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“Why Did I Live?”

A Comparative Study of the Depiction of Artificial
Life in Mary Shelley’s *Frankenstein or the Modern
Prometheus* and Meredith Ann Pierce’s *The
Darkangel Trilogy*

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Abstract

This thesis studies how Mary Shelley and Meredith Ann Pierce criticise Western patriarchal societies through the depiction of the creation of artificial life. The thesis discusses how Shelley and Pierce's critique consequently includes a critique of Humanism, since the school of thought had a pivotal role in the formation of the civilizational model of these Western societies. Steeped in anthropocentrism, Humanism places humans at the centre while it relies heavily on the binary opposition of self and other, human and animal, science and nature, male and female. Furthermore, due to speciesism, i.e. systematic prejudice on the basis of species, which is intrinsic to Humanism, nonhuman beings are consistently deemed inferior to humans. By giving the creations – i.e. the nonhuman “others” of society – a voice, Shelley and Pierce highlight the fluctuating boundary between human and nonhuman beings, thus showing the errors of Humanism's essentialist definition of the human and challenging its speciesism. This thesis shows that Shelley and Pierce favour Post-humanist values since they focus on the interconnectedness of all living beings and urge the importance of valuing the familial and communal, as well as different forms of life.

Keywords: Mary Shelley, Meredith Ann Pierce, Humanism, Posthumanism, Anthropocentrism, Speciesism, Artificial Life

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Introduction

The desire to find out the secret of life seems to be embedded in human nature. Stories about humans creating life are numerous: some are as old as Classical Antiquity and others are even older. Many of them are cautionary tales, where the creations are portrayed in an unfavourable light. In this catalogue of stories, there are two female writers who portray artificially created beings as worthy of sympathy, rather than horror and disgust. Even though Mary Shelley's *Frankenstein; or, the Modern Prometheus* (1818) and Meredith Ann Pierce's *The Darkangel Trilogy* (1982-1995) were published more than a century apart, they both seem to urge the importance of valuing all forms of life over unlimited scientific ambition.

The title of Mary Shelley's novel refers to Prometheus, the Titan from ancient Greek myth, who became humankind's greatest defender when he fashioned humans out of inanimate clay and stole fire from the Olympian gods (Winer, Stevens & Rogers 2). As punishment for upturning the order of the cosmos, for usurping the godly powers of creation and for stealing technology, symbolised by fire, Prometheus was chained to a mountain and forced to have his liver pecked out by Zeus's eagle once a day for all eternity (ibid). In Shelley's pioneering work, which inaugurated the Science Fiction genre, Victor Frankenstein, the creator of the creature, does not call on the help of any god, deity or supernatural force. Motivated by a vision of a world where humans can withstand death and disease, control nature and create life where they so desire, Frankenstein succeeds solely on the basis of his own proficiency and scientific breakthroughs. Just as Prometheus upturned the order of the cosmos, Frankenstein's success alters, even demolishes, the ancient order of things. However, while Prometheus, Frankenstein's precursor, had to answer to Zeus, Frankenstein answers to no one, except, perhaps, to his own creation (Turney 14). Nevertheless, Frankenstein's punishment for usurping upon the natural creation of life is no less severe.

Today it is safe to assume that the average person is familiar with the story of *Frankenstein*, though what is often forgotten is the complexity of its narrative. The novel has three narrators: Frankenstein, the creature and Walton. The latter is perhaps the only one who needs further introduction: Walton is a naval explorer on a quest to discover the North Pole. In the novel, his narrative is constructed as a frame story. At sea, Walton encounters both Frankenstein and the creature. Frankenstein tells Walton the miserable tale of how he created life in his laboratory and how this creature, spurned by Frankenstein for his hideous, nonhuman appearance, came to seek vengeance and destroy everything Frankenstein holds dear. Through

letters that Walton writes to his sister, Margaret Saville, the reader learns both the creator and the creature's tales of woe.

More than one and a half centuries after Shelley thought of *Frankenstein*, Meredith Ann Pierce took the creation myth further and investigated its aftermath in her three novels which make up *The Darkangel Trilogy*. In these novels, the humans of the future have created entire artificial societies and ecosystems. The trilogy consists of *The Darkangel*, *A Gathering of Gargoyles* and *The Pearl of the Soul of the World*. In the first part, the protagonist – a girl called Aerial – finds a way to reverse the work of the antagonist – the White Witch – and turn a demon vampire, known as a Darkangel, back into the human he used to be: a prince named Irrylath. The second part is chiefly about the quest to find a weapon to destroy the White Witch, who is slowly poisoning the world. Throughout this part, the reader receives hints, in stories, poems and riddles, that Aerial's world was created long ago by godlike sorcerers who later withdrew themselves into a faraway city. In the final part, Aerial travels to this city and learns that the myths are true. She also finds out that the creators are actually humans, from Earth, and that the world in which Aerial lives is their moon. These humans never stopped to think whether they *should* create life or not. Like Frankenstein, they could, so they did. The question regarding the responsibility for the life they created is epitomised in the destruction of Earth and the subsequent destruction of humankind. As Shelley and Pierce bestow their humans with the power to infuse life into lifeless matter, they pose entirely new questions on the responsibility of the human race and the concept of humanity. Furthermore, by portraying the artificially created life as capable of thoughts and feelings, they seem to question the preconceived notion that humans and nonhuman beings are fundamentally different.

