of the protagonist. In fact, those works that wish to retain a militant impulse regularly stray from the linear plot in favor of detailed descriptions of the setting, thereby identifying various other potential sites for hope. These sites can literally take on the form of areas that have escaped supervision – like in We – but they can also be mere ambiguities or flaws in the system that provide a means of escape for anyone willing to exploit them (Moylan, “Scraps” 156).

C. Conclusion

In short, literary dystopias are above all cautionary tales whose goal is to critically interrogate certain dangerous trends in contemporary society. By portraying the potentially horrible consequences of these developments in an alternative world, they invite the reader to view his own surroundings from a fresh and more alert perspective. As the historical reality evolved, the specific targets of these stories changed as well and eventually even the genre itself went through some transformations. The later fictions, for instance, increasingly allowed utopian
elements to pervade their structure and their main antagonists gradually took on the shape of ruthless corporations instead of totalitarian states.

The main characteristics of these suppressive organizations, however, are mostly the same. Both the authoritarian government and the cutthroat multinational show a strong fixation with defining clear boundaries between those who are part of the system and those who are not. People who fall into the latter group are frequently subjected to acts of violence and brutal trials, while those inside the dystopian society are characterized by an alarming docility. This submission is often implicitly consolidated through the abuse of the manipulative possibilities of both religion and science. Technology, for example, is regularly deployed to create drugs that keep the population in a happy stupor or to fabricate devices that enable extensive surveillance.

Additionally, the powers-that-be tend to enlist the help of popular media to numb the minds of their citizens. By flooding the populace with incessant amounts of banalities, they effectively prevent the formation of any potentially disruptive thoughts – a gambit they sometimes try to amplify by manipulating the language of the community. At the same time they either convert or destroy any other forms of cultural expression, especially those works of high art that stem from previous ages. Those pieces could, after all, prove to be uncontrollable and the idea of a time that differs from the present could instill hope for a future that might be different too.

Lastly, the authorities also attempt to regulate – or at the very least guide – the turbulent energies that are associated with sexuality. More often than not though, these emotions turn out to be unmanageable and sometimes even incite the main character to start questioning the rules of his society. Once aware of the true nature of his situation, he (or in some later texts, she) will try to fight back and locate other oppositional elements – with varying results, depending on whether the story is informed by a utopian or anti-utopian stance.
2. Case Studies: Analyzing the Novels


Kazuo Ishiguro was born in Nagasaki in 1954 as the middle child of Shizuo and Shizuko Ishiguro. Six years later his family moved to England – an event that somewhat severed the emotional ties between him and his grandfather, who remained in Japan and died a few years after. In 1978 he graduated from the University of Kent and two years later he earned a postgraduate degree in creative writing from the University of East Anglia. Not long after that he published his first books: *A Pale View of Hills* appeared in 1982 and was followed by *An Artist of the Floating World* in 1986. Both stories take place in a Japan that he reconstructed entirely from childhood memories and won various literary awards (Wong 1-6).

His third and most popular novel, *The Remains of the Day* (1989), subsequently cemented his growing reputation as a writer. No longer set in his native country, the book instead centers around the experiences of “a most English caricature – the butler” (Wong 2). The narrative is told from a first-person perspective and delivers a moving portrayal of an estranged individual trying to come to terms with his own past and personal losses. This theme seems to inform all of Ishiguro’s works and could be traced back to his own sense of melancholy regarding the death of his grandfather and his early experiences with “the disenfranchised and the alienated” (Wong 5) as a young social worker (Wong 1-6).

In his sixth book, *Never Let Me Go*, this idea of the troubled outsider is given a literal interpretation. The text focuses on the adventures of a thirty-one year old caregiver named Kathy H., who lives in Britain in the late 1990s. Incited by the upcoming end of her career, she decides to recount her memories concerning three important stages of her life: her childhood at a boarding school called Hailsham, her brief stay at the Cottages – a run-down building complex – and her first years taking care of organ donors. Central to her story are the various problems and disputes that characterize the relationship between her and her best friends Ruth and Tommy.
Before long, however, it becomes clear that something far more sinister is going on in the background. Kathy and her friends turn out to be clones specifically created to provide vital organs for a society that – much like ours – is in constant need of them. As a result, they are not allowed to participate in real life, but instead are trained to help their colleagues during their difficult recovery periods before becoming donors themselves. By the end of the novel, Ruth and Tommy are already dead, and Kathy is driving away to an unknown location to meet a similar fate.

A.1 Totalitarian Mentality

In spite of this grim ending, the majority of Kathy’s tale is characterized by an atmosphere of normalcy and tranquility. There are almost no references to physical violence or any other kind of coercive methods. Instead, her experiences appear quite similar to the ones of the average reader. Her days at Hailsham, for instance, evoke the classic images associated with high school: there are boys playing football, girls gossiping about said boys and teachers – called guardians – trying to maintain order in their classrooms. Everyday life revolves around the quarrels and conflicts that are typical of young adults.

Hailsham’s administration, however, does display a rather dubious interest in establishing clear boundaries between its students and the rest of the population. The school itself, for example, is located in a nondescript countryside far away from any village. The only real contact with the outside consists of workmen and supply vans and flea markets called Sales. These are organized at the end of every month and provide the children with the opportunity to buy pieces of clothing and other items that have been discarded by conventional society.

This remote location fulfills several important goals. For one thing, it allows the “normal people” (NLMG 69) living beyond the borders of the institute to willfully ignore any difficult questions concerning the origins of their transplant organs. By removing Kathy and her friends from ordinary life, it becomes easier for the general populace to pretend they do not exist or to deny that they have human qualities and thus deserve better treatment. In this respect, Hailsham is not so different from the prison camps in the Second World War – a

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similarity that is also implicitly suggested when this topic comes up during one of Miss Lucy’s poetry lessons (Black 789):

We [...] had somehow drifted onto talking about soldiers in World War Two. One of the boys asked if the fences around the camps had been electrified, and then someone had said how strange it must have been, living in a place like that, where you could commit suicide any time you liked just by touching a fence. This might have been intended as a serious point, but the rest of us thought it pretty funny. We were all laughing and talking at once [...] I went on watching Miss Lucy through all this and I could see, just for a second, a ghostly expression come over her face as she watched the class in front of her. (NLMG 76-77)

Additionally, the clones’ isolation gives their teachers a considerable amount of control over exactly how and when they are made aware of their future. Instead of one big and potentially distressing revelation, their destiny to become carers and eventually donors is introduced to them slowly and in increments. That way, they can grow accustomed to every new piece of information without being overwhelmed by the full picture. This reduces the chances that they will rebel and keeps them calm — an effect that is further induced by a deliberate misalignment between each new disclosure and the students’ mental capacities:

the guardians had [...] timed very carefully and deliberately everything they told us, so that we were always just too young to understand properly the latest piece of information. But of course we’d take it in at some level, so that before long all this stuff was there in our heads without us ever having examined it properly [...] Certainly, it feels like I always knew about donations in some vague way, even as early as six or seven. And it’s curious, when we were older and the guardians were giving us those talks, nothing came as a complete surprise. (NLMG 81)

This seemingly paradoxical status of being “told and not told” (NLMG 82) helps to keep the illusion of a normal life intact for the pupils and subtly lulls them into passivity. Whenever this fantasy does get interrupted, they act startled and confused, as if they just woke up from a much more pleasant dream. Their consternation, however, usually only lasts for a moment and then they simply carry on as if nothing happened.
This eagerness to dismiss certain troubling events points towards another important element of Hailsham’s dystopian makeup, namely the clones’ own desire to ‘forget’ the true purpose of their existence. Confronted with a career path that is both bleak and inevitable, the pupils appear rather determined to try and escape into the soothing humdrum of their school routines for as long as they possibly can. To that end, they are not only willing to turn a blind eye, but they also actively create various unwritten rules and stories to make sure no one crosses a line that would lead them “into territory we weren’t ready for yet” (NLMG 37).

This is quite literally the case when it comes to those stories dealing with the woods that border on the institute. From an early age onwards, Kathy and her friends are told frightening anecdotes about this forest by the older students in order to discourage them from leaving the premises. While the guardians deny these stories, the seniors keep insisting on their authenticity and eventually the woodlands become a threatening symbol used to deter more than just escape attempts.

Most of the time, however, the mere idea of falling in disgrace with the rest of the group is enough to silence those few inquisitive individuals. Since the children grow up in a relatively isolated environment, they can only develop meaningful relationships among each other. As a result, they are inclined to stay away from behavior that is deemed too dangerous or divergent in order to avoid isolation from the only friends they have. Even Kathy and Tommy – the novel’s main rebels – tend to keep their critical observations to themselves and never take any form of action (Black 795).

This herd mentality is reinforced by the way the children are raised. After all, they never seem to get an opportunity to be alone but instead are constantly surrounded by their peers. Over the years, for instance, they are housed in large dormitories rather than private bedrooms and watching movies is an activity reserved for the common billiards room. Listening to music actually happens by passing around the headphones of a Walkman in group, with each member listening to just part of a song. This not only deepens the emotional ties between them but also makes it difficult for any wayward parties to escape social control.

This changes when the clones turn sixteen and leave for the Cottages – a collection of old farm buildings that serve as a transitional camp where pupils from both Hailsham and similar institutes can prepare themselves for their lives in the outside world. Here, they enjoy a greater degree of freedom as they no longer have to share their rooms and there are no more
guardians to supervise them. For the first time ever, they also have access to money and are allowed to make short excursions across the country by car.

Although the children are thus pretty much left to their own devices, yet none of them show any desire to run away. By then, it seems, they have completely lost “their ability to imagine themselves outside the system that governs their collective lives” (Black 795). Rather than devising escape plans, they spend most of their time reading literature and trying to prevent the buildings they reside in from falling apart – a task for which they are almost completely dependent upon each other and which instills in them once more a certain sense of kinship.

When they eventually do start as carers, their resulting group-oriented mentality has several important consequences. For one thing, it keeps the boundaries between the students and the rest of the population intact. Neither Kathy nor her friends are really interested in interacting with the ordinary citizens, for instance, despite the fact that they now live among them. Instead, they are entirely preoccupied with looking after those fellow clones who have already begun with their donations.

While they are working, the clones are also constantly on the road and mostly by themselves. The carers have to drive all over the country to visit their various patients and the donors are transported to a different recovery center after each donation. Since they used to be “dependent on their community for a robust sense of selfhood” (Black 795), this transition to a more solitary lifestyle leaves them rather disoriented. Even those carers who have been traveling alone for several years appear unable to think about abandoning their job and remain stuck in the structures that have been introduced to them during their childhood (Black 795).

The only real act of resistance is made by Kathy and Tommy in one of the very last chapters of the book. Faced with Tommy’s upcoming final donation, the two decide to go and confront Madame and Miss Emily, the former principal of Hailsham, and ask them for a deferral – a time-off from their obligations in order to be able to enjoy each other’s company a little longer. As it turns out, however, the two women are not part of the government behind the cloning project but forerunners of a humanitarian movement that tried to advocate a better treatment of the clones:

When Marie-Claude and I started out, there were no places like Hailsham in existence. We were the first, along with Glenmorgan House. Then a few years later came the
Saunders Trust. Together, we became a small but very vocal movement, and we challenged the entire way the donations programme was being run. Most importantly, we demonstrated to the world that if students were reared in humane, cultivated environments, it was possible for them to grow to be as sensitive and intelligent as any ordinary human being. Before that, all clones […] existed only to supply medical science. (NLMG 256)

In a disturbing reversal of the motif of the trial, the main characters thus mistakenly challenge the people that were fighting for their cause instead of the ones that are oppressing them. Those individuals never even enter the scope of the book but are only referred to as they. Additionally, the situation at the end of the novel is worse for the students than it was at the beginning. Hailsham and institutes like it have been shut down in the aftermath of a scandal involving genetic engineering and the newer students are now reared in nightmarish government homes.

A.2 Science and Religion

In short, the world portrayed in Never Let Me Go displays a lot of the characteristics that are typical for totalitarian societies. There is, for example, a clear distinction between those individuals that are considered valuable and those that are not and can consequently be sacrificed without much trouble.

When it comes to the specific scientific aspects and practicalities of the donation program, however, the novel is surprisingly unforthcoming. The only thing we do know for certain is that the technique for human cloning was perfected sometime after the Second World War and that it offered a conclusive solution for certain cancers and motor neuron diseases. The students themselves are supposed to undergo regular medical check-ups and have to donate up to four organs – although not all of them make it to four and it is unclear which organs exactly they are donating.

That is far from the only question, though, that remains unanswered. For instance, nowhere in the book is there a reference to a room in Hailsham filled with test-tubes and scientists in white lab coats. So, where are the clones grown? Or born? What age are they when they reach consciousness? And why can they only be carers for a maximum of fourteen
years? Is that because the quality of their internal organs would diminish if they began donating passed their mid-thirties? Or do they have a shortened lifespan?

This curious absence of scientific details could be due to the fact that Kathy is addressing her story to a fellow carer and thus feels no need to explain the basic elements of a system they are both part of, while she herself might also not be apprised of how everything works.

Another possible explanation emerges when we consider the socio-cultural context of the novel. In the years leading up to its publication, cloning was a prominent and controversial topic. The birth of Dolly the sheep in 1997 had, after all, shaken the world and the start of the twenty-first century was marked by a steady flow of stories about eccentric scientists trying to be the first to produce a human clone. In 2002, for example, a religious sect claimed to have successfully engineered a baby clone named Eve. This claim was later refuted as there was no objective evidence to support it (see appendix A).

Before long, such attempts were banned in Britain and most other western countries. Therapeutic cloning – that is, the cloning of cells for research purposes only – was still allowed, though, and this often gave rise to heated debates in the scientific community. In 2004, for instance, a research team at the University of Newcastle was given permission to start cloning human embryos and use them as a source for stem cells in their quest to find a cure for diabetes. Prior to this decision, several experts publicly voiced their concerns regarding this practice and stated that viewing embryos as mere resources is morally unjustifiable (see appendix B and C).

*Never Let Me Go* similarly problematizes such an instrumental perspective on human cells by portraying an exaggerated version of the current cloning projects. Much like the embryos at Newcastle, Kathy and her colleagues are consecutively created and sacrificed for the benefit of other people. Since researchers in their society have been a bit more successful, however, the clones are now able to reach the early stages of adulthood – making it much harder for the reader to ignore their human qualities.

In fact, the novel seems to employ several literary tactics that emphasize the humanness of the students. The story itself, for example, is entirely told from the first person perspective of Kathy H. and two thirds of the book centers on her struggles while growing up at a boarding school – a tale that most readers will be able to relate to (Caroll 62). The
absence of any medical descriptions concerning the cloning process moreover ensures that there are no distractions from her experiences and emotions. There are not even any futuristic terms or neologisms present that could steal the focus (Griffin 651).

As a result, we start to sympathize with the clones’ dreams and are appalled when those are eventually crushed by the cruel indifference of the book’s ordinary citizens and the illusive they that run the donation program. Since the omission of futuristic elements makes the fictional society look a lot like ours, though, we also become gradually aware of the possibility that this undefined third-person personal pronoun might be interpreted as us. This leads us to question our own practices and ask ourselves how far we would go to save our own life – or the lives of the people around us – as modern technology provides us with new means to do so (Toker 177)².

On a very different note, religion is also fairly absent from the story. There are only a few mentions of God to be found and they mostly occur in standard expressions like “God knows how these things work” (NLMG 211). The clones thus have a notion about existing belief systems, but they are not actively encouraged to embrace one of those philosophies. This is a little surprising, since the thought of an afterlife could at the very least provide them with some comfort, considering they are destined to spend most of their lives in hospital beds.

A.3 Culture and Language

Rather than using a religious reward, Hailsham’s administration employs euphemisms and adjectives to manipulate the worldview of its students. From an early age onwards, for instance, Kathy and her friends are taught to refer to the people on the outside as normal – which immediately implies that they themselves are not and are consequently not entitled to the same rights. Other nefarious words include donation, which suggests that the transplantations happen on a voluntary basis, and completion. This last term is used to indicate that a donor has passed away, but keenly avoids the idea of death and instead presents the fact as if that donor has achieved his or her life goal (Toker 164).

² This type of critical investigation might come nothing too soon: see appendix D and E.
The guardians furthermore spend a lot of time cultivating the creative abilities of the clones. The school’s educational program, for example, is almost entirely made up of art classes.

The resulting art pieces are handed in to the teachers in return for a certain amount of tokens. These, in turn, can be used to buy stuff during the so-called Exchanges – exhibitions that are organized four times a year. Here, the students’ artworks are carefully displayed and the children get the opportunity to buy the work of their colleagues.

The best pieces, however, are reserved for when Madame comes to visit. In preparation of her arrival, the guardians select a couple of items from each Junior and Senior year and store them separately in the billiards room. Madame can then quietly inspect them and take away the ones she likes the most for her own private collection or Gallery. While the students all hope that their work will be chosen, none of them know what the point of this Gallery is – and for a long time, neither does the reader.

