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Introduction

We need a past that leads to us. Similarly, what we imagine we are working toward does a lot to define what we will consider doable action aimed at producing the future we want and preventing the future we fear.¹

This book aims to investigate the concept of reproduction as it is imagined in speculative fiction. The focus is on reproduction in science fiction novels, short stories, films and young adult fiction. We investigate how speculative fiction deals with this topic and how it relates to previous concepts of reproduction. Reproductive methods, motherhood and parenthood are now being renegotiated in social, political and cultural arenas. As an experimental thought laboratory, speculative fiction is a good starting point for discussing alternative family structures, reproductive techniques, practices and, above all, the consequences of the choices. The authors of the different chapters relate to fiction and earlier research in the field to contextualise their findings. The emphasis is on examining alternative family structures, mother- and fatherhood, sexual preferences, human offspring as symbioses between humans and aliens, humans and machines, social constructions and ideological backgrounds. Our primary interest is the future offspring from these – in some cases – mysterious relationships and family constellations. The hypothetical methods and fictive results used by speculative fiction authors are worth taking seriously, as will become apparent in the discussions in the various chapters. Theory, fiction and reality that imagine it possible and desirable to separate women and childbirth are discussed from several angles in this volume.

Questions about reproduction have played a significant part in speculative fiction, such as in Mary Shelley's *Frankenstein* (1818), Margaret Atwood's *The Handmaid's Tale* (1985) and, more recently, Karin Tidbeck's

short stories “Beatrice” and “Jagannath” (2018). Reproduction has been – and still is – a subject that challenges us. Mary Shelley’s *Frankenstein* continues to interest researchers, and new dissertations focusing on it have been published. For example, Amber Lea Strother’s *Speculative sexualities and futuristic families: Representations of reproduction and kinship in science fiction* (2017) is relevant in this context.² A section in Emelie Cox-Palmer-White’s dissertation, *The Biopolitics of Gender in Science Fiction: Feminism and Female Machines* (2021), also discusses Mary Shelley’s novel *Frankenstein*.³

Speculative fiction provides an arena for discussing different modes of reproduction and reproductive techniques and how they affect the power dynamics in society.⁴ Reproduction is a trope continuously investigated as new authors emerge and new procedures and practices are introduced to society. It is a trope in speculative fiction that offers endless opportunities to explore the essential aspects of childbearing, parenthood, mothering, fathering, biology, responsibilities for future generations, socioeconomic and political structures, the wellknown and the unknown, gender and power structures. Ursula K. le Guin stated that

when science fiction uses its limitless range of symbol and metaphor novelistically, with the subject at the center, it can show us who we are, and where we are, and what choices face us, with unsurpassed clarity, and with a great and troubling beauty.⁵

In *Primate Visions* (1985), Donna Haraway argues that female writers changed science fiction and used it as potentially creative, new forms of social imagination,

creative in the sense of mapping out areas where cultural change *could* take place, of envisioning a different order of relationships between people and between people and things, a different conceptualization of social existence, inclusive of physical and material existence.⁶

Marge Piercy writes in the foreword to the latest edition of *Woman on the Edge of Time* (2019) that the point of writing about the future is not to predict it: “I’m not pretending to be Nostradamus. The point of such writing is to influence the present by extrapolating current trends for advancement or detriment”.⁷ Piercy stresses that the “point of creating futures is to get people to imagine what they want and don’t want to happen down the road and maybe do something about it”.⁸ Marge Piercy also

writes that she is “always interested in who controls technology in any given society at a particular time. (...) Who chooses which technology is explored? Who sets the rules for what is dangerous and what is acceptable risk?”⁹ The speculative literature discussed in this volume mirrors the human condition as it is scrutinised in hypothetical future scenarios.

In the chapters of this book, the authors have chosen texts that facilitate discussions about and problematise reproduction. Several novels, short stories and films that are discussed visualise several kinds of ‘posthuman’ futures. Rosi Braidotti, who appears in several chapters in this volume, writes in *The Posthuman* (2015) that human

embodiment and subjectivity are currently undergoing a profound mutation. Like all people living in an age of transition, we are not always lucid or clear about where we are going, or even capable of explaining what exactly is happening to and around us.¹⁰

Based on this assumption, Braidotti argues for a posthuman ethics that departs from the conception that our bodies and lives are constantly questioned and negotiated in the posthuman era. Braidotti believes that human extensions and enhancements of what human bodies are and can do are here to stay. She is also concerned about the global effects of the actions and decisions taken today, thus making it essential to analyse fiction and fantasies about the future and reflect on what we imagine the future might hold and how authors visualise the future of human beings.