This thesis studies Shelley and Pierce, two female authors who, despite being separated by the Atlantic Ocean and roughly 160 years, have both written in the same genre about the same topic: artificial life and the consequences of its creation for humanity. Even though the desire to know the secret of life seems intrinsic to human nature, opinions on this topic differ wildly. Interestingly, Shelley and Pierce are strikingly similar in their views. This thesis argues that both authors' works criticise the Western patriarchal societies in which they lived – societies with the same origin and Humanist core. Furthermore, this thesis claims that both authors instead favour Post-humanist values and that they oppose the individualism, speciesism and anthropocentrism inherent in Humanism and Western patriarchal societies.

Theoretical Background: Humanism and Posthumanism

Rosi Braidotti, founding director for the Centre for the Humanities at Utrecht University, concludes that Humanism has had and continues to have a pivotal role in the formation of the civilizational model of Western societies (11). The philosophical school of Humanism has shaped the morals and ethics as well as provided a definition of the human for these societies. Humanism, as described by Braidotti, is:

a doctrine that combines the biological, discursive and moral expansion of human capabilities into an idea of teleologically ordained, rational progress. Faith in the unique, self-regulating and intrinsically moral powers of human reason forms an integral part of this high-humanistic creed, which was essentially predicated on eighteenth and nineteenth century renditions of classical Antiquity and Italian Renaissance ideals. (13)

According to the traditional Humanist definition of the human, the essence of Man is the unique, self-reflecting and inherent moral powers of his reason and his capacity to pursue perfectibility (Braidotti 13). Man is “the measure of all things”; he is Leonardo da Vinci’s Vitruvian Man: the “ideal of bodily perfection” (11). If one goes by this picture of the perfect human one learns that he is white, able-bodied, Western and he is also a *he*. There are many humans – e.g. women, people with different colour of skin or people with disabilities – who can never reach these ideals. Wolfe argues that this presumption that there is one human ideal is the origin of discrimination against marginalised groups of society (xvii). Consequentially, Braidotti explains, these marginalised people become the sexualized, racialized and naturalized “others” (15).

Humanism, although developed in Europe by European thinkers, attempts to rid itself of its geo-political origin by proposing that its ideas and definition of the human mind are universal, i.e. applicable to anyone, anywhere. However, as Braidotti observes, Humanism still acknowledges Europe as the point of origin which “makes Eurocentrism into [...] a structural element of our cultural practice” (Edmund Husserl, as quoted by Braidotti 15). Furthermore, Braidotti highlights the fact that Eurocentrism assumes the dialectics of binary opposition, i.e. of European and non-European, of self and other (15). Typically, such oppositions are structured in a hierarchy where one entity is the derogatory of the other (Bennet and Royle 211). Thus, Western societies rest firmly on a tradition of hierarchal division and structure.

By the second half of the twentieth century, opinions and views reacting against the eurocentrism, anthropocentrism and universalism intrinsic to classic Humanism had begun to take shape. The essentialist definition of the human was heavily criticised and the need for a new, more diverse and inclusive definition of what it means to be human was increasingly expressed in what is now called Post-humanist thought (Braidotti 15). There are, however, not one but several types of Post-humanist views, several types of Posthumanisms, so to speak. In this thesis, Post-humanist theory is provided by Rosi Braidotti's *The Posthuman* and Cary Wolfe's *What is Posthumanism?*. These views are complemented with Özgür Yaren's article "Posthuman Aesthetics of Apocalypse", which explores how Post-humanist values are manifested in literature in general and Science Fiction in particular. Summing up the essence of all types of Posthumanisms, Braidotti concludes that they prescribe a re-evaluation of the status of the human in relation to other species (186). Furthermore, Posthumanism includes a gender perspective; it perceives the limitations of the imagined human of Humanism as male, western and white (Braidotti 16). In his acclaimed work *The Order of Things: An Archaeology of the Human Sciences*, Michel Foucault reasons that the image of the human, based on the ideals of Humanism, is, after all, a historically specific invention (387). In comparison, it is a fairly recent invention (ibid). Echoing Foucault, Posthumanism proposes a reinvention of the human, a new paradigm where *Homo Sapiens* is removed from its self-acclaimed, privileged position at the centre of the world and all living things (Wolfe xii).

In addition, Posthumanism draws attention to the dichotomy of the human and the animal which is intrinsic to Humanism. Wolfe observes, while citing Étienne Balibar, that this dichotomy has led to the need to "extract humanity [...] from animality" by invoking human culture or "the technological mastery of nature" (xiv). In brief, one becomes human by transcending or suppressing the animal within (Wolfe xv). While Humanism attempts to separate the human from its biological context – giving the human a unique and privileged position – Posthumanism highlights the embodiment and embeddedness of the human in the very same context (xv).

At the dawn of modern science, the Enlightenment promised in the words of Francis Bacon, as quoted by Turney, "that systematic pursuit of scientific knowledge would lead to 'the effecting of all things possible'" (2). Today, the history of technology tells us, in true Baconian fashion, that "if it can be done, it will be done" (Wolfe 54). In general, scientific progress is celebrated, but when it comes to biological technology, this seems to be as threatening as it is fascinating. When the prospects of biological science turned from descriptive theory to potential reality in the second half of the twentieth century – when genetically

modified organisms and human cloning became possible – public opinions on whether science should push forward were deeply ambiguous (Turney 2). In his book *Frankenstein's Footsteps: Science, Genetics and Popular Culture*, Jon Turney demonstrates that these ambivalent attitudes towards biotechnology were not a novelty in the twentieth century; on the contrary, they are immanent at “the heart of our response to science” (2, 90).