This secrecy gives the whole art-enterprise at Hailsham a rather suspicious character. The only purpose of the art classes, for instance, seems to be to keep the children busy until they are old enough to donate. The Exchanges and the Gallery moreover make them grow accustomed to the idea of giving away parts of themselves (Black 974). The fact that they are mostly dependent upon each other “to produce the stuff that might become […] private treasures” (NLMG 16) also further enforces the strong group mentality that will lead them to accept their fate (Black 795).

When Kathy and Tommy eventually confront Miss Emily and Madame, they admit that the school’s emphasis on creativity was indeed intended as a way to keep the pupils calm while they were growing up. It was, however, also part of a plan to improve the conditions in which all clones were raised. Since the rest of the population preferred to believe that they were less than human, the two women set out to prove that the students could in fact become as intelligent and sensitive as any natural-born individual. In order to do so, they needed their artwork:

We took away your art because we thought it would reveal your souls. Or to put it more finely, we did it to prove you had souls at all.’ [...] We selected the best of it and put on special exhibitions. In the late seventies, at the height of our influence, we were organising large events all around the country. There’d be cabinet ministers, bishops,
all sorts of famous people coming to attend. There were speeches, large funds pledged. “There, look!” we could say. “Look at this art! How dare you claim these children are anything less than fully human?” (NLMG 255-256)

Inspired by a Romantic notion of art, Miss Emily and Madame believed that the various poems and paintings would incite the “regular people to identify with the students and […] recognize their ethical obligations toward them” (Black 794). They realized that they would never be able to fully liberate the clones – the world would always need its transplant organs – but they wanted to convince the rest of the population that the clones at least deserved a happy childhood. In other words, they wanted to convince people to build more schools like Hailsham.

Their project ultimately failed, however, “because the audience, far from being touched by the accomplishments of the clones, begins to feel threatened by their impressive talents” (Black 794). With the arrival of James Morningdale’s experiments, the ordinary citizens were suddenly reminded of the frightful possibility that one day genetically engineered individuals would be able to take over their position in society. As a result, any sympathy for the plight of Kathy and her friends quickly dried up and the clones were once again banished to the shadows.

In the end, Hailsham’s artwork thus proves to be incapable of providing a better future for the clones. But it is not just the school’s art that fails to make a good impression: the numerous books that the clones read throughout the story similarly fail to enrich their lives. When Kathy starts struggling with her own sexuality, for instance, she decides to go and look for some useful information about sex in Hailsham’s library. Unfortunately, none of the material there is particularly helpful:

I also spent a lot of time re-reading passages from books where people had sex, going over the lines again and again, trying to tease out the clues. The trouble was, the books we had at Hailsham weren’t at all helpful. We had a lot of nineteenth-century stuff by Thomas Hardy and people like that, which was more or less useless. Some modern books, by people like Edna O’Brien and Margaret Drabble, had some sex in them, but it wasn’t very clear what was happening because the authors always assumed you’d already had a lot of sex before and there was no need to go into details. (NLMG 97)
Another example involves George Eliot’s *Daniel Deronda*. This book becomes quite popular with the students while they are preparing themselves for their work as carers at the Cottages. It revolves around a young man who – much like Kathy and her friends – has no idea who his real parents are and as a result feels uncertain about his own future. As the novel progresses, however, he manages to discover his heritage and rise through the ranks of society. The students are unable to do either of these things, though, and the book only ends up giving them false hope (Whitehead 72).

The few cultural works that do make a difference in the story are those that would traditionally not be considered art. One of Kathy’s most prized possessions, for example, is an old discarded tape of Judy Bridgewater’s *Songs After Dark* with a song on it called ‘Never Let Me Go’. When Kathy – at the age of eleven – unconsciously picks up on the fact that the students cannot have children, she starts listening to this particular track over and over again. At the same time, she pretends that she is gently rocking a baby. During one of these sessions, she is unwittingly observed by Madame:

The song was almost over when something made me realise that I wasn’t alone, and I opened my eyes to find myself staring at Madame framed in the doorway. I froze in shock. Then within a second or two, I began to feel a new kind of alarm, because I could see there was something strange about the situation. The door was almost half open […] but Madame hadn’t nearly come up to the threshold. She was out in the corridor, standing very still, her head angled to one side to give her a view of what I was doing inside. And the odd thing was she was crying. (NLMG 71)

The tape thus serves several important functions. For one thing, it helps Kathy to define her own position in society. It provides her with the soundtrack for a fantasy in which she can come to terms with a loss that she does not yet fully understand. This fantasy, in turn, manages to inspire compassion in Madame – a character that is normally repulsed by the sight of the students. It establishes an emotional connection between a human and a clone, which is something that Hailsham’s art could not do.

Yet all of this has little to do with the quality or the lyrics of the song itself. As Kathy states: “I didn’t used to listen properly to the words; I just waited for that bit that went: ‘Baby, baby, never let me go...’” (NLMG 70). Based on these words and her own situation, she gives an entirely different interpretation to the song.
The meaning of the song is located in personal experiences rather than in the mind of the artist. The same goes for the other important works that appear in the novel. When Kathy loses her tape of Judy Bridgewater, for example, Ruth gives her a cassette of *Twenty Classic Dance Tunes* as a replacement and Tommy eventually buys her another copy of *Songs After Dark*. Although Kathy hardly ever listens to these new tapes, she becomes strongly attached to them because they remind her of her best friends (Walkowitz 227-228).

The novel consequently seems to undermine certain traditional notions about art and its importance. For one thing, it illustrates how everyday objects can have a more profound impact on the world than works of fiction. Instead of Hailsham’s poems or Eliot’s *Deronda*, it are ordinary cassette tapes that introduce some positive notes into the lives of the protagonists. They can do so, moreover, even though they lack interiority. Their meaning is not derived from an inherent quality – they do not reveal the soul of an artist – but from the intricate network of relationships and experiences that they are part of (Walkowitz 227-228).

The novel furthermore underlines several similarities between these tapes and the clones. Much like the tapes, for instance, Kathy and her friends are discarded by conventional society because they are considered to be less than human, which makes it easier to sacrifice them for medical purposes (Walkowitz 224-225). The clones, however, manage to enlist the sympathy of the reader through the various relationships that they form amongst each other.

As a result, the reader starts to question his own ideas concerning art and morality. In both cases, the society depicted by Ishiguro takes up a decidedly anthropocentric stance: art is only valuable insofar as it reveals the artist behind it and non-human lives can be used “for the needs and desires of human life” (Walkowitz 225). The reader, though, is confronted with the various flaws and injustices that accompany this rather traditional point of view and is in turn encouraged to adopt a more modern and inclusive attitude – one that can properly account for the existence of tapes and clones.

The novel thus features a typically dystopian clash between high and low culture. In this case, however, the motif is reversed and works of popular culture prove to be much more invigorating than conventional forms of art. The reader’s expectations are consequently turned upside down and he is made to think more critically about how he tends to perceive the world.
A.4 History and Memory

That same effect is also achieved via the implementation of another important dystopian topic: the search for the past.

Throughout the story, numerous characters show an interest in the past. Early on in her career, for instance, Kathy has to take care of a donor who has just completed his third donation. In an effort to keep his mind off the pain, Kathy tries to strike up a conversation with him about his life – to no avail. But once he learns that she is from Hailsham, his focus does seem to shift and he starts to ask her all sorts of questions about the place:

He’d ask me about the big things and the little things. About our guardians, […] the food, the view from the Art Room over the fields on a foggy morning. Sometimes he’d make me say things over and over; things I’d told him the day before, he’d ask about like I’d never told him. ‘Did you have a sports pavilion?’ ‘Which guardian was your special favourite?’ At first I thought this was just the drugs, but then I realised his mind was clear enough. What he wanted was not just to hear about Hailsham, but to remember Hailsham, just like it had been his own childhood. (NLMG 5)

Faced with a painful recovery, the donor tries to escape into a pleasant memory. It does not matter that it is not actually his own. He is far from the only one, though, who focuses on the past in an attempt to avoid a difficult truth in the present. When the clones arrive at the Cottages, for example, one of their favourite pastimes becomes looking for possibilities. These are the regular people who they believe have served as a model for them or for one of their friends.

Whenever the clones travel into the outside world, they keep an eye out for these characters. There is, however, little consensus about what a possible looks like exactly. Some think that “you should be looking for a person twenty or thirty years older than yourself – the sort of age a normal parent would be” (NLMG 137). But others believe this idea to be naïve. There is, after all, no reason to assume that there would be “a ‘natural’ generation” (NLMG 137) between them and their models. Additionally, none of them can explain why they are so interested in these possibilities, although there is one prevailing theory:
One big idea behind finding your model was that when you did, you’d glimpse your future. Now I don’t mean anyone really thought that if your model turned out to be, say, a guy working at a railway station, that’s what you’d end up doing too. We all realised it wasn’t that simple. Nevertheless, we all of us, to varying degrees, believed that when you saw the person you were copied from, you’d get some insight into who you were deep down, and maybe too, you’d see something of what your life held in store. (NLMG 137)

The search for possibles thus seems to be – above all – an exercise in self-deception: it provides the students with a distraction from their training as carers and it allows them to fantasize about what their lives would have been like if it was not for the donations.

Finally, Kathy also shows a distinct interest in the past. At the beginning of the novel, she has been informed that she “won’t be a carer any more come the end of the year” (NLMG 37). As a result, she decides to go over her memories one last time in order to “get straight all the things” (NLMG 37) that happened between her and her friends.

As she is telling her story, however, she starts to realize that her childhood was not as innocent as she had imagined at the time. Armed with the information she has picked up over the years, she begins to see how the students were carefully manipulated and she is able to pinpoint several key moments where they might have learned about their situation much earlier (Wong 97). When she thinks back to the time Marge asked Miss Lucy about her smoking habits, for example, she remembers Miss Lucy telling them it would be worse if a student ever started smoking. She does not give them an explanation why, though, and they fail to ask any further.

As she locates more and more distressing elements in her past, she starts to skip over certain parts – presumably because they are too hard or horrible to talk about (Levy 11). The deaths of Tommy and Ruth, for instance, are only mentioned briefly and it is not till the end of the story that Kathy brings up the fact that some donors do not actually die after the fourth donation. Instead, they are kept alive in a comatose state and are stripped of all their remaining organs.

In the end, it seems she has decided to focus on those aspects of her past that she likes and that can offer her some reprieve. She wants to escape into her memories rather than use her newfound insights to revolt against the donation program (Wong 83). She consequently
concludes her narrative on an optimistic note by mentioning her visit to Norfolk after Tommy’s death. To the students of Hailsham, Norfolk has acquired a mythical status of being the place where everything that has been lost, can be found again. By going there, she can almost imagine seeing Tommy re-appear:

I half-closed my eyes and imagined this was the spot where everything I’d ever lost since my childhood had washed up, and I was now standing here in front of it, and if I waited long enough, a tiny figure would appear on the horizon across the field, and gradually get larger until I’d see it was Tommy, and he’d wave, maybe even call. (NLMG 282)

While Kathy tries to hold onto an idealized version of her past, her story does have a cathartic effect on the reader. Since Kathy assumes that the reader was raised in the system, she does not feel the need to explain every detail. As a result, the reader never receives a clear explanation of what is going on. Instead, he has to put the pieces together himself by following the exploits of a young Kathy very closely.

When he eventually does get the whole picture, the reader cannot help but “wonder why the students submit to being used this way, why they do not object, refuse, or simply run away” (Toker 166). But he is confronted with his own responsibilities as well. After all, it are the ordinary people in Ishiguro’s society that are responsible for its dystopian qualities. The reader consequently adopts a more critical stance towards his own society and its practices (Toker 178).

A.5 Sexuality and Women

While Kathy is telling her story, it becomes clear that sexuality plays a rather ambiguous role in her world. For one thing, it turns out that the clones are unable to have children. This would, after all, create too many problems for the people running the donation program. If the clones could reproduce, for instance, there would be no way to keep their numbers under control. Additionally, it would become rather difficult to keep the boundaries between the clones and the regular population intact. What would happen, for example, if one of the students had a child with someone from the outside?
The ability to start a family could also make the clones behave unpredictably. It seems unlikely, for instance, that a parent would allow his children to be sacrificed for someone else’s benefit. In other words, the bond between family members could prove to be too strong and disrupt the entire system. Even the mere notion of procreation could lead to dangerous emotions. As Miss Emily tells the students: “Out there people were even fighting and killing each other over who had sex with whom. And the reason it meant so much […] was because the people out there […] could have babies from sex” (NLMG 82).

By removing the ability to procreate, the guardians and their employers believe that they have stripped the students’ sexuality of all unnecessary emotions. Sex is then used as a way to keep them in line (Toker 173). Once the students reach puberty, for example, they are given numerous lessons in sexual education. These lessons are rather explicit and seem to be designed to encourage the students to explore their sexual urges – thus diverting their attention away from anything that has to do with donations. The guardians also use these classes to introduce new information about the donations without the students realizing it:

One thing that occurs to me now is that when the guardians first started giving us proper lectures about sex, they tended to run them together with talk about donations. At that age – again, I’m talking of around thirteen – we were all pretty worried and excited about sex, and naturally would have pushed the other stuff into the background. In other words, it’s possible the guardians managed to smuggle into our heads a lot of the basic facts about our futures. (NLMG 81)

As the clones come to terms with their sexuality, however, they also begin to exhibit some of the emotions that society deemed too dangerous. For one thing, they start to show a desire for family and consequently go looking for a surrogate family. When the clones arrive at the Cottages, for instance, they begin to organize quests to find their possibles. These figures are, after all, the closest thing to parents that they will ever have.

Apart from looking for a surrogate family, the students also devote a lot of time and energy to analyzing the concept of love. They realize that their experiences with sex and relationships are different from regular people. They consequently start to copy the behavior of couples on television in an effort to get a better understanding of what love is supposed to be like (Caroll 66). Whenever Greg – one of the veterans at the Cottages – begins to talk about Proust, for instance, his partner Susie rolls with her eyes and whispers “Gawd help us” (NLMG 118). Kathy later discovers that this is actually copied from a popular sitcom.
By imitating this kind of behavior, the clones try to fit into regular society and break down the barriers between them and the normal population (Caroll 66). This desire to fit in eventually translates itself into the myth of the deferral. This is the idea that couples who are really in love – who, in other words, completely resemble regular couples – could get a break from their donations in order to spend some time with each other. As Christie remarks to Kathy: “You could ask for your donations to be put back by three, even four years. It wasn’t easy, but just sometimes they’d let you do it. So long as you could convince them” (NLMG 151, own emphasis).

The notion of a deferral plays a significant role in the relationship between Tommy and Ruth. Throughout the majority of the novel, these two form a rather unlikely couple. Ruth is popular and has a certain authority among the students. Tommy, on the other hand, is considered to be an outsider. He refuses to produce any art for the Exchanges and is consequently bullied by the others. Once he learns about the deferral, however, he begins to make sketches, because he believes that art can be used to prove that you are in love:

Suppose two people say they’re truly in love, and they want extra time to be together. Then you see, Kath, there has to be a way to judge if they’re really telling the truth. [...] whoever decides, Madame or whoever it is, they need something to go on.’ I nodded slowly. ‘So that’s why they took away our art...’ ‘It could be. Madame’s got a gallery somewhere filled with stuff by students from when they were tiny. Suppose two people come up and say they’re in love. She can find the art they’ve done over years and years. She can see if they go. If they match. (NLMG 173)

When Ruth is dying, she urges Kathy and Tommy to try and get a deferral instead. Much like the reader, she seems to have realized early on that Kathy has feelings for Tommy. When he was bullied, for example, she looked out for him and tried to put an end to it. Not long after that, she started to meet up with him in secret to discuss everything about Hailsham that they found peculiar. It is, in other words, due to her love for Tommy that Kathy began to act on her curiosity and became an alienated rebel.

A.6 Hope
In the end, however, Kathy’s rebellion does not add up to much. While she is at Hailsham and the Cottages, for example, she only observes what is going on. She never takes any action or tries to change things. She does eventually track down Miss Emily and Madame, but only to ask for a deferral. It never crosses her mind that she could just drive away with Tommy to a place where no one would find them. She never shows any desire to break free from the donation program. On the contrary, it becomes clear from her opening monologue that she takes pride in her job as carer:

I know for a fact they’ve been pleased with my work, and by and large, I have too. My donors have always tended to do much better than expected. Their recovery times have been impressive and hardly any of them have been classified as ‘agitated’, even before fourth donation. Okay, maybe I am boasting now. But it means a lot to me, being able to do my work well, especially that bit about my donors being ‘calm’. (NLMG 3)

Kathy’s main concern seems to be her “professional success” and not “her own imminent death or the larger inequities and injustices at work” (Whitehead 60). She is far from the only rebellious character, though, that fails to actually react against the system. Miss Emily and Madame, for example, also did not set out to abolish the donation program. They only wanted to prove that it was possible to treat the clones more humanely without endangering the supply of transplant organs.