Speculative fiction

One of the characteristic narrative elements in speculative fiction is ‘estrangement’. Let us start with J. R. R. Tolkien’s *On Fairy Stories* (1939), in which he explains ‘the fantastic’:

Mooreffoc is a fantastic word, but it could be seen written up in every town in this land. It is Coffee-room, viewed from the inside through a glass door, as it was seen by Dickens on a dark London day; and it was used by Chesterton to denote the queerness of things that have become trite, when they are seen suddenly from a new angle.¹¹

In speculative fiction, reality can be viewed from ‘the outside’, and the familiar can be made ‘strange’ so that we can see it more clearly. Victor Shklovsky used the term ‘ostranenie’ – meaning ‘defamiliarisation’

or 'estrangement'. Bertolt Brecht used 'Verfremdungseffekt', the idea of combining the mundane and familiar with the unexpected, to make us notice things we are often blind to. 'Estrangement' is an essential tool in speculative fiction. "The King was pregnant" is an iconic phrase from Ursula K. Le Guin's science fiction novel *The Left Hand of Darkness* (1969), which continues a long tradition of discussing reproduction in speculative literature and a starting point for a modern feminist discussion about power, bodies, babies and sex. The phrase is also an excellent example of 'estrangement'. The concept of 'estrangement' was developed further by Darko Suvin when he introduced 'cognitive estrangement' in *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (1979).¹²

Speculative fiction includes what is usually labelled science fiction, fantasy, several subgenres and other nonmimetic genres. Lucie Armitt argues in *Contemporary Women's Fiction* and *The Fantastic* (2000) that "carving up fantasy and the fantastic and jamming its literature into a series of discrete, neatly labelled boxes kills the literature dead"¹³. Brian Attebery has also argued that trying to pin down what fantasy is will, in the end, be counterproductive.¹⁴ Attebery's solution is to think of genres like fantasy and science fiction as 'fuzzy sets', where the borders are constantly changing.

More recently, consensus about the speculative genres has emerged, and the term 'speculative fiction' has become an umbrella to gather rather than divide. Tom Shippey (2016) writes in *Hard Reading: Learning from Science Fiction* that most arguments about definitions "are in the end arguments about a form of words. More productive, and more in tune with the ethos of science fiction itself, would be an argument not about what it is but about how it works, or in many cases doesn't work".¹⁵ In fact, *descriptions* of speculative literature are where most of us working with it end up, given that literary genres emerge, evolve and rapidly change.

Marek Oziewicz writes that the 'fuzzy set field' understanding of speculative fiction "arose in response to the need for a blanket term for a broad range of narrative forms that subvert the post-Enlightenment mindset: one that has long excluded from 'Literature' stories that depart from consensus reality or embraces a different version of reality than the empirical-materialist one".¹⁶ Oziewicz claims that speculative fiction "emerges as a tool to dismantle the traditional Western cultural bias in favour of literature imitating reality, and as a quest for the recovery of the sense of awe and wonder".¹⁷ Several writers and critics have breached the borders between science fiction and fantasy – to

the extent that it is more common to talk about speculative fiction. Marek Oziewicz's definition of speculative fiction describes the field:

Like other cultural fields, speculative fiction is a domain of activity that exists not merely through texts but through their production and reception in multiple contexts. The field of speculative fiction groups together extremely diverse forms of non-mimetic fiction operating across different media for the purpose of reflecting on their cultural role, especially as opposed to the work performed by mimetic, or realist narratives.¹⁸

Criteria that, for some decades, have defined science fiction and separated it from fantasy are no longer helpful. Instead, we would do well to approach speculative fiction as a kind of narrative that takes place in new, different and as yet unknown social, technical and political settings. These authors do what they love to do, need to do and ought to do: expand and challenge thinking, imagination, genre expectations and borders. The forces of nature they describe may differ from those on our planet. As yet unknown social structures, genders, families, reproduction and power are other areas that can surprise us when reading speculative fiction. In the following chapters, speculative fiction is understood as a broad definition of texts that can be science fiction or fantasy, but also as a combination of these genres, especially as several modern authors combine science fiction elements with those from fantasy and vice versa. Earlier defined borders between science fiction and fantasy have become less meaningful. Nonetheless, ongoing discussions about definitions can be advantageous because they generate more energy and creativity in the field than definitions in and of themselves could ever do.

Science and fiction

In this section, some visions of the future are discussed to clarify the somewhat fuzzy areas of science and fiction, which are often understood as unconnected. However, in speculative fiction, they are more closely linked than we might imagine. Scientists, philosophers and authors often work with the same challenges and questions about human life and tend to use hypothetical examples to visualise the possible future consequences of scientific research. But what is the point of imagining the future? Can we 'predict' or synthesise anything from the ongoing activities that give us clues about what might happen in the future? Or are there other rea-

sons why literature about future societies, alternative lifeforms and life conditions is so fascinating?