Since the promise of Bacon, the trajectory of human technological history has brought us to an era sometimes described as the Anthropocene. This era is “the historical moment when Human has become a geological force capable of affecting all life on this planet” (Braidotti 5). Current socio-political and ecological crises, for which humanity is responsible, have led Posthumanism to predict a shift from the Anthropocene and ask what humans are in the process of becoming and if we have a future at all (6, 12). Yaren notes that this rejection of anthropocentrism and the Anthropocene stems from the acknowledgement of the failure of humanity (78). According to Yaren, reactions to the failures of humanity are twofold: we mourn the idea of the end of our civilisation, to “which we owe the legacy of the enlightenment and modernity”, but when we look at the imperfections, the flaws and consequences of humanity’s usurpation of Earth, we feel that the end of the human race ought to have come already (79). These sentiments are increasingly present in Science Fiction literature today and an alternative to humanity is provided: artificially created life (ibid).

Mary Shelley grew up in a society which was beginning to experience the effects of industrialisation. One might say she lived at the beginning of the Anthropocene since by then recent scientific innovations and experiments showed how humans could gain “control of natural phenomena” (Turney 19). For example, in 1780, Luigi Galvani observed how a dead frog’s limbs twitched when subjected to electricity (Cohen, 149). His nephew, Giovanni Aldini, further experimented in the field and went on to attempt to reanimate human corpses. He showed his experiments to the public in theatrical demonstrations on several occasions, some of which Mary Shelley herself attended (Turney 22). Shelley, among others, believed electricity and chemistry would provide the key to understanding natural life (20).

When Shelley wrote *Frankenstein* at the beginning of the nineteenth century, only human biology seemed to remain exempt from technological manipulation. Although the human body had already been subjected to extensive research for two centuries, all anatomical knowledge remained largely descriptive. Turney observes that “[t]he forms and varieties of creatures, the hierarchy of species, the biological imperatives of existence, were fixed points in an ever-changing world” (41). Shelley, however, foresaw that this would come to change, that the desire to know about human anatomy and biology was connected with the desire to be able

to design it (ibid). If one could manipulate human biology, one could further human perfectibility.

Incrementally, as biology established itself as a separate experimental discipline, Man came closer and closer to unearthing the secret behind the creation of life. Before the first half of the twentieth century had passed, the Darwinian evolution theory had been presented, cells had been seen through microscopes and scientists were able to grow several types of adult tissue in the laboratory (Turney 64-65, 74). In 1953, the DNA double helix was discovered. Turney reasons that this was, perhaps, the most important discovery in molecular biology since it provided the key to understanding how genetic information is passed on between generations (Turney 135-136). Not to mention the fact that the human desire to acquire “knowledge which enables manipulation” was now no longer merely a dream but almost a reality (45).

In 1975, another great leap in the field of biotechnology was made when the first test-tube baby, conceived via *in vitro* fertilization, was born (Turney 175). Louise Brown, as she was named, was living proof that humans had now gained the ability to manipulate nature to the point of producing real life people. This was what Shelley so clairvoyantly had foreseen more than a century before. Though Louise Brown’s birth was celebrated, public reactions to biotechnological progress were deeply ambiguous. Turney describes how fear of the unknown repeatedly fuelled negative reactions to scientific progress. Furthermore, Willis explains in his article how this fear allowed the cautionary elements of the potent myth of *Frankenstein* to be used, over and over, as a metaphor for the dangers of unregulated scientific ambition (321). The *Frankenstein* metaphor has been and is to this day evoked in debates on biological research and technology to install regulations and impediments to hinder scientific progress (ibid). Due to the scientific nature of the birth of Louise Brown, a renewed interest was directed towards in the ethics surrounding biotechnology. Hence, bioethics was swiftly established as an area of academic research (Turney 175).

Bioethics is concerned with “who and what can count as a subject of ethical address” and how this subject is to be treated within medicine (Wolfe 49). Just like Humanism, bioethics is based on a prejudiced definition of the human as an autonomous, rational and conscious subject, fundamentally different from other nonhuman species. In this tradition of thought, Wolfe explains, nonhuman individuals do not possess any of these qualities and can thus never be a “person” in the ways a human can (56, 58). Interestingly, there are individuals who are categorically judged as human who – due to disease, injury or genetic anomalies – have lost or were born without some or all of these criteria of personhood (58). Simply by existing, these “marginal groups” expose fatal errors in this essentialist definition of the human.

Furthermore, over the past thirty years, deeper and better knowledge about the lives of many different nonhuman species show that they, based on the principles of autonomy, rationality and consciousness, would qualify as more human than some individuals of the human race. This knowledge discredits the classic Humanist opposition of humans and animals as fundamentally different (56).

Moreover, Wolfe argues that since Bioethics is steeped in speciesism – i.e. systematic prejudice on the basis of species – the fluctuating boundary between human and animal is seen “as an ethical non-issue” and the lives of nonhuman animals are consistently deemed inferior to humans (49). In conclusion, Wolfe points out that the “ethics” in Bioethics is misleading: in the history of biological science and progress, speciesism has led “pragmatic expediency” and ethnocentrism to be prioritised over what would in reality be ethically correct (51, 57). Furthermore, in today’s capitalist societies, progress within bioscience and medicine depends on funding and investment. This means that money decides which projects are run and which are not. Ergo, Braidotti argues, economy controls science and capitalism’s constant search for profit has led to a “commodification of [life and] all that lives” (Braidotti 59). Consequently, Wolfe suggests that bioethics should rather be called Biopower since it is chiefly concerned with “the right to decide life and death”, not with what is ethically correct (51).