Their movement, however, was entirely dependent upon public opinion and was therefore doomed to fail. For one thing, even the guardians were repulsed by the sight of the clones. As Miss Emily remarks: “We’re all afraid of you. I myself had to fight back my dread of you almost every day I was at Hailsham” (NLMG 26). With the arrival of James Morningdale and his experiments, the climate towards the clones also began to take a turn for the worst:

What he wanted was to offer people the possibility of having children with enhanced characteristics. Superior intelligence, superior athleticism, that sort of thing. […] Well, he was discovered, they put an end to his work and that seemed to be that. […] But it did create a certain atmosphere, you see. It reminded people, reminded them of a fear they’d always had. It’s one thing to create students such as yourselves, for the donation programme. 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. (NLMG 258-259)
Hailsham was eventually closed down and all the changes Miss Emily and Madame had realized, disappeared again. Something similar can be said about another rebellious character of the novel: Miss Lucy. She is a guardian who was not too happy with Hailsham’s educational methods. She thought that the students deserved to get a clear explanation instead of being *told and not told*. When she ends up isolated with a bunch of them in the pavilion during a rainstorm, she consequently tries to tell them the whole story. But afterwards, the students pretend that nothing happened, because they did not want their illusion of a normal childhood to be disturbed. In the end, Miss Lucy leaves Hailsham and is never heard from again.

A. 7 Conclusion

Ishiguro’s society shows several typically totalitarian elements. For one thing, it draws clear boundaries between its regular citizens and the clones. The latter are isolated from the rest of society and are used as a resource for transplant organs. Unlike most dystopian stories, however, there are no clear references to violence. Instead, the donation program seems to rely solely on manipulation. Hailsham’s guardians gradually tell the clones what is expected of them when they are still too young to understand what it means. By the time they are old enough to donate, they consequently seem unable to think outside of the system.

Additionally, the clones themselves are characterized by an inclination for denial. When they are still living at Hailsham, for example, they often turn a blind eye whenever the reality of their situation seems to present itself.

Their unwillingness to confront the system is also apparent in their treatment of the past. As Kathy is going over memories, for instance, she starts to skip over the parts that are too painful and chooses to escape into those memories that create the illusion of a happy childhood. The reader, however, does realize the horrifying quality of Ishiguro’s society. Since Kathy rarely gives a clear explanation of what is going on, he has to puzzle the pieces together by himself. In order to do so, he has to pay close attention to Kathy’s story and is consequently all the more shocked when he realizes what is going on.
Additionally, both science and religion are noticeably absent in Kathy’s story. The lack of scientific elements, however, makes her society look very similar to contemporary society. This introduces a certain urgency to Ishiguro’s warning of what might happen if we do not start to adopt a more critical stance towards cloning.

Language and culture, on the other hand, are explicitly present in the system. Language is used to control the clones by hiding the truth of the transplantations behind euphemisms such as donation and completion. Culture, then again, is used to try and improve the conditions of the clones. Miss Emily and her fellow guardians implore the clones to make art in order to prove that they have souls and are consequently worth to be treated humanely. This project ultimately fails, however, because the regular citizens start to feel threatened. Instead, it are ordinary cassette tapes that manage to provide some solace for the clones.

Sexuality also plays a crucial role in Kathy’s story. In order to avoid potentially dangerous emotions such as love, society has removed the clones’ ability to reproduce. Sex is then used to keep the clones busy and to smuggle in pieces of information about their future. The clones, however, manage to recapture some of those restricted emotions. They start to look for a surrogate family and invent the myth of the deferral.

Finally, the story ends on a decidedly pessimistic note. Miss Emily and Hailsham have been put out of business and newly created clones are now raised in nightmarish government homes. Miss Lucy has disappeared and Kathy is on her way to start with her donations. What is even worse, she still does not seem to realize the immorality of the donation program. Instead, she takes pride in her work. The novel can consequently be classified as a more classical dystopia.
Margaret Atwood was born in 1939 in Ottawa as the second of three children. Her father was an entomologist and frequently took his family with him on his trips. As a result, Atwood spent most of her early life in the bush of Ontario and Quebec, far away from civilization. She only started to go to school regularly at the age of twelve. Before that, she educated herself by reading vicariously. In 1957, she went to study English at Victoria College and obtained a master degree from Radcliffe College in 1962. She started her doctoral studies at Harvard University but never finished her thesis.

Instead, she began to focus on writing fiction. In 1964, she published a collection of poems called *The Circle Game*, which won the Governor-General’s Award for Poetry in 1968. The following years she would develop into a very prolific author, publishing a variety of fictional works. At the same time, she became a prominent figure in Canadian culture. In 1972, for example, she published an influential introduction to Canadian literature called *Survival: a Thematic Guide to Canadian Literature*. Nine years later, she became a Companion of the Order of Canada.

In 1985, Atwood published a dystopian novel called *The Handmaid’s Tale*. The story revolves around a woman called Offred who lives in the Republic of Gilead. This is a theocracy founded by a group of Christian fundamentalists who staged a coup in the United States in the early Eighties. In this Republic, women have been stripped of their rights and have to serve as slaves to the male Commanders. Offred herself is a handmaid, someone whose sole purpose is to provide children. The novel played an integral part in the evolution of the dystopian genre, as it was one of the first books to feature a female protagonist. It won the Arthur C. Clarke Award for Best Science Fiction in 1987.

Several years later, Atwood revisited the dystopian genre and began working on the MaddAddam-trilogy. The first novel, *Oryx and Crake*, appeared in 2003. It was followed by *The Year of the Flood* in 2009 and *MaddAddam* in 2013. The story takes place in the United States in a not-so-distant future where corporations have taken control over everything and everyone. Genetic engineering has become commonplace and is used to create a wide array of consumer goods. When a character named Crake creates a new hemorrhagic virus, however,
almost the entire human population is eliminated and the dystopian society is replaced by a post-apocalyptic world.

The novels focus on the adventures of Jimmy, Toby, Zeb and Ren. In the dystopian society, these characters try to find their own place in a corporate world that is filled with genetically engineered animals, violent ex-convicts and bioterrorists. After Crake’s plague hits, however, their main concern becomes survival. In the beginning, this means looking out for their own as each of them is isolated in a different building or area of the old civilization. Later on, though, they manage to find each other and start to form a new community. This community, in turn, has to negotiate its own position in a world that is populated with wild animals and Crakers – a genetically engineered humanoid species created by Crake.

B.1 Totalitarian Mentality

The pre-plague society of MaddAddam is divided into two different groups. The first one is represented by the technocratic elite who live in the so-called Compounds. These are fortified communities built around one of the major corporations. Life in these Compounds is characterized by an atmosphere of order and cleanliness. Everything is owned by the corporations, even the schools and the clinics. Security is provided by a private army called the CorpSeCorps. The CorpSeCorps took over from the police force once it went bankrupt and is charged with protecting the people inside the Compounds from the ones on the outside.

The people on the outside represent the poorer classes of society and live in overpopulated cities called Pleeblands. These Pleeblands are filled with slums, dingy-looking shopping malls, sex clubs and fast food restaurants. The streets are roamed by gangs of thieves and street children such as the Tex-Mexes, the Linheads and the Blackened Redfish. Public security in these Pleeblands is almost non-existent. Instead, they seem to form a playground for the local pleebmobs. These criminal organisations are responsible for most of “the low-level kidnappings and assassinations, the skunkweed gro-ops, the crack labs and the street-drug retailing” (TYF\(^3\) 40).

Uniting both groups is a distinct sense of violence and danger. The people in the Compounds have to be on constant alert for attacks from bioterrorists and saboteurs from foreign companies. The top researchers especially run a great risk as competitors often try to

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kidnap them to strip their brains of any useful information. The inhabitants of the Pleeblands, on the other hand, have to be on the lookout for both the mobs and the corporations. These last ones often use them as unwitting test subjects for their latest products.

The biggest threat, however, comes from the CorpSeCorps themselves. While they started out as “defenders of the peace” (TYF 40), they gradually develop into an organisation with unmistakable totalitarian characteristics. For one thing, they start to create a monopoly on violence. When the new sprayguns were invented, for example, they decided to keep them for themselves. Additionally, they banned the rest of the firearms “in the interests of public security” (TYF 30). As a result, the CorpSeCorps have the most advanced weaponry while the rest of society is “officially weaponless” (TYF 30). They also took over almost all illegal businesses, using the pleebmobs as a front.

The CorpSeCorps furthermore begin to search obsessively for any subversives that might endanger the profit margin of the corporations. They install hidden cameras in both the Compounds and the Pleeblands and they organize regular security sweeps for unregistered cell phones and guns. They also scour the internet day and night looking for potentially dangerous content and set up fake websites to lure rebels into a trap. Whenever a researcher tries to escape, they hunt him or her down for years on end.

Once a potential rebel has been located, he or she is either put on trial or eliminated quietly via some sort of accident. When Crake’s father tries to expose some of the questionable practices of the pharmaceutical company he works for, for instance, he ends up falling off an overpass into oncoming traffic. Those who are officially convicted, can choose to be killed quickly – via hanging or shooting – or they can try to earn their freedom back by entering into something called Painball. This is a rather peculiar mix of paintball and the gladiator games of ancient Rome:

Toby had heard about Painball. It was a facility for condemned criminal, both political ones and the other kind: they had a choice of being spraygunned to death or doing time in the Painball Arena, which wasn’t an arena at all, but more like an enclosed forest. You got enough food for two weeks, plus the Painball gun – it shot paint, like a regular paintball gun, but a hit in the eyes would blind you, and if you got the paint on your skin you’d start to corrode, and then you’d be an easy target for the throat-slitters on the other team. For everyone who went in was assigned to one of two teams: the Red, the Gold. (TYF 117)
Those who survive long enough are released back into society, but by then they are often nothing more than mindless killing machines. Originally, the CorpSeCorps held the existence of these Painball-games a secret, as they were technically illegal. The upper echelons of society, however, liked to go and watch these fights. As a result, the Painball-arena quickly became one of the most important assets of the CorpSeCorps.

The resulting image is one of a society in which the body count is both high and inevitable. Inevitable, for starters, because everyday life is so tightly controlled by the corporations that going against them almost certainly equals suicide: “We call it Corpicide. If you’re Corp and you do something they don’t like, you’re dead. It’s like you shot yourself” (TYF 291). But also because the majority of the population itself shows little desire to change things. Instead, they mistake violence for entertainment and safety for peace of mind. Even though the CorpSeCorps are incredibly intrusive, most people appreciate their presence because they at least provide the illusion of safety. That much becomes clear during a discussion between Jimmy’s father and mother:

She complained about the tight security at the HelthWyzer gates – the guards were ruder, they were suspicious of everyone, they liked to strip search people, women especially. They got a kick out of it, she said. Jimmy’s father said she was making a big deal about nothing. Anyway, he said, there’d been an incident only a few weeks before they’d moved in […] naturally the guards were jumpy. Jimmy’s mother said that didn’t change the fact that she felt like a prisoner. Jimmy’s father said she didn’t understand the reality of the situation. Didn’t she want to be safe, didn’t she want her son to be safe? (OC 60, own emphasis)

B.2 Science and Religion

The driving force behind this violent and corporately controlled society is science. Not unlike contemporary society, there have been major breakthroughs in terms of technology and biotechnology (see appendix F, G and H). This has resulted into some interesting ecological inventions, such as the solar car – which runs on solar energy – and the carbon garboil installation. This installation is designed to recycle any form of carbon garbage –

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“slaughterhouse refuse, old vegetables, restaurant tossout, even plastic bottles” (TYF 91) – into oil and water.

The biggest breakthroughs, however, have been in the field of genetic engineering. The world of MaddAddam is consequently filled with peculiar animals and plants. Some of the more noticeable are the green rabbits that glow in the dark due to a gene originally found in deep-sea jellyfish and the Mo’Hairs – genetically modified sheep that grow human hair instead of wool. Finally, there are also the pigoons. These are pigs that were spliced with human DNA in order to make them grow organs that could be used for transplants:

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. A rapid-maturity gene was spliced in so the pigoon kidneys and livers and hearts would be ready sooner, and now they were perfecting a pigoon that would grow five or six kidneys at a time. Such a host animal could be reaped of its extra kidneys; then [...] keep on living and grow more organs (OC 25-26)

The focus of all this scientific research lies on making a profit: those inventions that stand to make the most money are the ones that get the most funds. The richest corporations are consequently those that work on that age-old dream of humanity: immortality or eternal youth (Hengen 130). HelthWyzer, for example, is one of the major corporations as it is responsible for finding cures to all the latest diseases. Other important firms include RejoovenEssense – which is actively looking for any product that can prolong human life – and NooSkins. This last one specializes in skin-related biotechnology and tries to find a way to keep people looking young.

In their quest for immortality and profits, however, both the corporations and their researchers show little consideration for the long-term consequences of their work. That much becomes clear, for instance, with the invention of the Happicuppa bean. These beans are genetically modified so that they all ripe simultaneously – unlike regular coffee beans – and can be harvested mechanically on large plantations. While this invention did make the production of coffee more cost-effective, it also proved to be disastrous for small growers and “reduced both them and their labourers to starvation-level poverty” (OC 210).
Additionally, their continuous search for new products seems to have had a tremendous impact on the environment: Wisconsin has dried up and is littered with cow carcasses, hurricanes and twisters have become more and more frequent and the air in the Pleeblands has been so polluted that people have to wear nose cones most of the time.

Instead of drawing conclusions from these disasters, the corporations and researchers keep going down the same path. Their inventions also become increasingly more horrifying. The idea of the pigoons and their multiple organs, for example, is later applied to chickens. This results in the so-called ChickieNobs: these are genetically modified chickens that exist almost entirely out of breasts or wings. They have no real nerve center or brains, only a mouth to feed them. In other words, these animals have been completely reduced to their useful parts and do not resemble anything natural anymore.

None of the researchers, however, seem to care about this. They are so obsessed by their work, that they completely ignore the ethical side of their field. Whenever they do get questioned about their work, they hide behind arguments that are disturbingly similar to those used in some of the contemporary debates concerning bioethics (Mosca 42). When Jimmy’s mother starts attacking her husband’s work, for example, he responds as follows: “I don’t believe I’m hearing this! [...] It’s just proteins, you know that! There’s nothing sacred about cells and tissue” (OC 64-65).

Against this overflow of science, there seems to be little room left for religion. Most people in Atwood’s society tend to look for solace in wellness-products rather than in some spiritual belief system (Hengen 130). The few religions that are still present, turn out to be nothing more than thinly veiled forms of corporatism. The Known Fruits, for example, is a religious organisation that worships wealth as a sign of God’s good grace: “By their fruits ye shall know them, and fruits meant bank accounts” (TYF 344). The PetroBaptists, then again, are entirely devoted to the holy properties of oil.

There is one group, though, that seems to break away from corporatism in favor of a more traditional form of faith. This group is called the God’s Gardeners and is led by Adam One – and, to a lesser extent – his brother Zeb. The followers derive their name from the garden that they tend on the Edencriff Rooftops in one of the Pleeblands. Tending a garden is not the only thing that points towards their traditional mindset. They also favor a more conservative way of clothing – the women wear baggy dresses, the men coveralls – and their leaders are designated with the titles Adam and Eve.
Repulsed by society’s blatant disregard for nature, the Gardeners want to reintroduce a certain respect for both animals and plants. They consequently try to minimize their ecological footprint by recycling as much as they can. They are also vegetarians and have a strict policy not to kill any animal. When they have problems with rats or snails in their garden, they simply relocate them to another location.

In order to avoid contamination by the corporations, the Gardeners try to isolate themselves as much as possible from the rest of society – which they refer to as “the Exfernial World” (TYF 225). They furthermore spend most of their time preparing for what they call “the Waterless Flood” (TYF 107). Inspired by the story of Noah’s ark, they believe that there would come another flood that would wipe out almost all living things. This time, though, the flood would not be sent from God, but would be created by mankind itself. Much like Noah, the Gardeners would be the only ones to survive this flood.

As the story progresses, the God’s Gardeners seem to be presented as the solution to the overwhelming violence of corporatism. For one thing, the Edencliff Rooftop frequently functions as a safe haven for runaway researchers and other rebels. When Toby is threatened to be killed by a SecretBurgers manager named Blanco, for example, Adam One rescues her and offers her a place among his followers. Most of the leaders of the Gardeners actually turn out to be scientists that used to work for the corporations. Additionally, when Crake’s plague hits, most of the Gardeners survive thanks to their isolation and their Ararats.