In *The Aesthetics of Chaos*, Michael Patrick Gillespie states that the “New Physics, which has already had an impact upon the way we think in general, also has specific application to literary criticism, as the procedure of nonlinearity can be employed for a better accommodation of our needs as readers.”¹⁹ Gillespie argues that literary critics must consider how science influences fiction and even use unconventional tools to interpret and understand modern literature. Scientific theories use literary metaphors to describe results, just as scientific icons and metaphors are transferred to literature and cultural areas. In *The Exploded Form: The Modernist Novel in America*, James Mel- lard states that “when the new science exploded the world, it exploded with it the novel as well”.²⁰ Many thus see the importance of understanding the interactions between different scientific areas and cultural expressions. Stuart Peterfreund contends that “language itself is the repository of ideological values and critical and methodological praxis, as well as the boundary between the operational [...] and the valuative”.²¹ Today’s dreams about the future, written by authors and scientists, are the engines that drive change, motivate it, resist it and counteractualise alternatives.

Futuristic scenarios are put forward in many contemporary scientific and philosophical publications. Some of the ‘prophetic’ or ‘visionary minds’ publish and collect their thoughts on the website of a worldwide organisation consisting of scientists and philosophers who define themselves as transhumanists. The latest label is ‘Humanityplus’, or simply H+.²² Here we can read numerous futuristic visions for human life. In one manifesto, transhumanism is described as “just one point along an evolutionary pathway, and we can learn to reshape our nature in ways we deem desirable and valuable”.²³ The argument continues to explain that by applying technology to ourselves, humans can become “something no longer accurately described as human – we can become posthuman”.²⁴ According to the transhumanists’ model of thought, man is still at an early stage in an evolutionary chain. The transhumanists aim to promote people’s opportunities to develop higher levels of intellectual capacity, improve quality of life as defined by life expectancy and health, and further the individual’s freedom to reshape their bodies and lives. The human body is perceived as an ‘expression’ amongst many others that can be changed and improved beyond recognition. The driving force for the people engaged in Humanityplus is a conviction that a natural step in the development of humanity is

to refuse to accept old age and death. Some also believe it will be possible to transform all human knowledge (and bodies) into digital codes. Transhumanists want to “expand the range of possible future environments for posthuman life, including space colonisation and the creation of rich virtual worlds”.²⁵ They also imagine that a complete symbiosis between technology and man is both possible and desirable and present infinite life as the main goal. Naturally, transhumanists are also immensely interested in reproductive technologies. Articles like the following, to mention but a few, are not science fiction but scientific and philosophical arguments for how humans ought to reshape the future of humanity through reproduction and reproductive techniques: “Transhumanist science will free women from their biological clocks”,²⁶ “The Artificial Reproduction of the Human: The Road of Transhumanism”,²⁷ “Human Genetic Enhancements: A Transhumanist Perspective”²⁸ and “Reproductive Rights in the Transhuman Future”.²⁹

One of the most striking and relatively early examples of visions about reproduction and populating the future is microbiologist Lee M. Silver’s non-fiction book *Remaking Eden: How Genetic Engineering and Cloning Will Transform the American Family* (1998). Silver uses fiction to highlight scientific statements and convince readers about the necessity of constant progress and ‘natural’ and ‘necessary’ changes in the name of evolution. Silver envisions several futuristic possibilities. One is that a child can have two genetic mothers. Another is that parents will soon be able to choose the physical characteristics of their children-to-be, their personalities and talents: “Extensions that were once unimaginable will become indispensable [...] To those parents who can afford them.”³⁰ Silver further argues that genetic enhancement will ultimately and inevitably lead to the dominance of a ‘genetic elite’.

What is relevant in this context is Silver’s use of speculative fiction. In his argumentation, he uses science fiction as referential material and refers to Aldous Huxley’s novel *Brave New World* (1932). According to Silver, Huxley’s vision of genetic control now lies within our grasp. He writes, “While Huxley guessed right about the power we would gain over the process of reproduction, I think he was dead wrong when it came to predicting who would use the power.”³¹ According to Silver, it is “individuals and couples who want to reproduce themselves in their own images, it is individuals and couples who want their children to be happy and successful [and] who will seize control of these new technologies”.³² This scientist also uses fiction as part of his argumentation. Silver’s *Remaking Eden* starts with science

fiction-like stories set in distant futures in a prologue called “A glimpse of things to come”, where tales of alternative and new ways of getting babies are told. As technology evolves, so does childbearing and the design of the offspring that Silver describes. The book ends with an epilogue of speculative narratives, where one of the last scenes is set in a distant future. The date is 2297, and new humanlike settlers are living on Mars. The very last vision is of an unknown future, where human descendants are space travellers with little in common with human beings as we view ourselves today.

Authors of speculative fiction examine these fields as hypothetical thought experiments. They add potential psychological, personal, political and ethical complications and dangers to their narratives. These authors create complex fictional societies to investigate the possible effects of politics, power, gender and the emotional, personal, collective and global consequences of technology and the development of possible futuristic approaches. In the field of possible human futures, especially concerning reproduction, the boundaries between science and fiction often seem to be blurred. On the one hand, there is the scientists’ rhetoric when presenting research and engaging in debates about scientific possibilities, progress and potential problems. On the other hand, we find authors digging into the same questions and creating complex narratives and situations to investigate similar challenges. Correlations between science, philosophy and fiction are part of these discussions in that speculative fiction is closely related to the ongoing debates, technology and politics in today’s world.