Another branch of man’s endeavour to create life is Artificial Intelligence (AI). Artificially created intelligent life-forms range from machines and robots to androids and cyborgs. In the twentieth century, humans discovered how to create machines that excelled and now far exceed human capacity in many areas. In order to be judged intelligent, machines have to pass the Turing test, which declare that “if a human is interacting with another human and a machine and unable to distinguish the machine from the human, then the machine is said to be intelligent” (Haenlein and Kaplan 7). Today, there is AI of equal intelligence as humans, but these individuals are never deemed to be “persons” since they lack consciousness and autonomy. However, as Jay Clayton mentions in his articles, there are predictions that AI will be able to acquire these attributes in the future (94). Clayton argues that through this development, humanity will be faced with new ethical issues when it comes to “the understanding that a creature with feelings acquires personhood, even if it is not the same species as humans” (Clayton 95). This understanding, which Shelley predicted, has been repeatedly depicted in Science Fiction ever since.

The Human

It is important to understand that the binary opposition of self and other immanent in the European civilizational model has had a prominent effect on the definition of a human being in Western societies. Here I reiterate the conclusions of the previous section: anyone who does not fit into the narrow ideal provided by classic Humanism becomes the sexualized, racialized and naturalized “other”. This section discusses findings from Shelley’s and Pierce’s novels which imply a critique of this discourse and instead advocate Post-humanist values.

When making his creature, Frankenstein himself does not seem to know whether he is creating a human being or an entirely new species. On the one hand he intends to create “an animal as complex and wonderful as man” and describes his endeavour as “the creation of a human being” (Shelley 33). On the other hand, he goes on to proclaim that he will father a new species, and that this species will owe its existence to him. Finally, after he has gathered all the pieces and is about to infuse them with life, he refers to his creation as a “lifeless *thing*” (35, italics added). In brief, Frankenstein thinks of his creature as both human and nonhuman. His confusion in regards of what exactly it is that he has created seems to mirror what Turney describes as humankind’s fascination with and horror of biological science (2).

If Frankenstein’s impression of the creature is rather ambiguous, his motivation for and opinion of creating life is exceedingly questionable. Upon learning the skill of reanimating corpses, Frankenstein remarks that he may not be deft enough to fully succeed in his endeavour; the results could be imperfect, and he may simply be “lay[ing] the foundations for future success” (33). Moreover, he admits that he chooses to make his creature gigantic in stature not because of an aesthetic preference, but simply because he does not possess the sleight of hand to work quickly enough with regularly sized body parts. Nevertheless, these arguments do not deter Frankenstein from completing his self-assigned mission. He does not stop to think about what consequences his inadequate skills might cause the being he creates, or whether this being would even wish to be created. Neither does he consider his own responsibilities towards his creature. Lars Lunsford argues in his article that Frankenstein’s inability to define his own responsibilities, or to seek help when his failure becomes obvious, shows that Frankenstein values his own reputation and the possibility of becoming famous for his accomplishments over the life he actually creates (Lunsford 175).

The moment the creature draws its first breath and opens its eyes, Frankenstein starts to regard him as the “other”, the opposition of Man. The human likeness is merely that: a likeness. It is uncanny, even horrifying, rather than evidence of the creature’s humanness.

Frankenstein dehumanizes his creature by accentuating his nonhuman qualities and by calling him names like devil, vile insect, wretch, fiend and more. It seems as if Frankenstein thinks that if the creature is not human, he does not have to treat it with respect. However, as Shelley makes abundantly clear by including him as a narrator, the creature does not lack consciousness, autonomy or rationality. According to the principles of bioethics and Humanism, he should therefore be treated as a person. Consequently, this thesis argues that what Frankenstein does is to subject his creature to speciesism, i.e. the prejudice that the creature is lacking in means of communication, emotions and consciousness because of his species (Wolfe 59). Such speciesism, immanent in classical Humanism, was and still is part of Western societal norms and values. Lunsford demonstrates how, by punishing Frankenstein for his failure to respect the value intrinsic to any form of life, Shelley heavily criticises the speciesism, and anthropocentrism of her own society (Lunsford 175).

In the first two novels of *The Darkangel Trilogy*, there are no indications at all that Aeriël and her fellows are anything but human. There are rumours and legends of what seems to be another species: the Ancient ones, the creators of the world and everyone in it. However, these Ancients are of godlike stature; they are more myth than known fact. Perhaps Pierce chose to present her story this way to accentuate the humanness of Aeriël's species before contrasting it with actual human beings. Only when Ravenna, the last of the Ancients, presents the reader with the whole picture, are they faced with the possibility of Aeriël being a naturalized "other" to humankind. At this stage, the reader is more familiar with Aeriël's species, than with this future version of humanity. Thus, the reader is encouraged to sympathise with the artificially created life since, as Clayton argues in his article, "[t]he artificial creatures end up seeming more 'human'" (85). Moreover, Clayton observes that this has become a trend within Science Fiction: in recent years, artificial life is portrayed in an increasingly positive light (84-85). The awe and horror which artificial life may inspire are in Pierce's novels reserved for what is left of humankind. What Clayton refers to as a trend, Yaren calls a "Posthuman turn in popular culture" (78). Thus, Yaren explains, the death of mankind is no longer just a tragedy, but a possibility for a new beginning (ibid).