Readers of The Handmaid’s Tale might be surprised by this sudden change of heart. While religious zealously led to the totalitarian Republic of Gilead in the former, religion here seems to be a locus for rebellion. The ideology of the Gardeners, however, differs from that of traditional forms of faith in one important aspect: it combines religion with science. Their saints, for example, are a mixture of religious icons – such as the Blessed Gautama Buddha – and important historical figures, such as Saint Crick. Their hymns (see appendix I and J) and sermons are also oddly scientific. Adam One’s sermon about creation, for example, begins as follows:

The Human Words of God speak of the Creation in terms that could be understood by the men of old. There is no talk of galaxies or genes, for such terms would have confused them greatly! But must we therefore take as scientific fact the story that the

Francis Crick, one of the scientists that discovered the structure of human DNA.
world was created in six days, thus making nonsense of observable data? God cannot be held to the narrowness of literal and materialistic interpretations, nor measured by Human measurements, for His days are eons, and a thousand ages of our time are like an evening to Him. Unlike some other religions, we have never felt it served a higher purpose to lie to children about geology. (TYF 13-14)

Additionally, the organization of the Gardeners is not without its problems either. For one thing, their leaders do exhibit some totalitarian characteristics. When Toby’s friend Pilar is diagnosed with cancer, for instance, she commits suicide. Instead of telling the truth, Adam One decides to edit this event, because he is afraid that the notion of suicide could be troubling for the younger members. He consequently tells the rest of the group that Pilar accidently overdosed (Talpalaru 257). The belief system of the Gardeners also shows some contradictions, which makes it a lot less convincing. The Adam and Eves try to fix these problems, but they often prove to be too difficult. Take, for example, the issue of human teeth:

Adam One had explained that some of the children were upset because Zeb had pointed out the differences between the biting, rending teeth of carnivores and the grinding, munching teeth of herbivores. The children wanted to know why – if Adam was created as a vegetarian, as he surely was – human teeth should show such mixed characteristics. “Shouldn’t have brought it up,” Stuart had muttered. “We changed at the Fall,” Nuala had said brightly. “We evolved. Once Man started to eat meat, well, naturally…” That would be putting the cart before the horse, said Adam One (TYF 286-287)

The novel consequently does not present religion as the unequivocal solution to the violence of corporatism. Instead, it uses “religion as the conceptual launch pad for the suggestion to build a community organised around the practise of integrating techno-science and humanities” (Talpalaru 256). The novel indicates that relying solely on a scientific – and economic – way of reasoning can be dangerous. This way of thinking needs to be combined with a moral narrative that focuses on the long-term consequences and that can reintroduce some perspective. The God’s Gardeners are an example of how such a combination can be established. And while their community is not perfect, it does seem to be preferable over the rest of MaddAddam’s society (Talpalaru 244, 255-256).
B.3 Culture and Language

The overemphasis on scientific reasoning is also apparent in its educational program, which seems specifically adjusted to the needs of the corporations. When Jimmy and Crake attend high school in the HelthWyzer compound, for example, part of their time is devoted to the so-called Life Skills Classes. These are classes in which the students learn all the practical skills that they might need in their corporate future: “Double-entry on-screen bookkeeping, banking by fingertip, [...] negotiating your own marriage-and-divorce contracts [...] those had been the Life Skills” (OC 47).

Once the students graduate from high school, they are auctioned off at the Student Auction. Those students that show an aptitude for science or maths are picked up by institutes such as Watson-Crick: “Once a student there and your future was assured. It was like going to Harvard had been, back before it got drowned” (OC 203). Those that are better in languages or art, however, are passed off to one of the lesser institutes.

Those courses that have no future in the corporate world have either disappeared or been reduced to a minimum of students. Classes involving song and dance, for example, only have a few applicants left as live performances are no longer very popular due to the constant threat of sabotage. Courses such as Webgame Dynamics or Image Presentation, on the other hand, are still thriving because you could make money designing websites or advertisements. The same goes for Problematics, which is a class that teaches students how to spin and sell new products.

Both language and art thus seem to be reduced to their bare usefulness. Most “word people” (OC 220) consequently become a spin doctor or “an ideological plumber” (OC 273). They write slogans and self-help books to boost the sales of the latest products. They also come up with catchy names for these inventions. These names are sometimes used to conceal some of the more questionable aspects of the product. The term pigoon, for example, diverts attention away from the idea of genetically modified pigs that grow human organs. Instead, it invokes the playful image of pigs and balloons (Mosca 47).

Much like language, culture in Atwood’s pre-plague society is also almost entirely enlisted in service of the corporations. As a result, the population is flooded with a barrage of popular entertainment. A lot of that popular entertainment involves sex or violence. Some of
the more popular internet sites, for instance, are shortcircuit.com and brainfrizz.com. These are sites that show live executions of men and women. These events are often provided with live commentary and commercials for cars and lotteries – much like sport events in contemporary society. Other disturbing sites include HottsTotts – which is dedicated to child pornography – and nitee-nite.com, an assisted-suicide site.

This overflow of virtual sex and violence represses the audience’s “sense of emotional involvement and moral responsibility” as “the boundaries between fiction and reality, reality and fiction are blurred” (Labudova 140). Jimmy and Crake, for example, start developing a habit of smoking joints and watching child pornography. Instead of being disgusted by what they see, they respond rather apathetic. The abuse of children does not seem to register with them, because they have grown used to it and because they never could tell if what they saw was actually real: “None of those little girls had ever seemed real to Jimmy – they’d always struck him as digital clones” (OC 103).

In short, both popular culture and language seem to be firmly under corporate control. Yet both of them ultimately prove to be too powerful or unpredictable to control. Several important characters, for instance, start to rebel by using language in unexpected ways. Amanda Payne, for example, uses trash and animal carcasses to spell out words such as pain and love and then film them as they get eaten by vultures. This project could easily be seen as an artistic form of protest against the all-consuming corporate society. Jimmy, on the other hand, starts to read old books and memorizes rows of obsolete and archaic words to rebel against society’s strictly utilitarian view of language:

He compiled lists of old words too – words of a precision and suggestiveness that no longer had a meaningful application in today’s world, or toady’s world, as Jimmy sometimes deliberately misspelled it on his term papers. (Typo, the profs would note, which showed how alert they were.) He memorized these hoary locutions, tossed them left-handed into conversation: wheelwright, lodestone, saturnine, adamant. He’d developed a strangely tender feeling towards such words, as if they were children abandoned in the woods and it was his duty to rescue them. (OC 230)

When Crake unleashes his virus, these words stick with him, as do various excerpts from advertisements and self-help books. These fragments of language seem oddly and humorously out of place in the post-apocalyptic world. But they do have a therapeutic effect on Jimmy. When he is trapped in the RejoovenEssense Compound, for example, he would “whisper
words to himself. *Succulent. Morphology. Purblind. Quarto. Frass.* It had a calming effect” (OC 401). For a time, these words are the only real connection that Jimmy still has with his old world and only by holding onto them can he slowly come to terms with his new situation.

B.4 History and Memory

In the end, language thus survives the fall of corporate society and re-asserts itself in the post-apocalyptic world. Something similar can be said about history. When analyzing Atwood’s pre-plague society, it becomes clear that there is little room left for history. The houses in the compounds, for example, are built in various historical styles. But they are all reproductions, which makes them feel more artificial than historical. As Ren remarks when she goes back to the HelthWyzer Compound: “nothing felt right. All that faux marble, and the reproduction antique furniture, and the carpets in our house – none of it seemed real. It smelled funny too – like disinfectant” (TYF 248).

Apart from these reproductions, history only seems to be present in the form of games such as Blood and Roses. This is a “trading game, along the lines of Monopoly” (OC 89). The Blood player plays with human atrocities – “Massacres, genocides, that sort of thing” (OC 90) – while the Roses’ side has access to some of humanity’s greatest achievements.

At first, this game appears to be rather educational. There are sidebar buttons, for example, that allow the player to look up information about every atrocity and achievement. But it quickly becomes clear to the reader that the game promotes a solely instrumental view on history. The only concern of the players seems to be the exchange rate: “one *Mona Lisa* equalled Bergen-Belsen, one Armenian genocide equalled the *Ninth Symphony* plus three Great Pyramids” (OC 90). The atrocities and achievements of humanity are reduced to bargaining chips and the only thing that matters is how good you can haggle – a trait valued by the corporations.

Besides games and housing styles, the people in Atwood’s society do not show much of an interest in the past. Instead, they spend most of their time waiting for the next new product that they can buy. The companies are eager to fulfill this wish, but they cannot be too successful. After all, a product that works too well could put them out of business. As a result, the corporations often resort to schemes that ensure a perpetual chain of supply-and-demand.
HelthWyzer, for example, is known to introduce new viruses in its medication against old ones – thus securing an endless supply of sick people:

They put the hostile bioforms into their vitamin pills – their HelthWyzer over-the-counter premium brand, you know? They have a really elegant delivery system – they embed a virus inside a carrier bacterium, E. Coli splice, doesn’t get digested, bursts in the pylorus, and bingo! Random insertion, of course, and they don’t have to keep on doing it [...] once you’ve got a hostile bioform started in the pleeb population, the way people slosh around out there it more or less runs itself. Naturally they develop the antidotes at the same time as they’re customizing the bugs, but they hold those in reserve, they practise the economics of scarcity, so they’re guaranteed higher profits.”

(OC 247-248)

The resulting image is one of a society suspended in animation: it has no real connection with its past and it shows no real progress. History, however, resurfaces in various rebellious corners. Most notably in an interactive web-game called Extinctathon. To enter this game, the player has to choose a codename that refers to an animal or plant that has gone extinct over the last fifty years.

The game was originally designed by Adam One, who uses its chat-room to communicate with other groups of Gardeners. It was a way for him to organize his secret network and slip under the radar. After all, no CorpSeCorps inspector would ever be interested enough to give the game a second look. Later on, Zeb uses the website to organize MaddAddam – a splinter-group of the Gardeners that created hostile bioforms in an effort to stop the exploitation of the corporations.

This creates a rather poetic situation in which the corporations are attacked by those species that they had destroyed years ago – or, at least, by terrorists bearing their names (Ku 123). Since a lot of these terrorists survive Crake’s plague, corporate society is also seemingly outlived by these extinct species. In fact, most of the major characters have at one point or another adopted an Extinctathon-name. Crake, for example, was originally named Glenn, but changed his name after an Australian bird called the red-necked Crake. Jimmy became Thickney and Toby was called Inaccesible Rail – both names that refer to another type of bird.
B.5 Sexuality and Women

Sexuality takes up a rather ambiguous position in Atwood’s corporate society. On the one hand, the corporations seem to be big supporters of the idea of the family. For one thing, they like to present their employees as one big happy family in an effort to inspire the same kind of loyalty that family members are supposed to show each other. To that effect, they often organize events on which the employees can fraternize. HethWyzer, for example, sets up a corporate barbeque every Thursday.

The corporations also encourage marriage, because official marriage licenses give them access to finger scans and iris images. Additionally, they try to keep the families of their employees together. When one parent gets headhunted by a corporation, for example, the entire family moves to the new compound. This, of course, serves a higher purpose: family members are encouraged to spy on each other and that generally goes better if they are living in the same house. Whenever a family member does commit an act of treason or sabotage, the entire family seems to be held responsible. The rebellion of Jimmy’s mother, for instance, had serious consequences for his future employment: “He wasn’t dependable, he was a security risk, he had a taint” (OC 214).

Apart from serving as a controlling mechanism, however, the concept of family has little to do with reality in corporate society. Instead, life in the Compounds and the Pleeblands is characterized by promiscuity: husbands leave their sick wives as soon as the medical bills start piling up and compound wives often go looking for sexual flings because they feel ignored by their husbands or because they are bored. Parental neglect is also a real issue: Crake’s mother, for example, sometimes forgets the name of her only son and Oryx’s mother sells her daughter to provide food for her remaining children (Stein 150).

The CorpSeCorps does not really care about the frequent sexual transgressions. On the contrary, sex is a product that sells and that can divert potentially rebellious energies. The CorpSeCorps have consequently taken over the sex trade by outlawing street prostitution – “For public health and the safety of women” (TYF 8) – and rolling “everything into SeksMart under CorpSeCorps control” (TYF 8). Under their guidance, sexual gratification is only a minute away: there are various sex clubs that serve people with all kinds of preferences,
prostibots made out of “Bacteria-Resistant Fibres” (MA\textsuperscript{6} 97) and so-called haptic feedback terminals that simulate the feeling of real sex.

Specifically worth mentioning is a strip club called Scales and Tails. The women working in this club dress up as various reptilian animals using Biofilm Bodygloves to protect them from any contagious diseases. The club soon became a favourite of the top executives of the corporations who would venture into the Pleeblands looking for some adventure. This gave the CorpSeCorps unique opportunities to blackmail these high-ranking members.

The sexual urges of Atwood’s society more often than not result in abuse of women. Almost all of the major female characters in the MaddAddam-trilogy have been subjected to the abuse of men at one time or another. Toby, for instance, gets molested on several occasions while wearing a fur-animal suit with advertising signs. Later on, she is forced to become a plaything for the aggressive SecretBurgers manager Blanco. Oryx, on the other hand, is forced to make porn films for HottsTotts and Ren eventually ends up as a dancer in Scales and Tails.

Much like in the Republic of Gilead, women seem to be perceived as commodities. This idea is so pervasive, that it can even be found in those groups that normally oppose corporate culture. When Toby gets assaulted by a Gardener named Mugi the Muscle, for example, her friend Pilar only has this to say: “We never make a fuss about such things,” [...] “There’s no harm in Mugi really. He’s tried that on more than one of us – even me, some years ago” (TYF 124). This objectification of women also perverts the minds of those who grow up in the system. Ren, for instance, starts to describe her world in explicitly sexual terms: “we walk through the shimmering meadow. There’s a humming like a thousand tiny vibrators, huge pink butterflies float all around” (TYF 448).

Some women, however, manage to use society’s obsession with sex to their advantage. Oryx, for example, slowly starts to develop into a sexual rebel. As a child, she was used to seduce older men and let them take her to their hotel room so that her boss could catch them red-handed and blackmail them. By the time she has to make films for HottsTotts, she has consequently learned how to use her sexuality for her own goals. She starts to trade sex with Jack the cameraman, for example, in return for lessons in English (Bosco 168).

Oryx eventually manages to capture the attention of Crake and begins working for him as a saleswoman. She also serves as a teacher to the Crakers – Crake’s genetically engineered humanoids. It is during this time that she meets Jimmy and the two of them start a secret love affair. As Jimmy learns more and more about her past, he begins to see Oryx as a damsel in distress. Oryx, however, continuously refuses this victim role. When he asks her about her experiences at HottsTotts, for example, she simply changes the subject (Bosco 167-168):

“Did they rape you?” He could barely squeeze it out. What answer was he expecting, what did he want? “Why do you want to talk about ugly things?” she said. Her voice was silvery, like a music box. She waved one hand in the air to dry the nails. “We should think only beautiful things, as much as we can. [...] She would never tell him. Why did this drive him so crazy? “It wasn’t real sex, was it?” he asked. “In the movies. It was only acting. Wasn’t it?” “But Jimmy, you should know. All sex is real.” (OC 168-169)

Oryx’s “casual acceptance of the immoral, decadent society that has victimized her” (Bosco 168) has an important impact on Jimmy’s conscience. Before he met Oryx, Jimmy was a regular visitor of porn sites and spent his spare time chasing sexual adventures. After he meets Oryx, however, he starts to feel guilty about his own behaviour. When she asks him to take care of the Crakers when she is not around, he consequently takes it to hart and he becomes a reluctant but caring father-figure to them after Crake’s plague hits (Bosco 168).

By displaying Jimmy – the cynical sex-addict – as a concerned parent, Atwood introduces the hopeful idea that even people who grew up in such a depraved society are still capable of the kind of self-sacrificing love that is typical for a traditional family.

B.6 Hope

The notion of hope brings us to the last chapter. While Atwood’s corporate society knows many groups of protesters and rebels, none of them are particularly successful. Most of them are either killed in real – or staged – riots or end up on trial. The only group that seems to make a dent in the system is MaddAddam. This group of militant Gardeners is led by Zeb and specializes in creating new bioforms that attack corporate infrastructure. Some of the more noticeable include a “microbe that ate the tare in asphalt” (OC 253) and a “house mouse addicted to the insulation on electric wiring” (OC 253). By destroying the infrastructure, the
MaddAddamites hoped that the planet would be able to repair itself, “before it was too late and everything went extinct” (TYF 399).

The MaddAddamites are eventually rounded up by Crake and forced to work for him. Crake – or Glenn – is one of the more mysterious characters in the trilogy and might be considered as both a mad scientist and a utopian dreamer. From the beginning, he is described as a child prodigy and an outsider who looks at the rest of society with a cold and calculating glance. Throughout the novels, he always seems to be present in the background and he frequently engages in conversations with other characters about the human condition. He has various discussions with Jimmy, for example, and he also visits Ren at Scales and Tails:

Occasionally Glenn would rent two or three Scalies for the whole evening, not for sex but for some very strange things. Once he wanted us to purr like cats so he could measure our vocal cords. Another time he wanted us to sing like birds so he could record us. [...] I was part of the threesome the night he gave us a sort of quiz. What would make us happy? he wanted to know. Was happiness more like excitement, or more like contentment? Was happiness inside or outside? With trees, or without? Did it have running water nearby? Did too much of it get boring? (TYF 365)

In the end, it seems that Crake has come to the conclusion that the only possible solution to save the planet is to remove “the ancient primate brain” (OC 358). He consequently devises a two-step plan that will eliminate all the world’s problems. Using society’s desire for sexual gratification, he manages to secure a large research fund from RejoovenEssense to create the BlyssPluss pill. This pill promises to eliminate any chance of catching sexually transmitted diseases and to increase one’s libido and sexual prowess. Hiding inside these pills, however, is a new hemorrhagic virus that is designed to wipe out humanity in one swift blow. Once humankind has been removed, the world would be free for his own genetically modified humans: the Crakers – or “Paradice people” (OC 358), as he likes to call them.