Feminist speculative fiction and non-fiction

Feminist speculative fiction often discusses gender patterns, social structures and power.³³ Connie Willis writes that science fiction is “all about looking at the universe from different perspectives, about breaking down barriers and considering alternate possibilities. [...] Science Fiction is all about toppling stereotypes and considering alternate futures. It’s a genre that by its very nature is open to new ideas, to change”.³⁴ Feminist speculative fiction puts the spotlight on gender inequalities and power structures and visualises different worlds through estrangement. Authors like Ursula K. Le Guin, Joanna Russ and Marge Piercy broke new ground in the 1970s by expanding speculative fiction as a genre. For example, Joanna Russ’ novel *The Female Man* (1970) describes four different worlds, all of which present different ways of understanding femininities, masculinities

and reproduction. This and other novels by Russ have had an important impact on Donna Haraway's theories. In "The Cyborg Manifesto", Haraway envisions a world in which a cyborg can be a tool for transgressing the dualistic worldview that predominates today, a world where gender differences and ethnicity no longer have meaning. As Haraway indicates, "Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves."³⁵

Roberts states that feminist speculative fiction's long history "may provide clues to how feminism itself can continue, even in in-hospitable climates. Feminist speculative fiction can teach us to rethink traditional, patriarchal notions about science, reproduction, and gender."³⁶ Feminist writers have found speculative fiction especially useful for highlighting women's situations and opportunities for liberation by investigating alternatives to traditional notions of family, pregnancy, and parenthood. 'Producing children' in new ways has been seen by many feminist intellectuals as the only way of freeing women from what is often regarded as the major obstacle to women's liberation – the patriarchy.³⁷ After all, society needs children – new citizens – to continue to exist. How has the most significant responsibility for this important undertaking mostly been left to women? Can such a structural problem be solved in new and untraditional ways? Questions like these have often been expressed as hypothetical thought experiments. However, the aim has not been to play but to show the unreasonable situation of women trapped in their biological bodies and, at the same time, in the social body.

Hybrid forms of offspring, future children as a mixture of humans and aliens and humans and machines are all frequent in speculative fiction, as reproduction and family structures have been investigated from different angles over several decades in tandem with the progress of technology. Mental boundaries continue to move as technology makes a greater impact on all aspects of our lives. It is therefore essential to examine how ideas about reproduction and the family continue to take shape in speculative fiction. As will become apparent in the book, there are many ways of approaching these topics. The authors of the different chapters have investigated modern, playful, literary thought experiments, literature, films and bleak futuristic scenarios in speculative fiction.

As indicated, Ursula K. Le Guin's *The Left Hand of Darkness* (1969) is one of the most important science fiction novels to deal with the themes of reproduction and family structures. The novel had a significant impact on

speculative fiction and greatly expanded its thematic repertoire.³⁸ Conquering new worlds or adventurous travels to new worlds was no longer the main themes as new gender agendas emerged in the genre. In Le Guin's novel, diplomats travel through the galaxies to understand how societies, work, politics, and family life should best be organised. Gender, family life and reproduction are manifested in entirely new ways. One diplomat encounters a planet, Gethen, where every citizen could become pregnant and give birth to a new child. Hence, burden "and privilege are shared out pretty equally; everybody has the same risk to run or choice to make. Therefore, nobody here is quite so free as a free male anywhere else".³⁹ The result is interesting in that Le Guin depicts the reproductive ways of society and how each person is involved in bringing people to life. There is a collective responsibility and a shared concern for the next generation: "No physiological habit is established, and the mother of several children may be the father of several more."⁴⁰ Motherhood is privileged in this society because anyone can be a maternal parent: "I suspect that the distinction between a maternal and a paternal instinct is scarcely worth making; the paternal instinct, the wish to protect, to further, is not a sex-linked characteristic."⁴¹ Le Guin's thought experiment aims to find out what is left when the traditional categories of male and female are rendered irrelevant.⁴² When entering Le Guin's fictive society, we learn that bearing and birthing children and caring about and raising the next generation can be a collective accomplishment.

Several novels were published in the 1970s dealing with the issues broached by Le Guin. Le Guin herself followed up with *The Dispossessed* (1974), Joanna Russ with *The Female Man* (1975), Marge Piercy with *Woman on the Edge of Time* (1976) and Angela Carter with *The Passion of New Eve* (1977), to name but a few. Not all these novels are investigated here, however. Suffice it to say that they are of equal importance when preparing the ground for younger authors and for ongoing discussions about the limitations and possibilities of womanhood, gender and sexuality.