In terms of appearance, humans and Aeriël's kind seem to be very alike. Aeriël does not seem to think anything is unusual with Ravenna's appearance, except for her height; she is apparently very tall (Pierce 52). Pierce has thus inverted the size difference between creator and created: this time the creator, not the creature is monstrously tall. Whether Pierce implicitly alludes to Shelley's *Frankenstein* is hard to tell. Either way, it makes the reader perceive Ravenna as an "other" before knowing that she is actually human. The similarities

between humans and Aerial's species do not end at appearance, however: apparently the two are enough alike biologically to be able to procreate. Ravenna explains that many of her kind went to live among their creations for brief periods of time and had children with them. Nonetheless, Aerial's kind were still considered nonhuman, and as such, a lesser species. The hybrid children, naturally conceived and birthed, were not considered real humans either.

When telling the story of the end of humanity, Ravenna highlights the persistence of humankind's speciesism: "we thought of you, the inhabitants we had fashioned for [this world], not as our children, but as decorations. Chattels. Slaves" (Pierce 96). Ravenna seems to be the only one of her species to adopt a different, more inclusive, view of what makes a human. During her time on the artificial planet, she mothers a daughter whom she names Oriencor. This daughter is a hybrid: half human, half nonhuman. Despite the customs and public opinion of her people, Ravenna considers her daughter to be fully human and raises her among her own people (Pierce 98). In order to keep her daughter by her side, Ravenna selfishly hides the truth from Oriencor, letting her believe that she is wholly human. Only when forced due to the extraordinary circumstances surrounding the destruction of Earth, does Ravenna reveal her daughter's true ancestry. Furious at her mother's deceit and of the fact that she is herself a hybrid child, half of her descendant of what she deems a lesser species, Oriencor runs away. Years afterwards she reappears as the White Witch, dead set to destroy the world her mother and her kin created and to travel to Earth, to walk among humans, which she deems is her birth right.

Before Aerial meets with Ravenna, she has been fatally injured by the White Witch. Unable to heal her, Ravenna uses the biotechnology known to her kind to fashion a new body for Aerial. Due to her severe injuries, Ravenna is only able to save parts of Aerial: the eyes, heart, mind and soul. Since Ravenna is of the belief that "[i]t is the soul that makes us human, not the flesh", i.e. that humanness inheres in the soul, not the body, she sees no problems with transferring Aerial's consciousness this way (Pierce 224). Aerial, however, is distraught when she discovers that her new body has been recreated artificially. She compares herself to a golem or "[a] clockwork automaton – like the [...] underground machines", which brings forth the debate on whether machines, or cyborgs, can be considered human (224). However, since Aerial is still, as Ravenna assures her, "a biological construct" Pierce does not elaborate on the answer (224).

Through Ravenna, Pierce seems to argue that the soul is what makes a human. The vessel, whether organic, artificial or mechanic, is inconsequential. What, exactly, she means by the soul is hard to tell, but it seems to be rather like consciousness. If so, it makes

sense that Ravenna's people have found a way to preserve the consciousness – which presumably is the soul - remove it from the body and place it into an artificial body. This view of humanness is in line with what Clayton states about personhood: “that a creature with feelings acquires personhood” (95). Ravenna's wide and inclusive definition of what makes a human embodies many Post-humanist views, but her character is complex. For example, on the one hand she highlights the inter-connectedness of her and Aerial's species but on the other hand, her clear distinction between the human mind/soul and body contradicts Post-humanist thoughts of immanence and connectedness. Furthermore, she is inconsiderate, disrespectful of the very life wishes to save. She continues to withhold important information from Aerial and uses her for her own purposes. She knowingly sends Aerial to what could potentially be her death, just so that Aerial can try and persuade Oriencor to redeem herself. The fact that although Ravenna values and wishes to save all life on the planet, but still puts her daughter, her kin, first shows that she has not truly left her speciesism behind.

Gender

In her work *Science, Gender and History: The Fantastic in Mary Shelley and Margaret Atwood*, Suparna Banarjee highlights how a compilation of the critical literature discussing *Frankenstein* shows that the novel raises questions about an abundance of issues, ranging from philosophical to political, psychological and socio-political (Banarjee 11). Critics have discussed Shelley's critique of radical science, the nature versus nurture debate, the political turmoil following the French Revolution as well as the concept of “Othering” and “Otherness”. Banarjee also notes that many of these critics have also pointed to the critique Shelley seems to aim at the egoistic aspect of idealistic masculinity during her time which tended to consume its surroundings and to leave chaos and misery behind (11). Shelley has been seen as opposing this ethos of individualism and instead proposing “interdependence and harmony in familial and communal lives” as an alternative route to personal and social fulfilment (ibid). This is demonstrated in numerous ways in the novel, but most memorably by Frankenstein himself, in one of the first chapters of the novel. As Frankenstein implores Walton to employ caution in his professional ambitions and to value affection and relationships, the essence of Shelley's morals is thus presented:

A human being in perfection ought always to preserve a calm and peaceful mind, and never to allow passion or a transitory desire to disturb his tranquillity. I do not think that the pursuit of knowledge is an exception to this rule. If the study to which you apply yourself has a tendency to weaken your affections, and to destroy your taste for those simple pleasures in which no alloy can possibly mix, then that study is certainly unlawful, that is to say, not befitting the human mind. If this rule were always observed; if no man allowed any pursuit whatsoever to interfere with the tranquillity of his domestic affections, Greece had not been enslaved; Caesar would have spared his country; America would have been discovered more gradually; and the empires of Mexico and Peru had not been destroyed. (Shelley 34)

Consequently, as Anne K Mellor argues, it is important to note Shelley's use of the frame story of Walton, who is set up as a contrast to Frankenstein and to "the Romantic ideals of fame and fortune" (Mellor 13). Both men are initially driven by a desire to make a name for themselves, to discover uncharted waters; to go where no one has gone before. The key difference between them is that, throughout the novel, Walton is held responsible and accountable for his actions by a feminine presence, i.e. his sister. In the end, he allows himself to be persuaded by his crew to return to safety and to "domesticated civility" (13). By telling her story through three different male narrators, thus thoroughly scrutinizing the "inhuman Romantic ambitions" of Frankenstein and Walton, Shelley criticizes male individualism, its neglect of communal values and its devaluing of life (14).

Banarjee notes, like other feminist scholars before her, that Shelley deliberately chooses to remove the female presence from her novel in order to showcase the chaos its absence engenders (22). Furthermore, she highlights the devastating consequences of unhindered male ambition. Nevertheless, Shelley portrays Elizabeth – Frankenstein's betrothed and one out of three female characters in the novel – as the stereotypical silent, altruistic, care-taking woman. Banarjee argues that by doing so, Shelley does not support her society's gender politics, but rather implores men to take equal responsibility for domestic life as women in general and Elizabeth in specific (ibid). If men had taken their responsibility before, then Shelley imagines that the tragic historical events, mentioned by Frankenstein in the previous block quote, need not have happened.

In contrast to Shelley, Pierce uses three female voices: the protagonist, Aerial, the ancient creator Ravenna, and Oriencor, the antagonist. In opposition to Shelley's demure Elizabeth, all three women in Pierce's novels show egoism and selfish desires. Ravenna selfishly keeps her daughter in ignorance of her true origin for years. In vengeance, Oriencor

destroys the world and all living things. Aeriël selfishly craves Irlylath's love, almost enough to force him to stay with her. In the end, they all sacrifice everything for the collective, for the greater good, so that the rest of the world can keep on living. However, not all of them do so voluntarily. Ravenna chooses to infuse all her ancient knowledge into the pearl of the soul of the world, even though the process kills her. Oriencor is killed when she refuses to meet Ravenna's demands to repent and rebuild the world. Aeriël is at best persuaded, at worst forced against her will, to give up Irlylath and dedicate the rest of her life to save others.

Banarjee points out that *Frankenstein* is not only a critique of radical science and "technological exploitation of nature", but that it also warns against science's usurpation of the female creative and reproductive powers (Banarjee 12). The natural order bestows women with the power to give birth. This unique ability is of ambiguous nature since it gives women "cultural power" over men while simultaneously being the paramount reason for their subordination and imprisonment. In order to control women's life-giving abilities, patriarchy has built "institutions of marriage and the family" where women are bound to serve their husbands by reproducing (Banarjee 15). When Frankenstein creates life, he not only upturns the natural order of things but also creates an artificial pregnancy and birth. Frankenstein thus makes nature, which was at the time closely associated with the female and her ability to give birth, open to possession and manipulation (14). Shelley shows her discontent with Frankenstein's egoistic ambitions and disrespect for nature by letting his own creature torment him for the rest of the novel.

The grand narrative that dominated science and culture in the nineteenth century associated masculinity with rationality and science, and femininity with nature and irrationality (Gheran 253). Donna Haraway demonstrates how this narrative, "used nature to make its hierarchical division of and exploitation of the Earth seem natural, given" (Haraway 2). Science was consistently placed above nature, just as man was placed above woman in this hierarchal structure. Nicolae Gheran argues in his article that Shelley reacted against this gender politics which originated from the Enlightenment and was prominent in the science of the day (253). Banarjee considers Shelley's novel to be a larger, more conclusive reaction to her society's "deep-rooted universal cultural ideology that defines man in terms of his transcendence of nature and the natural, with which woman is more closely identified than man" (14). Her novel hands out heavy punishments to men who prioritise ambition and exploit nature, family, community and the lives of other species for their own gain. By making Frankenstein refer to unlimited scientific pursuit as "unlawful", Shelley seems to warn us of the dangers of science's obsession to control nature (Shelley 34). Instead, she proposes us to value the life surrounding

us, to value peaceful coexistence and “those simple pleasures” within the family and community (ibid).

Like Shelley, Pierce portrays human exploitation and manipulation of nature, as well as the serious repercussions that follow. In *The Pearl of the Soul of the World* Man has found out how to manipulate and control mother nature. The classic opposition of nature and science is no more. Biology is no longer exempt from human control; science has penetrated the mystery of life and nature. With this knowledge the humans of the future have learned how to make themselves stop aging and how to preserve the consciousness – or, the soul – after the body has died. They have also made their moon habitable, creating “peoples” and animals to populate it, and turned it into their pleasure garden. However, they did not anticipate this artificial planet and its population having a will of its own, which is exactly what happens. As Ravenna explains, “the ecology [eventually] began to evolve on its own” (Pierce 96). She describes how plants and animals started mutating and reproduce independently, which means that humans did not control life to the extent they thought they did. Intrigued, scientists came to study the life they had created. They treated the planet as a huge laboratory, performing experiments, like prompting wars amongst their creations, just so “that they might study them” (Pierce 98). It seems as if the rights of the created life were like those of animals on Earth, i.e. as Wolfe puts it: “an ethical non-issue” (49). Yet Pierce hands out the ultimate punishment for this disrespect of nature and life: the destruction of mankind. In the end, mankind’s hubris leads it to its own destruction. No scientific pursuit or discovery could, in the end, save them. Pierce thus shows how mankind’s desire for perfectibility goes hand in hand with anthropocentrism.