These Crakers are the embodiment of Crake’s utopian dream – they represent his version of what humankind should have been like. All of the Crakers consequently look like they come straight out of an ad for a gym or a spa-treatment: “Each is sound of tooth, smooth of skin. No ripples of fat around their waists, no bulges, no dimpled orange-skin cellulite on their thighs. No body hair, no business” (OC 115). They are also freed from all the problems that haunt homo sapiens. They have no issues with racism, for example, because they simply cannot distinguish skin colour.
They are vegetarians and only eat “grass and roots and a berry or two” (OC 358). As a result, they have no need for hunting or agriculture. In fact, they are complete strangers to concepts such as violence, hierarchy or territoriality – “the-king-of-the-castle hard-wiring that had plagued humanity had, in them, been unwired” (OC 358). They are furthermore “perfectly adjusted to their habitat, so they would never have to create houses or tools or weapons, or, for that matter, clothing” (OC 359). Additionally, they have little knowledge about death and consequently have no need “to invent any harmful symbolisms, such as [...] gods” (OC 359).

Finally, the Crakers also received some helpful mechanisms that were inspired by other animals and plants. They have a built-in citrus smell, for example, that wards off mosquitoes and their skin is UV-resistant. In analogy with the canine family, the men’s urine has a strong odour and can be used to scare away predators. Much like cats, the Crakers can furthermore purr on their own wounds to heal them: “the cat family purred at the same frequency as the ultrasound used on bone fractures and skin lesions and were thus equipped with their own self-healing mechanism” (OC 184).

In many aspects, the Crakers thus seem to be better than the kindred homo sapiens. They consequently pose some troubling questions for the reader: If we could alter the human brain via science, for example, should we do it? And if so, how far can we go before there is no such thing left as humanity? Are the Crakers still human or something else entirely? And, perhaps most importantly, what is humanity exactly, what are its defining traits?

Atwood further problematizes these questions by portraying humanity as monstrous in comparison to the Crakers. The sexual violence of the pre-plague society, for example, stands in strong contrast with the sexuality of the Crakers (Ku 112). Their society does not know sexual conflict. Instead, sex has become something cyclical and respectful. Every three years, the abdomen and buttocks of a Craker woman turn blue, thus signalling to the men that she is in heat. The men then start to court her by picking flowers for her and indulging “in musical outbursts” (OC 194). From amongst these men, the woman then picks four mates and the sexual urges of the other candidates disappears immediately, “with no hard feelings left” (OC 194).

But even after the collapse of corporate society, humankind falls short when compared to the Crakers. The biggest threat in the post-apocalyptic world, for example, comes from humanity in the form of two Painballers that have escaped Crake’s plague. Throughout all
three novels, these Painballers form a source of concern as they commit acts of violence against various major characters. It is only at the end of *MaddAddam* that Zeb, Jimmy and Toby manage to track the Painballers down and eliminate them. The story of this battle is told by Blackbeard – one of the Craker children:

> The other bad man was partway behind a wall, but his head and arm came out, and he had the stick now, and he was pointing it at Toby. But Snowman-the-Jimmy saw it, and he went very fast in front of her, and he had the holes punched in him instead. And he fell down too, with blood coming out, and he did not get up. And then Zeb used his stick thing, and the second bad man dropped his own stick thing and took hold of his own arm. And he screamed as well. And I put my hands over my ears because there was so much pain. It hurt me very much. (MA 362)

Blackbeard’s version of the battle once again underlines the innocence of the Crakers and the violent tendencies of humans – not just of the Painballers, but also of Zeb and his friends.

Things start to get complicated, however, when the Crakers begin to show more and more signs of human behaviour. Not long after they were created, for example, the Crakers start to ask questions about their origins (Bosco 163-164). This forces Jimmy – and later Toby – to construct a new sort of religion in which Crake is seen as the father of the Crakers and Oryx as the mother of the animals. They also have to invent new stories that explain the basic concepts of the world.

Soon, however, the Crakers begin to add to this mythology themselves and they start to invent all kinds of rituals. When Jimmy leaves them alone to get more supplies, for instance, they build an effigy for him to guarantee his safe return. As the story progresses, the Crakers begin to play an increasingly active role in their own religion. By the end of *MaddAddam*, Blackbeard has taken over from Jimmy and Toby and serves as a prophet to his people. He also starts to write down his experiences and spiritual notions in a book – thus effectively creating a new bible.

Apart from this typically human interest in religion, the Crakers also begin to mingle with the surviving MaddAddamites. This results in three MaddAddam women giving birth to a Craker baby. The boundaries between humans and Crakers thus seem to dissolve. This leaves the reader with a mixed feeling. On the one hand, it could be seen as a positive sign that humanity can survive the collapse of society and that it can redeem itself. On the other
hand, however, it were human traits that led to the end of the world. As the trilogy ends with the Crakers and MaddAddamites trying to form a new society, the reader is consequently unsure if this society will be any better than the last one.

B.7 Conclusion

Atwood’s society shows various totalitarian elements. For one thing, it draws clear boundaries between the technocratic elite and the rest of the population. The elite live in isolated and highly-modern Compounds, while the ordinary citizens are forced to find their way in overpopulated cities or Pleeblands. Life in both groups is characterized by a distinct atmosphere of violence and surveillance. The biggest threat is represented by the CorpSeCorps, a private security force sponsored by the corporations. These, in turn, have taken over control from the state.

Both science and religion are distinctly present in the story. Science is mainly used to create new products for consumers and to design genetically engineered animals. The far-reaching experiments of the researchers have disastrous effects on both nature and people. The inhabitants of the Pleeblands, for example, are frequently used as guinea pigs. Religion, on the other hand, has been severely influenced by the consumer society. Most religious groups are consequently nothing more than veiled forms of corporatism. The only exception seems to be the God’s Gardeners, who aspire to a more traditional and respectful way of living.

Language and culture have been reduced to their bare usefulness. Citizens that show an affinity for languages are only used to invent slogans and names for new products. These names often hide the more questionable aspects of the products. The population is furthermore bombarded by an incessant stream of popular entertainment. This entertainment mainly involves sex and violence. As the story progresses, however, several characters begin to use language in different ways. Jimmy, for instance, starts to memorize rows of obsolete words.

Something similar can be said about history. In Atwood’s society, history is only used to provide inspiration for building styles and games. The citizens spend most of their time looking forward to the next product. These products often turn out to be compromised in order to secure a perpetual consumer market for the corporations. As a result, Atwood’s
society seems to be suspended in animation. History, though, is able to re-assert itself in the form of terrorists that bear the names of extinct animals.

The society of MaddAddam is furthermore characterized by an unbridled desire for sex. These sexual urges more often than not result in violence towards women – who seem to have been reduced to mere commodities. Some women, however, have learned to use this obsession with sex in their favor and become sexual rebels.

Finally, the novels also depict the end of corporate culture by the hands of Crake. In the post-apocalyptic world, the few survivors try to build a new community while being plagued by remnants of their old lives and genetically modified predators. They moreover have to learn how to co-exist with the Crakers. These represent a modern version of the Utopian dream and consequently pose distressing questions to the reader concerning humanity and genetic engineering. As most of the characters are still alive at the end of the last novel, the MaddAddam-trilogy can be classified as a more hopeful critical dystopia.

David Mitchell was born in 1969 in Southport, England. He studied English at the University of Kent and obtained a Master degree in Comparative Literature. After graduating, he moved to Hiroshima for eight years to teach English. In 1999, he published his first novel called *Ghostwritten*. The novel won the John Llewellyn Rhys Prize (1999) and was shortlisted for the Guardian First Book Award (1999). Two years later, he published the critically acclaimed *number9dream*. This novel was, amongst others, shortlisted for both the Booker Prize (2001) and the James Tait Black Memorial Prize (2001).

Both books are characterized by a rather complicated narrative structure. *Ghostwritten*, for example, actually “consists of nine interconnected short stories, each narrated by a different character and set in a different geographical location” (Dillon 4). *Number9dream*, then again, follows the adventures of Eiji. His coming-of-age story is frequently interrupted by “fantasies, videogames” and “excerpts from a wartime journal” (Dillon 4). This type of experimental storytelling would eventually become a trademark of Mitchell’s writing style (Dillon 4).

It is not surprising then that his third novel, *Cloud Atlas* (2004), features an equally ambitious narrative scheme. The novel consists of six different short stories that each represent a different genre. “The Pacific Journal of Adam Ewing”, for example, tells the tale of adventurer Adam Ewing and seems to be inspired by castaway stories such as *Robinson Crusoe* (1719). Each story is furthermore “interrupted by the next until the sixth undivided narrative after which each of the previous five stories is completed in turn” (Dillon 4). The various characters are also connected with each other via a mysterious birthmark.

The fifth story, “An Orison of Sonmi~451”, is influenced by the dystopian genre and forms the focus of this analysis. The story is set in a futuristic world in which most of the European and American continent has become uninhabitable due to high levels of radiation. The only surviving bastion of humanity seems to be the corporate state of Nea So Copros. This state is mainly located in Korea and some other small parts of Asia.

The story itself is structured around an interview between an Archivist of the Ministry of Testaments and Sonmi~451. Sonmi is a genetically engineered slave – or fabricant – who is forced to work in a fast-food restaurant called Papa Song’s Diner. As the story progresses, however, Sonmi starts to rebel against the system in an effort to free her fellow fabricants. On
her journey, she meets various other rebellious characters such as the fabricants Yoona–939 and Wing–023 and a student named Hae-Joo Im. Her rebellion ultimately fails, though, and at the end of the story Sonmi is scheduled for execution.

C.1 Totalitarian Mentality

From the beginning of the story, it becomes clear that the state of Nea So Copros is highly organized. For one thing, all the inhabitable territories have been divided into Production and Consumer Zones. As the names suggest, the former are tasked with providing resources and products for the latter. The Consumer Zones are furthermore divided into twelve cities or conurbs. Additionally, the citizens of Nea So Copros are categorized into various strata, creating a pyramid structure – “the Corpocratic Pyramid” (CA7 353).

The top of this pyramid is occupied by the Chairman and his Juche8 – a board of advisers. They make sure that everyone in the state meets the requirements of their particular stratum. Those that fail to do so, run the risk of becoming Untermensch. These Untermensch occupy the lowest stratum in the Pyramid and are forced to live in slums such as Huamdonggil: “Huamdonggil is viewed as a chemical toilet where unwanted human waste disintegrates, discreetly; yet not quite invisibly” (CA 332). The presence of these slums serves as a constant reminder to the consumers of “what befalls those who fail to spend and work like good citizens” (CA 332).

Life in Nea So Copros is furthermore characterized by an atmosphere of surveillance. Each citizen has been given a Soul – a microchip implanted in the index finger – that can be used as a credit card. But it can also be used to track their movements. At every conurb exit, for example, the Souls of the consumers are registered and verified by Unanimity – the security force of the state. Souls are also detected by traffic lights and elevators. The goal of this extensive surveillance is to find members of Union – a supposed group of rebels – and to keep an eye on the Abolitionists. These are people that are actively opposed to the enslavement of fabricants.

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8 Reference to the ideology that is used in North-Korea and that advocates a strict obedience to The Great Leader and his Party (Lee 106, 111).
The fabricants represent the lowest rank in the Corpocratic Pyramid. They have no Souls and consequently no freedom. They are only allowed to go where they are supposed to work. Sonmi and her fellow servers at Papa Song Corp, for example, are literally isolated from the rest of society: their diner is located “on the minus ninth floor under Chongmyo Plaza” (CA 187). There are no windows in the diner and the day-and-night schedule is regulated via solars – lights that work on solar energy. The only contact that they have with the “Outside” (CA 187) is established via the consumers who they have to serve for nineteen hours in a row.

These consumers, in turn, are encouraged to see the fabricants as interchangeable. This to ease any potential feelings of guilt: “To enslave an individual distresses the conscience, but to enslave a clone is merely like owning the latest mass-produced six-wheeled ford” (CA 191). To make it easier for the consumer, every fabricant of a particular stem-type is designed to look exactly the same. The fabricants also “lack both the means and the rights to xpress emotion” (CA 219). This creates the impression that they are simply emotionless robots.

The consumers are consequently quite comfortable with crimes committed against the fabricants. In the short time span of the story, there are several violent outbursts aimed at fabricants that remain almost without punishment: Yoon~939 is severely beaten by Seer\textsuperscript{9} Rhee, Wing~023 is burned alive due to a mistake of a postgrad student and Sonmi herself is shot at by a crossbow in the hands of a student named Boom-Sook Kim.

The most horrifying example of violence against fabricants, however, is located near the end of the story – when Sonmi discovers what actually happens to those fabricants who have served their time at the Papa Song Dinery. She believed that they were awarded with a trip to Hawaii aboard Papa Song’s Golden Ark. In reality, though, this Ark turns out to be a mobile slaughterhouse where fabricants are killed and recycled into “liquefied biomatter” (CA 359). This biomatter is then used for the wombtanks that create new fabricants. Additionally, any “leftover ‘reclaimed proteins’ are used to produce Papa Song food products, eaten by consumers in the corp’s dineries all over Nea So Copros” (CA 360).

The existence of this Ark is kept a secret for both fabricants and consumers. When Sonmi tells the Archivist about it, he consequently reacts shocked: “No murdering servers to supply dineries with food and soap... no. the charge is... preposterous. I’m not denying you

\textsuperscript{9} A Seer is a manager of a diner or another corporate establishment.
saw what you saw, but it must, must have been a Union… set, created to brainwash you” (CA 360). Even after Sonmi insists that she is telling the truth, the Archivist refuses to believe her. This points towards a deep-seated loyalty of the consumers for the system and indicates that it is not only enforced by the highest strata but also supported by the lower ones.

C.2 Science and Religion

Part of the consumers’ loyalty to the state can be explained by the fact that the Chairman and his corporatism seem to have been elevated to a new religion. That much becomes apparent from expressions such as “I genuflected to the dollar three times” (CA 196), “What in the of name Holy Corpocracy?” (CA 212) and “Thank Chairman!” (CA 213). Going against the state would consequently be the same as going against God. Additionally, traditional forms of faith have been abolished in order to avoid any confusion for the consumer.

Apart from the Chairman, the fabricants also have smaller gods. These are usually the logomen of the corporations they work for. Sonmi and her fellow servers at Papa Song Corp, for example, are taught to worship the hologram of Papa Song. Their entire life is subsequently structured around this god: every morning they gather around the Hub to listen to his sermon and every evening they assemble before him for “Vespers” (CA 188).

Sonmi and her co-workers are furthermore given a series of Catechisms that they need to live by. These Catechisms turn out to be nothing more than rules that guarantee the fabricants’ obedience. Catechism five, for instance, states that it is forbidden “for a server to address a diner uninvited” (CA 192) and Catechism three teaches the fabricants “that for servers to own anything, even thoughts, denies the love Papa Song shows” (CA 196).

Finally, every server at Papa Song also receives a collar. For every year that they work at the diner and obey the Catechisms, they are given a star to attach to this collar. They can earn additional stars by turning in servers that show deviant behaviour. Once they have twelve stars, they have repaid Papa Song’s “Investment” (CA 196) and are awarded a ticket on his Golden Ark. This Ark – supposedly – brings them to Hawaii where they are given their own

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10 The dialogue of the Archivist is written in a bold font in the novel, in order to make a clear distinction between his and Sonmi’s words. In this thesis, however, I will use a normal font whenever there is no possible confusion.
Soul and can live the rest of their lives as consumers. This event is referred to as “Xultation” (CA 190) and is the fabricants’ version of heaven.

The new corporate religion thus seems to be present in all ranks of society. It has also enlisted the services of science. The state-sanctioned corporations use new technology, for instance, to project AdV’s – animated advertisements – on the moon. They furthermore promise the consumer prolonged youth and health via advanced medical procedures and medication. One of the more popular drugs in Nea So Copros, for example, are the so-called *dewdrugs*. These are designed to keep body and face looking young – although they do not actually stop the aging process. If these drugs are not sufficient, the consumer can try *facescaping* – a form of plastic surgery that allows the patient to look like anything he or she wants.

But the focus of the corporations and their researchers lies, of course, on the production of fabricants. As it turns out, the fabricants are specifically tailored to the tasks that they are expected to fulfil. They are furthermore suited with a couple of security measures that keep them firmly in check. For one thing, they all have a “subcutaneous barcode” (CA 335) in their throats that is designed to explode whenever they try to remove their collars. They are also programmed with a need for *Soap*. This chemical substance is manufactured solely by the corporations and serves as food for the fabricants. It induces sleep and makes the fabricants forget any information that they do not need.