In the 1970s and 1980s, the right to free abortion and control over our bodies was worth fighting for. The same questions were investigated by feminist thinkers as well as authors of fiction. Many notable nonfictional works examine these issues. Adrienne Rich's *Of Woman Born: Motherhood as Experience and Institution* was first published in 1976 but did not gain its rightful place in the debate in the 1970s: "Reviews of this work, in their extremes of applause and denigration, broke all the rules of polite reviewing. Rage was not too strong a term for some reactions."⁴³ From the beginning,

both the style and response to *Of Woman Born* were intriguing. Rich was perhaps too early in her endeavour to show how the problems of motherhood are connected to social conventions. She was misunderstood when she tried to unveil women's limitations in life due to this 'natural disposition'. Her book later became a canonical text in women's studies generally and for contemporary feminist scholars in particular.⁴⁴ Marilyn Dell Brady says this about Rich's book: "Formal research as well as fictional and autobiographical writing by women have begun to create the collective understanding she envisioned."⁴⁵

The optimistic view that social change was not only necessary but also possible during the 1970s has changed. During the 1980s, completely different fictional stories and theoretical texts were published. Rich's book was republished in 1986 with a new introductory text. Here, Rich again states that both men and women are born of women but that: "we know little about the effect on culture of that fact, because women have not been makers and sayers of patriarchal culture". She further stresses that a woman's status as a childbearer has been "made into a major fact of her life. Terms like 'barren' and 'childless' have been used to negate any further identity. The term 'nonfather' does not exist in any realm of social categories".⁴⁶ She further maintains that childbearing is both a personal experience and part of an institution, as in the family and society.

Andrea Dworkin's non-fiction book *Right-wing Women: The Politics of Domesticated Females* was published in 1983. She does the same trick as Lee M. Silver and imagines futuristic scenarios to clarify her point. In one of the fictional parts, she envisions a man wanting a child, regardless of whether he is married to an infertile woman or a single person. Dworkin imagines that "he buys the egg and the use of the womb of a surrogate mother—a woman who will accept the introjection of his sperm through artificial insemination, gestate and give birth to what is contractually established as his child".⁴⁷ Dworkin further speculates and imagines that this practice would expand the possibilities of surrogate motherhood: "The uterus is exempt from the immune response. Scientists already can remove the egg of one woman, fertilise it outside her body, then introduce it into a second woman's uterus, where it will gestate." Dworkin continues by stating that this has not yet been done, although at the same time maintaining that "there is no technological barrier to doing so". She writes that "these two reproductive technologies—artificial insemination and in vitro fertilisation—enable women to sell their wombs within the terms of the

brothel model”. Dworkin’s primary concern is that “Motherhood is becoming a new branch of female prostitution with the help of scientists who want access to the womb for experimentation and for power”.⁴⁸ By mixing facts with fantasy, she makes her points clear.

In the 1980s, the idea of using the reproductive technologies of animal husbandry still seemed farfetched. Now, in the 21st century, it has become a significant industry. Faye Ginsburg and Rayna Rapp write in *The Politics of Reproduction* (1991) that reproduction “is a slippery concept, which tells about the birth, Marxist notions of household maintenance and the constitution of a workforce and ideologies that support the continuity of social systems”.⁴⁹ Ginsberg and Rapp state that the 1970s proliferation of gender studies “provided a matrix from which a revitalized, feminist scholarship on reproduction emerged”. They claim that since the early 1980s, activists and scholars concerned with sexuality’s diversity have “produced a rich literature, insisting on the conceptual distinction between sex and reproduction”.⁵⁰ Although Ginsburg and Rapp do not mention speculative fiction, reproduction is investigated and intensively discussed in both theory and fiction during this period. The question is, could new or other reproductive strategies play important roles in an emancipatory project?

Feminist speculative fiction is an arena in which gender, reproduction and parenthood have been important themes for decades.⁵¹ Marleen S. Barr writes that “when feminist science fiction turns its attention to reproductive technologies, the difference between fiction and fact becomes indistinct”, indicating that feminist speculative fiction problematised reproductive techniques long before technology made them accomplishable.⁵² Ideas about future generations range from the creation of technological lifeforms and cloning to technological or artificial insemination and surrogacy, to name but a few of the most common themes. In our current society, what used to belong to the realm of fiction has, in some cases, become real, such as medical tools and standard procedures in ultrasound screenings, artificial insemination and biochemical or genetic testing.

The chapters

Jenny Bonnevier (Chapter 2) writes about all-female worlds in “Making Babies and Making Home in an All-Female World: Reproduction, Sexuality and Belonging in Nicola Griffith’s *Ammonite*”. When constructing all-female worlds, a vital aspect that needs to be rethought is reproduc-

tion. How this has been done varies, likewise the representations of family formations and conceptions of kinship in these narratives. Examining 'reproductive solutions' and how they are represented as parts of cultural, social and political contexts and systems allows us to explore feminist reproductive futurities and ways in which feminism can reformulate reproduction and kinship *per se*, and, more importantly, the connection between them and a future that is free from gender-based oppression.