In *The Pearl of the Soul of the World* there are both patriarchal and matriarchal societies. The societies mirror each other; they are strictly hierarchical and leadership is hereditary. Pierce portrays these systems of states very differently, but, since both are fundamentally unequal, she seems to find both lacking. Instead, Pierce proposes a more democratic society, that makes no hierarchal distinction between the sexes. This view is presented through Aerial, as she tells the matriarch of one of these societies: “If it is the law [...] that says that no man may rule as Lord, then it is an unjust law. If it is merely custom, then let it be custom no more” (Pierce 240). As a contrast, Pierce also portrays nomadic societies whose members live in harmony with nature. These societies are portrayed in an overwhelmingly positive light and seem to have understood one of the basic tenets of Posthumanism: the embeddedness and inter-connectedness of humans, animals and nature.

As Ravenna reminds Aerial, the lives of others matter just as much as hers: “[i]f you lose much, think of what you and the world will gain. And others have lost still more”

(Pierce 228, original italics). This line implies Pierce's devaluation of individualism and advocacy for community. The human self is not of central importance, neither is it on top of the hierarchy. Though the reader is allowed to suffer with Aerial and mourn her loss, they nonetheless understand why she must sacrifice her own happiness for the sake of others. Though it is tragic, Aerial's sacrifice thus shows the very essence of Posthuman values. The novel ends, just like Braidotti ends *The Posthuman*, by suggesting that the only way to reach a sustainable future and peaceful co-existence is to instill a "sense of inter-connectedness between self and others, including the non-human or "earth" others, by removing the obstacle of self-centered individualism" (190).

The Creator and the Created

Both Shelley and Pierce repeatedly compare the relationship between creator and created to that of parent and child. For example, as he imagines the life he is about to create, Frankenstein ponders how "[n]o father could claim the gratitude of his child so completely as [he] should deserve theirs" (Shelley 33). In turn, his creature compares Frankenstein to God, the original father, and himself to Adam, his son. In *The Pearl of the Soul of the World* there is a very similar scene where Aerial tells her creator: "you were like mothers and fathers to us" (Pierce 96). Both authors portray different kinds of parental failure, ranging from neglect and abuse to over-protection.

Frankenstein turns from his creature in horror at its appearance and massive size, both of which he is responsible for. Consequently, the creature is abandoned by the very person who might be supposed to care for him the most, to love him unconditionally. After the first abandonment, the creature is shunned by other humans, despite his attempts to convince them of his innate goodness. When creator and creature see each other again, the creature pleads with his father:

Oh, Frankenstein, be not equitable to every other, and trample upon me alone, to whom thy justice, and even thy clemency and affection, is most due. [...] I am thy creature: I ought to be thy Adam; but I am rather the fallen angel, whom thou drivest from joy for no misdeed. (Shelley 68)

When the creature compares himself to both Adam and Satan in the very same breath, he calls attention to the complexity of the relationship between creator and created. According to Clayton, by presenting the creature simultaneously as Adam who has been driven away from his home and as “[a] Romantic version of Satan, noble in his defiance of the creator, who has deserted him”, Shelley succeeds in evoking feelings of deep sympathy in the reader (86). The quote also shows that the creature is painfully aware of the special bond of unconditional love that is supposed to exist between parent and child. Just like Frankenstein initially envisioned his creature’s deep gratitude, the creature imagines the love his creator owes him, but which he has cruelly denied him. The result is that the child, neglected and abused by his father and all of his kin, turns against the world in rage. Justifying himself, he asks Frankenstein: “Shall I not then hate them who abhor me?” (Shelley 69). Anne K. Mellor draws our attention to the symbolism of the creature’s first victim being the youngest of the Frankenstein family, William, who is but a child at the time of his murder (11). Mellor notes that the creature does not initially wish to kill the child; he wants to adopt him. But as the abandoned, abused son that he is, the creature has turned into an abusive parent himself and causes the death of William (ibid).

If Frankenstein’s fault is abuse and neglect, then Ravenna is guilty of selfish over-protection. As previously mentioned, she withholds important information about Oriencor’s origin, just so that she can keep her daughter close to her. Ravenna underestimates Oriencor and her wish to protect her daughter is what causes her the most pain. Furthermore, one might also argue that since all humans except for Ravenna deem Oriencor inferior to humans because she is a hybrid, Oriencor is also the abused child who turns into an abuser.