C.3 Culture and Language

In short, the Chairman and the corporations thus seem to have conscripted both religion and science to enforce their grasp on society. Their pervasive influence is also reflected in the language of Nea So Copros. Most notably, the generic names that are normally used to refer to products have been replaced by brand names: a car is called a “ford” (CA 210), a watch a “rolex” (CA 210) and a photo a “kodak” (CA 212). Additionally, society’s obsession with strata has given rise to a series of new adjectives and expressions. That much is apparent from phrases such as “she no longer felt downstrata from Seer Rhee” (CA 199) and “clones with ideas above their strata” (CA 200).
Closer inspection furthermore reveals that the state has also actively manipulated the language in order to influence the worldview of its inhabitants. The word *slavery*, for example, has been banned from the lexicon in an effort to create the illusion that the fabricants are working out of their own free will. As the Archivist remarks to Sonmi: “There are no slaves in Nea So Copros! The very word is abolished!” (CA 193). Additionally, the fabricants are given names that are made up out of a simple combination of their model and a random mathematical number. This makes it easier for the consumers to look at them as interchangeable.

The language of the fabricants is even more controlled. During their “orientation” (CA 215), they are only taught those words and sentences that they will need to fulfil their tasks. The amnesiads in their Soap moreover erase any additional words that they might have picked up from consumers. As a result, the fabricants are unable to formulate or even think rebellious thoughts.

In a typical dystopian fashion, however, language eventually proves to be too powerful to control. The first signs of Yoona–939 and Sonmi’s rebellion or *ascension*¹¹, for example, are linguistic. For one thing, their language becomes increasingly complicated: “When I meant to say ‘good’, my mouth uttered *favorable*, *pleasing* or *correct*” (CA 206). Additionally, Yoona starts to speak out against the consumers and Papa Song. When a mother tries to convince her son that the fabricants are the happiest citizens of the state, for instance, Yoona corrects her:

Mother said fabricants don’t worry about dollars, tests, insurance, rising upstrata or sinking downstrata, sickness or birth quotas. She waved her hand at Yoona and me; these lucky clones, she said, labour for a mere twelve years before they retire to paradise in Hawaii. That is why servers always smile. Yoona said, ‘Trash madam. [...] We smile because we are genomed to do so. ‘Happy’, you call us? I would end my life now, but all the knives in this prison are plastic. Madam.’ (CA 192)

Yoona also becomes increasingly curious and eventually discovers a copy of *Fairy Tales of Hans Christian Andersen* in the diner’s Lost and Found. She starts to wake up Sonmi late at night and the two of them begin to bond over this book. While neither of them can actually

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¹¹ Term used in the novel to describe the process in which fabricants start to develop a more complex thought pattern and become dissatisfied with their position in society.
read, they stare at the pictures and are entranced by the world that is depicted in them: “a grimy server serving three ugly sisters; a white witch showering her with stars, turning her into a lady like Mrs Rhee [...]; a house built from candy; a seahorse combing a mermaid’s hair; castles, mirrors, dragons” (CA 197).

The book provides Yoona with a source of comfort as she becomes more and more alienated from the other servers. Unfortunately, she mistakes the pictures in the book for a truthful representation of the Outside. When Seer Rhee gives her a severe beating, Yoona consequently decides to make a run for it and to try and reach this “magic kingdom” (CA 201). She kidnaps a child – because she needs a Soul to escape the diner – and rides the elevator to the surface of Chongmyo Plaza. Once she reaches the top, however, she is immediately shot.

Sonmi, on the other hand, does not interpret Andersen’s book too literally. Instead, it inspires her to think more critically about her world and it encourages her to find more books to read. As the story progresses, she consequently builds up a rather impressive reading list: from Gibbon’s Decline and Fall to Ireneo Funes’ Remembrances; from Washington’s Satires to the novels of Orwell and Huxley. She also starts to develop a fondness for old movies or disneys. She is quite impressed, for example, by a movie called “The Ghastly Ordeal of Timothy Cavendish”.

C.4 History and Memory

Most of the books and movies that Sonmi reads or watches are actually highly restricted. In order to secure public obedience, the Chairman and his Juche have outlawed most historical texts and images. The few original works that are still left in the world are hidden away or destroyed. As a result, the population of Nea So Copros has no “historical perspective” (Machinal 137). To them, life in the Corpocratic Pyramid seems to be the only natural way of living.

The state furthermore actively encourages its citizens to keep looking forward. The consumers, for instance, are constantly bombarded with the promise of new products via Media and AdV’s. They are also obligated to spend a certain amount of money each month due to the Enrichment Laws. This creates an artificial chain of supply and demand. This chain, however, is doomed to fail as the hyper-consumerism of Nea So Copros has
increasingly devastating effects on the environment: “Nea So Copros is poisoning itself to death. Its soil is polluted, its rivers lifeless, its air toxloaded, its food supplies riddled with rogue genes” (CA 341).

The resulting image is one of a society that is completely divorced from reality: it has no connection with the past and it actively denies what is going to happen in the future. Reality, however, manages to break through the cracks of society in the form of Sonmi~451. She does not only get her hands on the disney of Timothy Cavendish, but she also uses it to change her view on the Corpocratic Pyramid. As she remarks to the Archivist: “Its world intrigued me; its differences from our own were indescribable. Purebloods did all the menial work then; the only fabricants were sickly sheep” (CA 244).

The story of Timothy Cavendish thus seems to form an inspiration for her later rebellion. Additionally, by telling the Archivist about this long-forgotten society, Sonmi also confronts him with a different way of living – a way that he would never have discovered himself, as “An eightstratum archivist can’t dream of getting such security clearance” (CA 243).

Finally, Sonmi also experiences some strange flashbacks. When she is driven off the road, for example, she suddenly remembers another car accident: “I remember the drop: it shook free an earlier memory of blackness, inertia, gravity, of being trapped in another ford; I could not find its source in my own memories” (CA 330). This turns out to be a reference to the accident Luisa Rey has in “Half-Lives – The First Luisa Rey Mystery”. While this does not help Sonmi very much, it does serve as an explicit reminder to the reader that the state of Nea So Copros represents just one moment in a series of interconnected moments. This immediately puts its achievements in perspective and makes it seem a lot less dangerous (Stephenson 233).

C.5 Sexuality and Women

While Nea So Copros has a strict policy when it comes to things of the past, it is a bit more flexible when it comes to sexuality. Officially, the state seems to hold onto the traditional concept of the family. It consequently frowns upon divorce – “no Boardman was ever a divorcee” (CA 195). There are also signs that point towards a patriarchal mindset. All the servers in Papa Song’s dinery, for example, are women – even though there is no rational
reason why they should be. Every stratum furthermore has a fixed child quota, but parents have to pay extra if they want to conceive a son.

Behind the official image of the family, however, there is a lot of promiscuity in the corporate state. Seer Rhee’s wife, for example, is said to have frequent sexual adventures with the male Aides in the diner. There are furthermore numerous brothels located along the fringes of society. In Huamdonggil, for instance, there are “ghoulish pleasurezones” (CA 332) that use stolen fabricants – “made serviceable after clumsy surgery” (CA 331). The harbour city of Pusan, then again, has several official brothels owned by PimpCorp: “‘If Seoul is a Boardman’s faithful spouse,’” said Hae-Joo, “‘Pusan is his no-pantied mistress’” (CA 353).

The fabricants do not seem to have sexual urges. Sex itself consequently does not play a central role in Sonmi’s story. Her rebellion is guided, though, via various close relationships. When she is still working at the diner, for example, she bonds with Yoona~939, who introduces her to her first book. Later on, she is rescued from the diner by Boardman Mephi and is hidden in a room at Taemosan University. There she meets Wing~023, who gives her a stolen computer or sony so that she can keep on reading. Both Yoona and Wing thus seem to aid Sonmi’s ascension. Their eventual deaths also invoke in Sonmi the first feelings of hatred towards consumers.

These feelings are further developed through her relationship with a student named Hae-Joo Im. When Boardman Mephi realizes that Sonmi is feeling lonely at Taemosan, he introduces her to Hae-Joo. The two of them quickly become friends and Hae-Joo starts to explain to her the basics concepts of corporate society. Eventually he reveals to her that he and Boardman Mephi are actually Union agents. He then offers to help Sonmi by taking her with him on an across country tour.

During this tour, Hae-Joo brings her to various locations that seem to be designed to increase her hatred towards the state. He takes her to a bridge, for example, where she can witness how a living Zizzi Hikaru doll is thrown over the rails. He also shows her the real purpose of Papa Song’s Golden Ark. After this last visit, Sonmi herself expresses the wish to help with Union’s plans.

\footnote{12 Every Papa Song diner has two or three human employees that aide the Seer in his duties as manager.}
C.6 Hope

These plans mainly revolve around ascended fabricants. As Hae-Joo explains to Sonmi, her ascension was actually triggered by Union. Union had found a hidden formula created by a doctor Suleiman. This formula was supposed to free the fabricants’ senses from the restrictions that the state had imposed on them. In order to verify that the formula actually worked, they used both Yoona and Sonmi as test subjects. Now that Sonmi had proved that it worked, “Union intended to engineer the ascension of six million fabricants” (CA 342).

Their plan was to introduce Dr. Suleiman’s formula in “key supply streams” (CA 342). Once the fabricants started to ascend, however, they would need an ambassador. Union hoped that Sonmi would be willing to fulfil this role. She subsequently begins to write the Declarations – a manifest containing twelve Catechisms that would form the guidelines for the newly ascended fabricants.

Soon afterwards, however, she is arrested. In a rather surprising reversal, Sonmi’s ascension turns out to be instigated by Unanimity and not Union. In fact, Union is not even a group of real rebels. Instead, it fulfils a similar function as the Brotherhood does in Orwell’s Nineteen Eighty-Four: “it attracts social malcontents […] and keeps them where Unanimity can watch them; second, it provides Nea So Copros with the enemy required by any hierarchical state for social cohesion” (CA 364).

Unanimity wanted Sonmi to write her manifest in order to instil fear in the rest of the population. They wanted to show the citizens of Nea So Copros how dangerous fabricants could be. They consequently put Sonmi on a public trial. Their plan was a resounding success, as it eventually led to “consent for the Fabricant Containment Act” (CA 364) and delivered a decisive blow to the camp of the Abolitionists.

Sonmi, however, is not at all surprised by this revelation. She has, after all, read Orwell’s works and was thus prepared for such a twist. She quietly played her part, however, because she could see one step further than Unanimity. As she remarks to the Archivist: “Why does any martyr cooperate with his judases? He sees a further endgame. [...] Media have flooded Nea So Copros with my Catechisms. Every schoolchild in Nea So Copros knows my twelve ‘blasphemies’ now. [...] My ideas have been reproduced a billionfold” (CA 364-365, own emphasis).
Sonmi believes that her ideas will survive long after she does and will someday inspire people to look for a different way of life than the one promoted by the corporate state. She is eventually proven right in the sixth story of *Cloud Atlas*: “Sloosha’s Crossin’ an’ Ev’rythin’ After”. This story revolves around a character named Zachry, who lives in a post-apocalyptic world that was created after the fall of Nea So Copros. Zachry and his family live in a small community that tries to respect both “human and natural environments” (Machinal 143). Central to this community is Sonmi, who is now represented as a god (Machinal 143).

But hope is not only located in this post-apocalyptic world. During her travels with Hae-Joo, Sonmi also encountered a small group of people who live in the remnants of an old abbey in the Kangwon-Do mountains. Dissatisfied with life in the state, these people try to cultivate a more traditional lifestyle: “Their food came from the forest and garden; water from the cataract. Scavenge-trips to landfills yielded plastics and metals for tools. Their ‘school’ sony was powered by a water-turbine. Solar nitelamps recharged during daylite hours” (CA 347).

This community seems to present a utopian alternative to the strictly controlled life in Nea So Copros. Instead of being forced to participate in an artificial chain of supply and demand, these colonists are able to return to the harmony of nature. This does not mean, however, that they have no problems. The winters in the mountains, for example, are quite severe and the crops of the colonists are vulnerable to disease. The colonists also frequently bicker amongst each other, partly because they come from very different backgrounds. But in the end, these people seem to be much happier than the consumers in the state. Because of their small size, they are furthermore left alone and are consequently still there when Sonmi is executed.

C.7 Conclusion

Mitchell’s society is characterized by various totalitarian elements. For starters, it seems to specialize in drawing boundaries. Everything and everyone has been categorized in various strata, forming a pyramid structure. The lowest rung of this pyramid is occupied by the fabricants. They are treated as slaves and are frequently subjected to acts of violence. Order is maintained by a state security force called Unanimity.
Science and religion are both enlisted in service of the corporate state. Science, for example, is used to create the fabricants and equip them with a couple of security measures to ensure that they cannot rebel. Religion, on the other hand, is used to further inspire obedience in the population. The leader of the corporate state, the Chairman, has been given a godlike status.

Language and culture are also deployed as controlling mechanisms. The population of Nea So Copros, for example, is bombarded by AdV’s, promising them new products that can prolong their youth and health. Language, then again, has been purified. Words such as *slave* have been abolished in order to create the illusion that slavery no longer exists. As the story progresses, however, some characters manage to get their hands on real works of literature. These introduce them to a different world and instill in them a desire to rebel.

History has been restricted by the corporate state in order to avoid any confusing messages towards the consumers. Instead, the population is trained to focus on consumption. The resulting image is one of a society that is divorced from reality. History, however, manages to break through the cracks in the figure of Sonmi. She gets access to forbidden historical works and has flashbacks of earlier lives.

Additionally, the regular citizens of the state show a distinct affinity for sexual promiscuity. The fabricants, on the contrary, seem to have no real interest in sex. Sonmi’s rebellion is guided, though, via several close relationships.

In a disturbing reversal of the traditional motif, however, her rebellion turns out to be instigated by Unanimity. Sonmi is put on trial and is scheduled for execution at the end of the story. But her Declarations do live on after her death and Sonmi herself forms the inspiration for a more peaceful community in the next story. The reader is furthermore introduced to a small utopian colony that is still present when Sonmi’s tale ends. As a result, her story can be classified as a critical dystopia.
3. Conclusions

A. Comparing the Novels

The societies depicted in all three novels show various typically totalitarian elements. For one thing, every one of them displays a distinct affinity for defining outsiders and subjugating them to acts of violence. Additionally, they are all strictly controlled from above. In Atwood and Mitchell’s dystopias, the corporations have taken over the role of the state or have assimilated with it. They consequently seem to continue the trend that started around the turn of the century (see “A.2 Critical Dystopia”). Ishiguro, on the other hand, still identifies the government as the source of power.

Science plays a rather important role in each novel. All three authors focus on the recent scientific breakthroughs in the field of biotechnology. They make the reader aware of the potentially dangerous consequences of these breakthroughs and confront him with a difficult question: how far are we willing to go? In other words, they advocate the need for a clear ethical debate.

Religion, on the other hand, is almost completely cast aside. Only Mitchell’s dystopian society uses it to further enhance its grip on the population. In Atwood’s novels it is identified as a potential locus for rebellion in the form of the God’s Gardeners. But these Gardeners are far from a traditional religious group and are mostly used to show that scientific breakthroughs should be combined with a narrative that focuses on the long-term consequences.

Culture and language are mainly used as controlling mechanisms. The flood of popular entertainment and commercials in Atwood and Mitchell’s novels, for example, dulls the conscience of the population and distracts them from what is going on. They consequently seem to warn the reader of the dangerous influence of new media. Ishiguro, however, nuances this warning by showing how ordinary cassette tapes can have a beneficial effect while traditional works of art fail.

The authors furthermore show a keen interest in history and memory. In both Mitchell’s and Atwood’s society, for instance, access to history has been restricted in order to keep the population focused on the present. Additionally, all three stories are told hindsight.
Atwood’s description of the dystopian society, for instance, originates in the memories of Jimmy and Toby. *Never Let Me Go*, then again, is made up out of the memories of Kathy H. As a result, the reader does not always get a clear overview of the dystopian world and has to puzzle the pieces together himself.

It is moreover interesting to note that only Mitchell’s story is set in a distant future. Ishiguro’s novel is set in the late 1990’s and Atwood’s society is not so different from contemporary society (see appendices F, G and H). This seems to add a certain immediacy to their warning.

Sexuality plays an ambiguous role in the novels. All three societies use sexuality as a method for control. Hailsham’s guardians, for instance, use embarrassing sex talks to slowly introduce potentially distressing information. Ultimately, however, sexuality proves to be too unpredictable to control. Each novel also features at least one female protagonist, indicating that the literary dystopia is definitely no longer a male-centered genre.

Finally, only Ishiguro’s novel takes a decidedly pessimistic turn. Both Atwood’s and Mitchell’s stories end on a hopeful note and thus tie into the trend introduced by the critical dystopias of the 1990’s (see “A.2 Critical Dystopia”). Interestingly, the two authors also present a Utopian alternative to their dystopias that is based on a renewed respect for nature. In *Cloud Atlas*, for example, the reader encounters a group of colonists living in the mountains.