Bonnevier focuses on Nicola Griffith's novel *Ammonite* (1992), which is set on the all-female planet of Jeep and features Earthborn anthropologist and newcomer to Jeep, Marghe Taishan. The novel reflects the context of other all-female science fiction narrative worlds, such as Gilman's *Herland*, Russ's *Whileaway* and Charnas's *Motherlines*, identifies certain recurrent themes and tropes and highlights how *Ammonite* attempts to rework or – at times – reject these themes. In this way, the analysis aims to do justice to the plurality of feminist positions by focusing on the variations and differences in how these common concerns are tackled. Regarding the connection between sexuality and reproduction in an all-female world, *Ammonite* constitutes what appears to be a decisive refutation of heterosexual normativity and resonates in interesting ways with Russ's *Whileaway*.

Jani Ylönen (Chapter 3) analyses Ian McDonald's *River of Gods* (2004) and Ken MacLeod's *Intrusion* (2012) as representing two contrasting choices for the regulation of prenatal genetic technology. In the former, the choice of whether to genetically modify their children's DNA before they are born into a capitalist economy is left to the parents, thus limiting the choice to those who can afford it. In the latter, society makes decisions for its citizens. However, in both novels, the discussions about these modifications take place around the kitchen table, thereby concretely connecting them to questions and structures such as public/private, gender and the body.

Ylönen's multidisciplinary framework highlights how discussing a topic that may still seem futuristic or mere speculation is deeply connected to existing discourses. The domestic space, where the scenes are set, underlines how technology and genetic technology are connected to questions of the body, which in these discussions is also considered a space. The science fiction novels demonstrate that questions concerning prenatal modifications relate to gender and agency, which intertwine in complex ways with other discourses. The scenarios presented in these science fiction novels help us imagine the possible effects of prenatal genetic technology and its ethical questions. By operating as moral laboratories, they reveal the connections

between the discourses affecting the discussion and make the complex and abstract questions palatable. As such, they serve as important sites for ethical discussions about genetic technology and the links between theory and technology.

In the chapter “Mother Machine: ‘Not the true parent is the woman’s womb” (Chapter 4), I discuss speculative fiction in connection with contemporary debates about fertility techniques and surrogacy in society. The recurring fantasy of ‘getting babies’ as a phenomenon separated from a mother, a woman giving birth and how this connects to ancient ideas, fiction and fantasies is highlighted and discussed. Commercial surrogacy is discussed in relation to a persistent idea called *male pseudo-generation*. The perspectives of female writers, philosophers and novelists are studied to discuss the dreams, fears, and hopes played out in theory and fiction about current and widespread reproductive practices. In other words, the theories, fiction and realities that imagine that it is possible or desirable to separate women and childbirth are analysed. Speculative fiction authors have highlighted the risks and possibilities of reproduction for some time and experimented with many scenarios to make their point and highlight the obvious flaws in certain human practices.

Outside speculative fiction, surrogacy – at present the most controversial reproductive technique – is making continuous news headlines. “The golden age of surrogacy is here” is one of many headlines from around the world and shows a millionaire playing with his daughter as the happy result of surrogacy.⁵³ Children can thus be trinkets or tokens of wealth and their mothers’ anonymous carriers. Michael Cook calls it “the golden age of commodification of human life”.⁵⁴ Hence, discussing the ideas flourishing in speculative fiction and science about the future is important. What is today becoming everyday practice has its origins in persistent mindsets. The main point is to show how fiction and reality are intertwined and work together as parts of the same question. We need both perspectives to grasp what is happening in our time and where we want to go in the future.

Young women forced into reproduction have become a theme in young adult fiction. In “Resisting Motherhood. Reproduction in Young Adult Dystopian Fiction” (Chapter 5), Maria Nilson analyses how young heroines in Young Adult dystopian fiction struggle to survive and change a future in which their freedom is heavily restricted. Nilson uses a selection of American YA dystopias published after Suzanne Collins’s *The Hunger Games* from 2008. A recurring theme in these novels is that the human race needs

to survive and to ensure this, women need to have babies. In the novels discussed by Nilson, the heroines are threatened with rape, enslavement, medical experiments, and so on that will curtail their freedom and ultimately kill them – a destiny that they, in most cases, manage to elude. Reproduction thus becomes a tool that those with power use to control young women.

There are interesting exceptions in the sample of books used in Nilson's discussion, where the patriarchal structures portrayed in the novels are so strong that the heroine cannot break them and, in some cases, is reduced to a body, a reproductive tool, to facilitate the survival of the human race. But the recurring theme is that the heroine eludes this fate. The refusal to become a reproductive tool must also be read in dialogue with YA dystopias' blend of dystopian genre traits and traits from the popular romance genre. These dystopian heroines are unwilling to give up their lives to save humanity by having babies, although motherhood could be on the horizon if the potential father is their one true love.