In accordance with Mellor, Banarjee concludes that Frankenstein’s failure to nurture and acculturate his creature, to give his child a human life, is ultimately what fosters the creature’s vices (Banarjee 16). Frankenstein even fails to realise what he owes to his creation. Not until he is confronted for the first time by the creature does he even consider his own duties and responsibilities towards him (Shelley 69-70). In contrast, the creature holds Frankenstein responsible for all of his past miseries and displays, as Clayton puts it, “feelings of thwarted love, anger, and thirst for revenge” (Clayton 90). The creature, who has been shunned and exposed to prejudice on the basis of his nonhuman, “other” qualities, tries desperately to shift Frankenstein’s – and with him the reader’s – attention from his vices to humankind’s culpability. In desperation he asks Frankenstein: “Am I to be thought the only criminal, when all human kind sinned against me?” (Shelley 160). By portraying Frankenstein’s creature as a victim, Shelley seems to urge us to rethink the anthropocentric order of things,

and, perhaps, mankind's speciesism. It is as if she asks: cannot Man's sins against nonhuman creatures be just as awful as his sins against one of his own species?

In addition to the parent and child reference, both Shelley and Pierce compare the relationship between creator and created to master and slave. In *The Pearl of the Soul of the World*, Ravenna herself explains how her kind viewed their creations as "slaves" and "chattels" (96). They did with them as they pleased, sometimes living among them and having children with them, other times prompting among them wars and destruction. All the while, they kept their creations in ignorance of their slave-like conditions. In turn, Clayton discusses in his article how Shelley portrays "[s]laves driven by desperation to turn on their masters" (89). By rebelling against Frankenstein, the formerly enslaved creature gains complete control over his master – and he thoroughly enjoys this newly acquired position of power. Turning against Frankenstein, the creature calls out: "Slave [...] remember that I have power [...] You are my creator, but I am your master; - obey!" (Shelley 120). Since Shelley conveys the creature's anger as a credible response to the great injustice to which he has been subjected, the reader is inclined to understand and to sympathise with him, rather than with Frankenstein.

As Pierce considers the likeness to slavery in the relationship between creator and created, she again implicitly alludes to *Frankenstein* by using the word *creature*. When Aeriell announces her decision to dedicate the rest of her life to restoring what the White Witch has destroyed, Pierce has Irrylath ask her: "Are you now become [...] Ravenna's *creature* as wholly as I once belonged to the Witch?" (Pierce 248, italics added). Irrylath questions whether Aeriell was actually free to choose her own destiny or whether Ravenna, as her master, effectively forced her. Ravenna, however, assures Aeriell that she is free to choose. In the end, neither Aeriell nor the reader is quite sure what is true.

By invoking images of slavery while depicting the artificially created beings as autonomous, conscious beings and by giving the reader the perspective of the enslaved, both Shelley and Pierce provide a critique of colonialism. Since, as Braidotti points out, colonialism is a legacy of the imperial tendencies of European Enlightenment and Humanism, this critique encompasses the core of the civilizational model on which Western societies are based (15). Furthermore, Banarjee describes colonialism as "an evil that is an integral part of the masculine urge towards ego-centric achievement which is the chief enemy of the familial and communal" (Banarjee 12) Thus, Shelley and Pierce once again find a way to demonstrate the negative consequences of valuing individualism and ambition over the collective and the good of the many.

Conclusion

This thesis studies the striking similarities between Mary Shelley and Meredith Ann Pierce's view on the creation of artificial life. They both portray Post-humanist values and criticise the Humanist core of the Western societies. This thesis shows how the European civilizational model, and thus also the civilizational model of Western societies, was generated from Humanism and how Posthumanism later developed as a critique of the universalism, anthropocentrism and eurocentrism intrinsic to the classic school of thought. Furthermore, Posthumanism pinpoints the damaging consequences of the essentialist definition of the human which Humanism provides. Those who do not fit into the image of the ideal human are perceived as the sexualized, racialized and naturalized "others". Both Shelley and Pierce are acutely aware of the existence of this binary opposition of self and other and apply it in their novels to demonstrate the devastating consequences of its use. They criticise the hierarchal structure this opposition implies by giving the created beings, i.e. the naturalized "others", in *Frankenstein* and *The Pearl of the Soul of the World* a voice and a part of the narrative. Thus, they demonstrate that neither of them is lacking in means of communication, consciousness or emotion. Moreover, the narratological structure highlights the creators' speciesism, which is a product of Humanism, and criticise how Humanism attempts to give the human a unique and privileged position. Instead, the authors seem to take a Post-humanist stance when they focus on the inter-connectedness of all species and the importance to value different kinds of life-forms.

While Shelley and Pierce are, in many ways, pioneers, foreseeing the future of biological science, they are also products of their time. In their works, they display the contemporary debate in the life sciences and both authors tap into the public sentiments to this specific type of biological technology. Pierce seems to perceive artificial life in a more positive light than Shelley, portraying what Yaren describes as the recent "Posthuman turn in popular culture", i.e. the shift to a more favourable, and positive opinion of artificially created life (78). However, the fact that both Shelley and Pierce describe their creations' hearts, minds and souls and make them capable of inspiring great sympathy from the audience, show the authors' deep respect for the "others" of society. Furthermore, in both novels, the creators of artificial life are severely punished for usurping upon nature's – and with nature, the female's – power to create life as well as for their failure to value the lives of other nonhuman species. By punishing the unhindered scientific ambition and self-centred individualism, Shelley and Pierce condemn the

imperial tendencies of Humanism as well as criticise the failure of Western societies to value the familial and the communal. Since, as this thesis argues, Shelley and Pierce's views are so similar, it would be interesting for further research to study novels of the same genre from the twenty-first century to see whether contemporary novels continue to criticise Humanism and urge Post-humanist values.

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