In short, all three novels show the typical characteristics that are associated with the literary dystopia. There are, however, a few noticeable changes. For one thing, the dystopian societies are no longer situated in a distant future. Instead, two of the analyzed works present a world that is not so different from contemporary society. Additionally, the focus lies almost completely on the potential dangers of science and the source of power is mostly associated with corporations rather than the state. These changes could be interpreted as a response to the increasing dominance of science and multinationals in present day society.
B. Popularity

The recent popularity of the dystopian genre can be explained by the atmosphere of uncertainty and unease that seems to characterize the start of the twenty-first century. The past few years, people have been confronted with a fast-changing world due to important breakthroughs in the fields of genetic engineering and technology. Not all these inventions, however, turned out to be beneficial. The publication of secret NSA-files by Edward Snowden, for example, revealed how government agencies were able to keep tabs on citizens via modern telecommunication software.

The bank crisis furthermore made people aware of the potential bankruptcy of neoliberalism and increasing reports of terrorist attacks made threats of bioterrorism seem all the more realistic. The first year of the twenty-first century also saw one of the most televised disasters in recent memory in the form of the destruction of the Twin Towers on 9/11 (Booker, “On Dystopia” 2).

The resulting image was one of a world spiraling out of control. Both writers and filmmakers consequently turned to the dystopian genre to voice their concerns and warn people of dangerous trends (Booker, “On Dystopia” 2).

This increasing popularity of the dystopia could have a deteriorating effect on the genre in the long run. It could be argued, for instance, that the large number of dystopias could lead to an over-saturation with the audience. The dystopias then run the risk of being reduced to “mere spectacles of misery that, if anything, simply encourage audiences to feel better about the present” (Booker, “On Dystopia” 11).

At the same time, however, the genre seems to reinvigorate itself and some new trends are starting to develop. One of the more noticeable is the increasing number of young-adult dystopias. These dystopian fictions “often focus more on plot and character than on exploring the characteristics of their dystopian societies” (Booker, “On Dystopia” 14).
C. Further Investigation

In this thesis, I have solely focused on works that were created by English or American authors. It might be interesting, though, to take a closer look at the dystopian fictions of authors from other parts of the world. Erika Gottlieb, for instance, distinguishes several differences between dystopias from the West and the East (Gottlieb 19). It might be interesting to discern how dystopias in the East have evolved and whether or not these differences are still present.

Additionally, most of the novels discussed in this thesis have been turned into a movie. The stories of these movies, however, differ in various aspects from the originals. In the movie-version of Never Let Me Go, for example, the clones are wearing bracelets that are supposed to track their movements. This could be due to the fact that it was not possible to convince the theater audience that the clones simply do not think about running away and consequently do not need any tracking devices. In other words, perhaps there are specific characteristics of the visual medium that effectively reinterpret the dystopian genre.

Finally, I have utilized a purely semantic framework to analyze the three novels. As Baccolini and Moylan mention in their “Dystopias and Histories”, however, modern dystopias are also frequently characterized by genre blurring (7). It might be interesting to discern which genres these three novels have mixed together and what effects this has on the plot.
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Appendices

Appendix A: Cult Scientists Claim First Human Cloning


Cult scientists claim first human cloning

Calls for worldwide ban as anger at ‘mavericks’ grows

- Julian Borger in Washington
- The Guardian, Saturday 28 December 2002 10.52 GMT

A cult which believes that humans were first created by aliens claimed yesterday that it had won the clandestine and increasingly bizarre race to produce a human clone. It said a baby girl was born on Thursday from an egg fertilised by a skin cell from her mother.

Brigitte Boisselier, who calls herself a bishop of the Raelian sect, offered no proof to back her claim at a press conference in Florida, but said an independent panel of scientists would be allowed to verify it with DNA tests in the next eight or nine days.

The announcement provoked an outcry among scientists concerned that it might open the floodgates to a cloning free-for-all among childless couple and wealthy customers seeking a form of immortality, at a time when the human consequences of such an experiment are unknown.

Ms Boisselier, a former research chemist from France, said a company associated with the cult, Clonaid, expected four more cloned babies to be born in the next two months, the first next week to a lesbian couple at a secret location in Europe.

Two other couples, one Asian and one North American, were expecting babies made with cells taken from previous children who had died.

She added that 20 more women would be implanted with cloned embryos at a new Clonaid laboratory in January.
A maverick Italian gynaecologist, Severino Antinori, has also announced that another baby cloned with his help would be born in January. Dr Antinori said the mother, in the 33rd week of pregnancy, and the male foetus were doing well, but he declined to give details.

At a press conference made all the more surreal by the dramatic orange and white colour scheme of Ms Boisselier's hair, the head of the Raelians cloning firm, Clonaid, declared: "I'm very, very pleased to announce that the first baby clone is born."

She called the baby Eve, and said she was born by Caesarean section on December 26, weighing 7lb, and was "doing fine".

But Ms Boisselier would not reveal where she was born, saying only that the parents were American and would return to the US in three days. She said the couple had sought help from Clonaid because the husband was sterile.

British scientists were among those condemning the news. Dr Patrick Dixon, a leading expert on the ethics of human cloning, said: "There's a global race by maverick scientists to produce clones, motivated by fame, money and warped and twisted beliefs.

"The baby has been born into a living nightmare with a high risk of malformations, ill-health, early death and unimaginably severe emotional pressures."

A spokeswoman for the human fertilisation and embryology authority said it was "concerned", but would reserve judgment until the claims were confirmed.

A White House spokesman said President George Bush believed the news was "deeply troubling" and strongly supported legislation by Congress to ban all human cloning.

The French president, Jacques Chirac urged all states to sign a convention presented to the UN by France and Germany for the "universal prohibition of human reproductive cloning".

There is no law in the US specifically against human cloning, as Congress failed to agree on whether just reproductive cloning should be banned or all forms of cloning, including stem cell technology in which cloned human cells are used for producing tissue for transplants. However, the Food and Drug Administration has maintained that it constitutes dangerous, and therefore illegal, medical practice.
Scientists across the US were yesterday sceptical about Clonaid's claims, particularly Ms Boisselier's claim that of 10 women implanted with cloned embryos, five had sustained successful pregnancies, a success rate far in excess of experiments in cloning animals.

However, Stuart Newman, professor of cell biology at the New York Medical College, said it was not inconceivable that the Raelians had succeeded.

"You don't have to be extraordinarily competent to do this. You just have to be prepared to take risks with people's lives," he said. "It's just taking two damaged cells. Part of an egg and part of another cell and you're putting them together and hoping for the best."

Clonaid was founded five years ago by a self-styled prophet known as Rael, formerly a French sports journalist called Claude Vorihon, who established a sect on the belief that human beings were first cloned 25,000 years ago by extra-terrestrials.

Ms Boisselier restated her beliefs yesterday: "Everything in me has been created by scientists. If science created me, then science has some good, if it is used for good."

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Appendix B: Experts Attack Cloning Application

Source: http://www.theguardian.com/education/2004/jun/16/highereducation.uk

Experts attack cloning application

- Press Association
- theguardian.com, Wednesday 16 June 2004 12.49 BST

Anti-cloning pressure groups are today lobbying a research watchdog to not give a team of scientists permission to clone human embryos.

A group of experts opposed to therapeutic cloning is urging the Human Fertilisation and Embryology Authority (HFEA) not to grant a licence allowing the research to go ahead.

The application from Newcastle University is likely to be on the agenda at a meeting today of the HFEA's research committee.

Although the authority will not confirm that the proposal is being considered, the scientists were told to expect a decision in June.

Experts from the HFEA have also inspected the laboratories at the Newcastle biotech centre where the work is due to take place.

Today the anti-cloning pressure group Human Genetics Alert (HGA) said it had written to the HFEA chairwoman, Suzi Leather, asking her to reject the application.

The letter was signed by HGA's director, molecular biologist Dr David King, and six other scientists and ethical experts.

None of the signatories are "pro-life" campaigners, said HGA.

In the letter they argue that the planned research is "irresponsible, unethical, scientifically weak, unnecessary and politically motivated".

Dr King said: "This research is a waste of public money, and crosses important ethical lines for the first time."
"It is very unlikely to produce anything medically useful, but it will be a great help for those who want to clone babies.

"It looks like scientists trying to find a use for cloning, so the United Nations won't ban it. We don't believe that embryos are people with rights to life, but neither is it right to create them as mere raw material for research."

Cloning to create duplicate human babies is outlawed in Britain, but therapeutic cloning has been legal since 2002.

It involves cloning embryos and harvesting stem cells from them that could in future be used to treat a wide range of diseases.

The embryos are destroyed before they are 14 days old and never allowed to develop beyond a cluster of cells the size of a pinhead.

Last month the Stem Cell Group at the International Centre for Life in Newcastle applied for a licence to permit human cloning as part of its research programme.

The eggs used would be donated by couples undergoing in-vitro fertilisation treatment.

Cloned embryos can be created by replacing the nuclei in human eggs with others from the skin tissue of adult donors. The eggs are then stimulated so they divide, as if they have been fertilised.

Stem cells taken from human embryos have the potential to become any kind of tissue in the body, including bone, muscle, nerves, and organs.

Scientists hope to use them to fight diseases that at present are incurable.

The Newcastle team plans to investigate creating insulin-producing cells that can be transplanted into diabetic patients.

Other future applications could involve the treatment of brain diseases such as Alzheimer's and Parkinson's, or damaged hearts.

The scientists are led by Dr Miodrag Stojkovic, from the Institute of Human Genetics at Newcastle University, and Professor Alison Murdoch, from the Newcastle Fertility Centre.

Dr Stojkovic's group has already generated a line of embryonic stem cells now housed at the new UK Stem Cell Bank near Potters Bar, Hertfordshire.
Earlier this year, researchers in South Korea announced they had produced the first human cloned embryos.

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Appendix C: Newcastle Scientists Get Human Cloning Go-Ahead


Newcastle scientists get human cloning go-ahead

- Donald MacLeod
- theguardian.com, Wednesday 11 August 2004 13.13 BST

Scientists at Newcastle University today became the first researchers in the UK to be granted permission to clone human embryos for medical research.

The Human Fertilisation and Embryology Authority has approved an application from a team led by Professor Alison Murdoch and Dr Miodrag Stojkovic to clone human embryos and use them as sources of embryonic stem cells.

Such cells have the potential to form any of the hundreds of different tissues found in the body. The researchers aim to use them to find a solution to diabetes.

Cloning human embryos to make babies is outlawed in Britain, but so-called therapeutic cloning, whereby embryos are created for research, was made legal under strict guidelines in 2002.

Today Professor Murdoch, of the Newcastle NHS fertility centre, said: "We're absolutely thrilled. The potential this area of research offers is immensely exciting and we are keen to take the work we've done so far to the next level. Since we submitted our application we have had overwhelming support from senior scientists and clinicians from all over the world and many letters from patients who may benefit from the research."

She added: "This research should give valuable insight into the development of many diseases. Realistically, we have at least five years of further laboratory-based work to do before we move to clinical trials but this could be reduced if we receive additional funding which would allow us to increase the size of our team."

Many scientists believe embryonic stem cell research could usher in cures for conditions as diverse as Parkinson's disease, Alzheimer's and motor neurone disease. But the technique is controversial. President George Bush has opposed its development in the US and critics in the
UK had called on the HFEA to reject the Newcastle application, calling the research unethical, unnecessary and dangerous.

Dr Stojkovic, a reader at Newcastle University, added, "Newcastle is now the national frontrunner in this area of research but pressure is mounting in the United States for its scientists to be allowed to do this work. If we are to stay at the cutting edge, we must get further financial backing or, as has happened before, the UK will lose out."

The authority can grant licences for research on embryos only if the work meets at least one of three tests: that it will increase our understanding of how embryos develop, improve our knowledge of serious disease, or enable the development of treatments for serious disease. Embryos created for research must be destroyed before they are 14 days old, when they are a ball of cells no larger than a pinhead.

The HFEA has already studied the Newcastle scientists' CVs, sent the team's application to leading academics for comment and carried out an inspection of the labs where the research might take place.

The Newcastle group plans to take unfertilised eggs, which would otherwise be discarded as surplus from IVF clinics, and remove the genetic material inside them. The hollowed-out eggs will then be filled with genetic material taken from the skin cells of diabetics.

Nurturing the eggs for six to eight days produces a tiny ball of around 100 cells, from which embryonic stem cells can be extracted. By treating the stem cells with various growth promoters, Dr Stojkovic plans to turn the stem cells into pancreas cells.

Because they are genetically identical to the other cells in the person's body, the newly created pancreas cells can be implanted without being rejected by the immune system. Once there, they should start producing insulin, potentially curing the condition.
Appendix D: Killed To Order

Source: http://www.telegraph.co.uk/news/worldnews/northamerica/usa/1332543/Killed-to-order-how-China-harvests-body-parts-on-Death-Row.html

Killed to order: how China harvests body parts on Death Row

By James Langton in New York and Damien McElroy in Beijing
12:01AM BST 01 Jul 2001

THE gruesome details of China's trade in human organs harvested from Death Row were revealed in detail for the first time in Washington last week by a young doctor from the People's Republic newly fled to the West.

As horror stories, they compare with the experiments carried out in Nazi concentration camps. Prisoners are killed to order so that doctors can take their body parts, including - in at least one case - while a victim's heart was still beating.

Wang Guoqi, 38, speaking to congressmen, confirmed that condemned men, and sometimes women, are executed to order so that their organs can be transplanted into wealthy recipients from the West and Far East.

Dr Wang was a burns specialist at the Paramilitary Police Hospital in Tianjin, under the control of the People's Liberation Army, whose senior generals are believed to make large profits from the trade. He claims that after execution, bodies were taken to the hospital where every part that could be sold was stripped from the corpse.

Dr Wang's job was to take skin and corneas, a task he says he performed at least 100 times at the hospital. He claims that prisoners sentenced to death were matched with potential donors and sentence delayed until the patient had arrived in China and was ready for the transplant operation.

He described envelopes with cash being handed over to all those involved, including court officials and prison staff. His team would usually be taken in unmarked cars to the crematorium, where bodies were waiting, hands tied behind their backs. Papers on the bodies,
detailing each case, made no mention of the prisoners giving consent for their organs to be taken.

In the most macabre incident, he described how an execution by firing squad was organised so that the bullets would not damage the man's kidneys. Dr Wang says that after another team had removed the kidneys, he arrived to harvest the victim's skin, only to find that "the prisoner was still breathing and his heart continued to beat".

After removing some of the skin from the still-living man, his burns unit team gave up. He said: "The half-dead corpse was thrown into a plastic bag on to the flatbed crematorium truck." The incident left him with "horrible recurring nightmares".

Although the Chinese government denies trading in body parts, there is growing evidence that it has become big business. Most recipients are Chinese people living overseas, or from Far Eastern countries such as Japan and Taiwan.

At least one senior Chinese politician, Tsang Hin-Chi, a Hong Kong tycoon and a member of the National People's Congress, the highest legislature, is known to have bought a liver.

A New York doctor, Thomas Diflo, revealed last month that he was seeing a growing number of Chinese-American patients with organs bought from Death Row.

The doctors at the People's Liberation Army hospital in Guangzhou are acknowledged as the country's finest transplant surgeons.

It is estimated that as many as 200 Taiwanese travelled to China last year for organ transplants. At least as many crossed the border from Hong Kong. In Malaysia, newspapers carry advertisements for tours of China that include a stay in a hospital offering transplants. A heart or liver costs about £30,000 to buy in the PLA hospital. Corneas cost £8,000.

Dr Diflo, the head of New York University Medical Centre's renal transplant programme, says none of his patients expressed any concern at the origins of their new organs. "Several patients were very up-front and candid about it," he says. "They bought an organ taken from an executed convict for about $10,000. Most of the patients are ecstatic to be taken off dialysis and none seemed particularly perturbed regarding the source of the organs."
China executes far more people each year than any other country. Although the government does not reveal figures, at least 3,000 prisoners are thought to be put to death each year. Capital offences include rape, drug dealing, tax evasion and serious fraud. Last week six men in Mongolia were executed for trafficking in women.

Most executions in China are carried out using a bullet to the back of the head, a method that leaves the vital organs undamaged. When a cornea transplant is needed, the shot is through the heart.

Dr Wang arrived in America last year as part of a medical delegation and has asked for asylum. He has since been working with the Laogai Foundation, named after the Chinese prison camps.

Dr Wang says that after the incident with the live victim, he asked to be removed from the prison transplant programme and was forced to sign a pledge that he would never reveal details of the practice. He was giving evidence to a congressional committee on human rights, which is considering a ban on Chinese doctors entering the United States for training until the authorities ban prison transplants.

China's official position is that the programme does not exist. A foreign ministry spokesman in Beijing last week accused Dr Wang of a "vicious slander", and telling "sensational lies" to help him stay in America.