Marinette Grimbeek (Chapter 6) analyses the fiction of Nigerian-American author Nnedi Okorafor, which is distinctly Afrocentric and eschews conventional generic expectations. To some extent, the fiction that Grimbeek discusses can be classified as coming-of-age stories, where their protagonists must reinterpret traditions to survive and thrive. The new family assemblages created by these protagonists are not merely the result of chance but are inextricably linked to whatever degree of agency they have. The first part of Grimbeek's analysis focuses on agential assemblage through naming and storytelling in *Who Fears Death* and the Binti Trilogy. Whilst these are arguably the most unequivocally utopian texts under consideration, agential assemblage is not necessarily benevolent in Okorafor's work.

Science and magic blend in fictional universes where most significant characters, settings and plots are African. One of the ways in which her work rejects Western norms is in its conceptions of family and family constellations. The African cultures depicted are highly sophisticated yet steeped in tradition, to the benefit and detriment of various characters and groups. Yet the conception of family in Okorafor's fiction is rarely static: traditions are inherited and passed on to new generations, but the power of tradition is always shown to lie in its ability to adapt to new technological, climatic or cultural realities. While families and intrafamily relationships appear central to the societies portrayed in Okorafor's work, family ties and tribal allegiances are frequently shown to be keys to individual identity.

A girl or young woman facing new or dangerous challenges without the

support of her family is a recurring motif in Okorafor's oeuvre. These protagonists tend to make their own families throughout the narratives. Such families are not always the result of traditional family relationships: new kin is repeatedly chosen in acts of agential assemblage that either complement or replace biological families. When reading about the family constellations that these protagonists pursue and enter as assemblages, we need to bear in mind that agency is at the literal root of Deleuze and Guattari's notion of agencement,⁵⁵ which is conventionally translated as *assemblage*. Issues of power and choice are thus at the heart of the concept of assemblage, which denotes more than just a collection of components combined to create a whole. Okorafor's novels repeatedly articulate utopian desires for changes in family norms and interpersonal and interspecies relations, despite their sometimes dire settings. The assembled families populating her texts are thus both vehicles of individual agency and utopian expressions of malleable traditions.

Together with Sandra Lantz, I analyse Octavia Butler's trilogy, *Lilith's Brood* (Chapter 7). The protagonists are named 'Lilith', 'Akin' and 'Jodahs', and the antagonists, the aliens, are named 'Oankali' and 'Ooloi'. By analysing Butler's naming in the novels, we can add new perspectives and deepen the understanding of the events in this speculation about future human life and reproduction. The interdisciplinary, analytical perspective also involves intertextuality and theories of rituals and myths, as Butler's narrative choice of names implies myths from various cultures.

By elucidating different origins and meanings of names, new understandings of the respective narrative and function in Butler's future world open for new interpretations, insights, and approaches. The trilogy was published at a time when public debates about gene therapy, IVF, and genetic engineering were at a relatively early stage. The novels can be understood as speculation about one possible outcome of genetic engineering. One of Butler's questions seems to be how profound changes human beings can undergo and still consider themselves humans. In *Lilith's Brood*, humans are not engineers but those engineered upon. And in the Oankali laboratory, human beings are the preferred species to experiment on. Lilith as a mythological character throughout time and the Lilith in Butler's novels gain historic immortality as first mothers of new breeds and incubators of non-normative offspring. The narratives portray different hierarchical perspectives, approaches, and agendas by challenging the concept of reproduction and motherhood.

Kevin Pinkham discusses whether procreation is generative or destructive in the chapter “Would You Change Things? Parental Choice and Child Effect in *Arrival* and *What Happened to Monday*” (Chapter 8). The reasons for having children vary from economic, to religious, to societal, and the reasons for not having children often stem from these same factors. While there are many people for whom having a child is not an option, the choice of whether to have children or not is obvious for others. Given biological imperatives and cultural pressures, the default expectation for humans seems to be to procreate. The philosophy of antinatalism, especially as David Benatar espouses it in his book *Better Never to Have Been: The Harm of Coming into Existence*, views bringing a child into existence as a negative act and one that can only increase harm in the universe. Yet despite such philosophies, people continue to procreate. In her book *Why Have Children?* Christine Overall responds to Benatar’s antinatalist view, explores the choice to have children and argues for more informed and nuanced choices when considering bringing a child into the world.

Pinkham explores parents’ choices about childbirth in two films, *Arrival* (2016) and *What Happened to Monday* (2017). Through the lenses of Benatar and Overall, Pinkham argues that we can better understand what is at stake in the films in the decision to have children, in that they directly address the problem of suffering that arises. The films, in turn, illuminate both Benatar’s and Overall’s positions, ultimately serving as thought experiments for parents’ choices regarding childbirth in the real world. Ultimately, the choice to bring a child into the world is personal, with consequences that can often escape those who choose to become parents. While both films are fiction and do not attempt to portray the choices of real-life parents in the twenty-first century, they can provide an arena, in concert with the views of philosophers such as Benatar and Overall, in which potential parents can explore the larger implications of their choices to procreate.