The spokesman added: "It is China's policy to strictly forbid any sales of human organs. The main sources of human organ transplants in China are the willing donations of citizens during their lifetime."

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Appendix E: Transplant Tourists

Source: http://www.theguardian.com/world/2005/feb/10/pakistan.declanwalsh

Transplant tourists flock to Pakistan, where poverty and lack of regulation fuel trade in human organs

- Declan Walsh
- The Guardian, Thursday 10 February 2005 00.01 GMT

Skint, depressed and with moneylenders banging on his door, Muhammad Iqbal decided four months ago to transform his fortunes by selling his last valuable possession - a kidney. The labourer went to the motorway that runs past his one-room house and took a bus to Rawalpindi, the home of Pakistan's powerful military. He checked into a hospital, took a series of tests and, after two days, went under the scalpel.

Six hours later, he woke to find his kidney had been transplanted into the body of an ailing Arab man in a nearby ward and he was £720 richer.

"His name was Mehdi. We talked briefly through a doctor, and he took some pictures. Then he was gone," said Mr Iqbal, lifting his baggy shirt to reveal a long, red scar above his hip.

Most adults in the village of Sultan Pur More, northern Punjab, have donated a kidney. Poverty-stricken labourers such as Mr Iqbal earn as little as 50p a day. Many people in the hamlet surrounded by orange groves and wheat fields are in bondage to feudal-style landlords.

It is one of dozens of villages that provide the human stock for Pakistan's burgeoning cash-for-kidneys trade.

It all started with one local who worked in Rawalpindi, explained Sikander Hayad, who says 39 relatives have made the kidney pilgrimage. "The man had the operation and came home to spread the word," said the 33-year-old bicycle repair man. "Then everybody went."

The organ sales business, outlawed in all but a handful of countries, is legal and booming in Pakistan. The gold standard is the kidney. Frustrated by years-long waiting lists at home and fearful of an early death, "transplant tourists" from Europe, the US and the Middle East are
flocking to private Pakistani hospitals for operations which can be arranged in days at a fraction of the cost back home.

Since India imposed a ban on the controversial trade 10 years ago, a thriving industry has sprung up around Rawalpindi and Lahore. Private hospitals advertise their services on the internet, and leading surgeons can make thousands of pounds for a few hours' work. Newspapers carry small ads looking for new donors; even airport taxi drivers know the addresses of the busiest kidney hospitals. Middlemen scour the countryside, looking for fresh peasant labourers to entice with the promise of riches.

The trade has sparked passionate debate in Pakistan and abroad. Two years ago, a London-based property developer, Thor Andersen, admitted to buying a kidney from a 22-year-old Pakistani woman for £3,000.

Mr Andersen said he could not bear to queue with the NHS for a cadaver donation that might never come. A spokesman for UK Transplant, the government health authority specialising in organ donations, said more than 5,200 Britons were currently on the list, waiting an average of 506 days. However, it can be as long as nine years, and about 400 patients die every year. In these conditions, it is reasonable to buy a kidney, say some British academics. The rich get a kidney, the poor get money, and the medical procedure that satisfies both is relatively safe.

Opponents counter that the practice is exploitative, fails to alleviate poverty and leaves impoverished donors medically vulnerable and even exposed to death.

Professor Adibul Hasan Rizvi, a surgeon at the state-run Sindh institute of urology and transplantation, is Pakistan's leading critic.

"We have no law governing transplants, so everyone just makes their own. That suits the rich, but the poor are coerced - by the feudal-type societies they live in, or their own poverty - into selling their kidney. It's just wrong. Where will it stop? With eye, lung or heart transplants?"

Mr Andersen had his transplant at Masood hospital in Lahore, a smart private facility which advertises its services on the internet and has Visa and MasterCard stickers on the front door. Business is brisk. Surgeons perform an average of 10 kidney transplants at £7,500 each every month, according to the management. Out front, builders are at work on a new nine-storey extension.
The kidney business is not a trade but a form of cooperation, said the hospital's chief executive, Amir Masood Nasir. "It is not buying or selling. One family is dying of hunger. The other family is on dialysis three or four times a week. If they decide to cooperate, they can help save each other." Donors come from villages such as Mandia Wala, a settlement clustered around 25 brick kilns near the Indian border. The tall red chimneys bring to mind Victorian England, as do the working conditions. Labourers earn £1.80 for every 1,000 bricks they make, and many are heavily in debt to their employers. This makes them ideal kidney donors.

One kiln owner, Mian Maqsood, said he had asked the Masood hospital to stop recruiting his workers.

"We don't want our labour involved in that business," he said. "The people who give their kidneys spend all the money at once. Then afterwards they cannot work properly."

His observation is supported by a study published in the Journal of the American Medical Association in 2002. Researchers found that, of 305 Indians who had sold their kidneys an average of six years earlier, 96% had done so to pay off debts, but three-quarters remained in debt. Also, 86% said their health had declined since the operation.

Despite such qualms, relentless demand keeps the trade alive. One source in the medical industry said he was expecting a South African "transplant tourist" later this month; another said three Bulgarians recently passed through.

Most of Pakistan's clients come from the Middle East, many with the blessing of their own governments. Although paid-for transplants are illegal in Saudi Arabia, the Islamabad embassy actively assists citizens who seek one in Pakistan.

The embassy doctor, Eissa al-Harthi, said he visited patients in hospital and helped to iron out any difficulties, and sometimes his government footed part of the bill.

Pakistan's government has spoken for years of legislating to regulate kidney transplants, but the idea remains little more than a vague proposal.

In the meantime, a handful of doctors are getting very wealthy. Dr Riaz Tasneem, a public-health kidney specialist in Lahore, estimates there are 30 cash-for-kidney transplants in the city every month, earning surgeons about £2,600 for each operation.
Retired army surgeons run two busy transplant centres in Rawalpindi. "Another six people were being operated on at the same time as me," said the donor, Muhammad Iqbal. He is ambivalent about his experience. The £720 was invaluable for getting the debt collectors off his back, he said. But he had no money left over. Now his children still have no shoes, his health has deteriorated and he has taken out a new £45 loan.

"The scar didn't heal well, and I feel tired easily so I can't do hard work now. But I was tired of all those people coming looking for money," he said. "What else was I going to do?"

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Appendix F: Genetically Modified Coffee Beans

In the world of MaddAddam: Happicuppa

Until then the individual coffee beans on each bush had ripened at different times and had needed to be handpicked and processed and shipped in small quantities, but the Happicuppa coffee bush was designed so that all of its beans would ripen simultaneously, and coffee could be grown on huge plantations and harvested with machines. This threw the smaller growers out of business and reduced both them and their labourers to starvation-level poverty. (OC 209-210)

In contemporary society:


Genetically modified coffee could be just around the corner

By Rachel Feltman September 4, 2014

A newly-sequenced coffee genome unlocks the secrets of our favorite addiction. (Photo by Marvin Joseph/The Washington Post)

A consortium of scientists announced Thursday in Science that they've sequenced the coffee genome for the first time. By determining all of the genes that make up robusta coffee, a plant variety that accounts for about one-third of the world's consumption, they've opened the door to better breeding practices and even genetic engineering.

The researchers were most surprised by the genes used to produce caffeine. There are several theories as to why a plant would want to give its leaves and berries an energy buzz: It might be meant as a deterrent against leaf-eating bugs, to make surrounding soil less hospitable to rival seedlings, or to turn potential pollinators into happy caffeine addicts. Whatever the drive, plants such as tea, coffee and chocolate developed enzymes to make the addicting (and sometimes toxic) compound.
But when researchers compared the coffee genome to that of chocolate, they found that the enzymes used to make caffeine in the two plants aren't closely related enough to share a common ancestor. In other words, coffee and chocolate found their way to caffeination independently of each other. So while the reasons for evolving caffeine production are still hard to pinpoint, we know it was a valuable enough trait to inspire multiple adaptations. Scientists don't have a genome for tea yet, so we can't be sure whether it developed caffeine on its own, as well.

Some members of the group are continuing on to sequence arabica coffee, which produces the world's fancier varieties of coffee bean. Since arabica is a hybrid of robusta and another variety of coffee plant, it has a duplicated genome. With twice as much genetic information to sift through, Victor Albert, the lead author and a professor of biological sciences at the University at Buffalo, said, this becomes "a much more complicated affair."

Albert and his colleagues have high hopes for the useful application of the sequencing. "When we compared the coffee to several other species, we saw a huge enrichment in disease-resistant genes," he said. "Those can now be rapidly explored in more detail, and could be of use in both coffee breeding and in the molecular modification of coffee."

The obvious route, he said, would be to make coffee crops more resilient to climate change and increased pest problems. But his team's work on coffee's caffeine-producing enzymes could also help take the buzz out of your brew. "This might make it possible to knock off caffeine production in a variety of coffee plant," Albert said, "So to make decaff coffee, you wouldn't have to go through the process of extracting the caffeine. You could just grow coffee beans that don't make it at all."
Appendix G: Genetically Modified Pigs

In the world of MaddAddam: Pigoons

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. A rapid-maturity gene was spliced in so the pigoon kidneys and livers and hearts would be ready sooner, and now they were perfecting a pigoon that would grow five or six kidneys at a time. Such a host animal could be reaped of its extra kidneys; then, rather than being destroyed, it could keep on living and grow more organs, much as a lobster could grow another claw to replace a missing one. (OC 25-26)

In contemporary society:


Pig hearts could be transplanted into humans after baboon success

A genetically engineered pig heart which was transplanted into a baboon has survived more than a year without being rejected, leading scientists to hope that animal parts could one day provide a limitless sources of organs

By Sarah Knapton, Science Correspondent
7:00AM BST 29 Apr 2014

The hearts of genetically modified pigs could be transplanted into humans to solve the shortage of organ donors, scientists believe.

Researchers successfully grafted a pig heart into a baboon more than a year ago and it is still functioning, they report today.
Until now, organs transplanted into primates have only lasted for a maximum of six months before being rejected.

But scientists have tweaked the DNA of pigs so that their hearts are more compatible with primates and humans.

“The developments may instil a new ray of hope for thousands of patients waiting for human donor organs,” said Muhammad Mohiuddin of the Cardiothoracic Surgery Research Programme at the National Heart, Lung, and Blood Institute in the US.

"If successful, this method could change the current transplant paradigm, eliminating the shortage of donor organs including hearts, livers, kidneys, intestine, as well as insulin producing cells for treatment of diabetes."

At present people needing a heart transplant must wait until a suitable donor heart becomes available. Last year 145 operations were carried out at seven hospitals in Britain.

However, only eight out of 10 people in the UK receive the transplant they needed because of a lack of suitable donors. Many adults and children are forced to wait more than a year for a new heart.

Those on waiting lists have to use an artificial heart but these are not perfect and have issues with power supplies, infection, and both clotting and haemolysis, the break down of red blood cells.

Transplantation using an animal organ, or xenotransplantation, has been proposed as an option to save human lives, but the challenge has been to stop hosts rejecting donor hearts.

However researchers found that the pig hearts were alive and functioning well more than year after being grafted in place.

Pigs were chosen because their anatomy is compatible with humans and they have a rapid breeding cycle. Pig valves are already swapped for human heart valves.
Critics claim that because the life cycle of pigs is shorter than humans they will need to be replaced. They could also pass on diseases.

But through genetic changes, the scientists have added several human genes to the pig genome as well as removing genes which trigger a dangerous immune response in humans. Grafts from these genetically engineered pigs are less likely to be seen as foreign, thus reducing the immune reaction against them.

Chris Mason, professor of regenerative medicine at University College London, said: “The fact is you have got lots of people waiting for heart transplants and if you could have a supply of hearts off the shelf then that is clearly beneficial.

“Heart failure is a really horrible condition so anything that could improve quality of life is of great value.

“I think we are a long way off from being able to genetically engineer a whole heart though stem cells so this could provide a good stop-gap.”

The genetic modifications also mean that fewer immunosuppressive drugs are needed which are often responsible for complications. When Christiaan Barnard attempted the first heart transplant in 1967 it was the drugs which killed his patient as his immune system was so weak he died from pneumonia.

The experiments involved using these genetically engineered pig hearts, transplanted in the abdomen of baboons alongside their actual hearts.

The next step is to use hearts from the same pigs to test their ability to provide full life support by replacing the original baboon heart.

Dr Mohiuddin said; "Based on the data from long-term surviving grafts, we are hopeful that we will be able to repeat our results in the life-supporting model.”

Prof Peter Weissberg, the medical director of the British Heart Foundation said: “I think this stands a high chance of happening but it is still a very long way off.
“There were similar projects happening in the 1990s but they ground to a halt because they struggled to deal with the problems of rejection.

“There is a shortage of organs so this could be potentially promising and we already use pig valves in heart surgery.

“But there is a long way to go. They still have to prove this would work in humans.”

The study was presented at the 94th American Association for Thoracic Surgery annual meeting in Toronto.

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Appendix H: Genetically Modified Rabbits

In the world of MaddAddam: luminescent green rabbits

Across the clearing to the south comes a rabbit, hopping, listening, pausing to nibble at the grass with its gigantic teeth. It glows in the dusk, a greenish flow filched from the iridicytes of a deep-sea jellyfish in some long-ago experiment. In the half-light the rabbit looks soft and almost translucent, like a piece of Turkish delight; as if you could suck off its fur like sugar. Even in Snowman’s boyhood there were luminous green rabbits, though they weren’t this big and they hadn’t yet slipped their cages and bred with the wild population, and become a nuisance. (OC 109-110)

In contemporary society:


Scientists breed glow-in-the-dark rabbits

Researchers from the universities of Istanbul and Hawaii hope the technique can lead to new ways to produce medicines

The glowing effect was created by injecting jellyfish DNA into the mother rabbit's embryos and reinserting these into the mother's womb. Photograph: University of Hawaii University of Hawaii/PR

As part of an effort to improve treatments for life-threatening illnesses, a team of scientists have created rabbits that glow in the dark.

Their efforts produced two rabbits out of a litter of eight that went from being a normal, fluffy white to glowing green in the dark. The rabbits were born at the University of Istanbul as part of a collaboration between scientists from universities in Turkey and Hawaii.
The rabbits glow to show that a genetic manipulation technique can work efficiently, though the specific color is more cosmetic than scientific. "The green is not important at all – it's just a marker to show the experiment can be done successfully," said University of Hawaii associate professor Stefan Moisyadi.

To produce the glowing effect, researchers injected jellyfish DNA into a mother rabbit's embryos. Those altered embryos were then inserted back into the mother. Similar experiments have resulted in glowing cockroaches and cats.

Eventually, the researchers hope the technique can lead to new ways to produce medicines, Moisyadi said.

"The final goal is to develop animals that act as barrier reactives to produce beneficial molecules in their milk that can be cheaply extracted, especially in countries that can not afford big pharma plants that make drugs, that usually cost $1bn to build, and be able to produce their own protein-based medication in animals," Moisyadi said.

The rabbits are expected to have the same life span as their non-glowing counterparts, but Moisyadi said he understands people can object to this kind of experimentation involving live animals.

"To the people against, I say: think about, what are the benefits and what are the injuries?" Moisyadi said. "And if the benefits outweigh the injuries, let's go with the benefits."

Moisyadi, a native of Turkey who is now with the University of Hawaii, started developing the project in 2006, and researchers are now waiting to see if pregnant sheep produce similar results.
Appendix I: “Oh Let Me Not Be Proud”

Oh let me not be proud, dear Lord,
Nor rank myself above
The other Primates, through whose genes
We grew into your Love.

A million million years, Your Days,
Your methods past discerning,
Yet through Your blend of DNAs
Came passion, mind, and learning.

We cannot always trace Your path
Through Monkey and Gorilla,
Yet all are sheltered underneath
Your Heavenly Umbrella.

And if we vaunt and puff ourselves
With vanity and pride,
Recall Australopithecus,
Our Animal inside.

So keep us far from worser traits,
Aggression, anger, greed;
Let us not scorn our lowly birth,
Nor yet our Primate seed.

(TYOF 65)

YouTube: https://www.youtube.com/watch?v=heF0Ipd37Ro
Appendix J: “Today We Praise Our Saint Dian”

Today we praise our Saint Dian,
Whose blood for bounteous Life was spilled –
Although she interposed her Faith,
One Species more was killed.

For all around the misty hills
She tracked the wild Gorilla bands,
Until they learned to trust her Love,
And take her by the hand.

The timid giants, huge and strong,
She held in her courageous arms;
She guarded them with anxious care,
Lest they should come to harm.

They knew her as their Friend and kin,
Around her they would feast and play –
And yet cruel Murderers came by night.
And slew her where she lay.

Too many violent hands and hearts!
Dian, too sadly few like you –
For when a Species dies from Earth,
We die a little too.
Among the green and misty hills,
Where once the shy Gorillas gathered,
Your kindly Spirit wanders still,
In watchfulness, forever."

(TYOF 374-375)

YouTube: https://www.youtube.com/watch?v=fqgKeBii1HQ