Emma Tornborg (Chapter 9) examines the short stories ‘Beatrice’ and ‘Jagannath’ from Swedish author Karin Tidbeck’s short story collection *Jagannath* (2018) from a posthumanist perspective. The unexpected other may also be a symbiosis between man and machine. In this intersection between human, animal and machine, flesh and blood, cables and pistons, Tornborg discusses the short stories and the works of Braidotti and others as a theoretical base. According to Braidotti (2013), posthumanism is a reaction to the European humanist ideal of the Vitruvian man, famously

portrayed by Leonardo da Vinci: a perfectly balanced, functional, white male human. Furthermore, posthumanism suggests a different world order in which human beings stop acting as though they were the masters of the planet. Humans must live side by side with other species, not above them. These two notions affect how we understand the natural sciences, feminism, capitalism and globalisation. They will inevitably lead to a restructuring of power, theoretically and in practice, thereby dissolving the boundaries between humans and other species and between biological creatures and machines (Haraway 2016).

Even though the steampunk atmosphere of 'Beatrice', with its mechanical technology, oil, coal, brass and polished wood, differs a lot from Mother's smelling, moving and oozing body, both stories give the reader opportunities to reflect on subjectivity and objectivity in a world in which humans can no longer claim to be the only sentient beings. They provide new ways of imagining love, sexuality and reproduction. In a world where the boundaries between humans and machines dissolve, we can imagine other kinds of life, life forms and futures. In doing so, we can glimpse ourselves and the norms we conform to.

Nicholas Wanberg (Chapter 10) finds racist discourses in contemporary popular media when he synergises Richard Dyer's readings of white sexual anxiety with readings from the original *Star Wars* film applied to the *Star Wars* prequels. In so doing, Wanberg shows how an inversion of Dyer's classic analogy (now reading 'human as white' instead of 'white as human') can shed light on the hierarchical relationships portrayed in the films. According to Dyer, due to the necessity of sex for the reproduction of white people, certain anxieties are created among whites about the conception of whiteness as defined by spirit, with an implied mastery over the physical body. Meanwhile, readings of the original *Star Wars* film have identified hierarchies of human over non-human and biological over non-biological, all of which shape the social landscape of the film and those that follow.

Wanberg elaborates on the portrayal of droids as an innocently oppressible minority group in the first film and demonstrates that the social position of the droids is much lower than many earlier writers have acknowledged. Wanberg then expands earlier readings of the prequel trilogy to focus on the presentation of droids by showing how this expresses the same themes of sexual and reproductive anxiety, yet at the same time goes much further by illuminating fears of white vs. non-white reproduction. The same patterns of virgin births (such as in the case of C-3PO's production by a single, non-

droid parent) against corruption by sexuality (as in the 'perverse' production of battle droids by other droids, replete with mechanised sexual imagery) join with the threat of hordes of non-humans (non-whites) out-producing and overrunning the heroes. In so doing, these themes re-enact white sexual and reproductive anxieties on a mythological scale. Wanberg argues for greater attention to human/non-human relationships in analysing popular fiction to better conceptualise and comprehend the manifestations of racist discourse in contemporary popular media.

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- ² Amber Lea Strother. *Speculative sexualities and futuristic families: Representations of reproduction and kinship in science fiction*, PhD diss., Washington State University, 2017.
- ³ Emily Cox-Palmer-White. *The Biopolitics of Gender in Science Fiction: Feminism and Female Machines*. PhD diss. New York & London: Routledge, 2021.
- ⁴ In similarity with collections like *The Enduring Fantastic. Essays on Imagination and Western Culture*, this book also has a broad view of speculative fiction, but with a different aim. Anna Höglund and Cecilia Trenter (eds). See *The Enduring Fantastic. Essays on Imagination and Western Culture*, North Carolina: McFarland & Company, Inc., Publishers, 2021.
- ⁵ Le Guin. *The Left Hand of Darkness*. London: Orion publishing Co, 1969/2018, p. 118.
- ⁶ Haraway. *Primate Visions*. Routledge, New York & London, 1989, p. 5
- ⁷ Piercy. *Woman on the Edge of Time*, p. vii.
- ⁸ Piercy. *Woman on the Edge of Time*, p. vii.
- ⁹ Piercy. *Woman on the Edge of Time*, p. xi.
- ¹⁰ Rosi Braidotti. *The Posthuman*. Cambridge: Polity Press, 2013, pp. 196–197.
- ¹¹ J. R. R. Tolkien. On Fairy Stories. Andrew Lang lecture at the University of St Andrews, Scotland, on 8 March 1939, *Inside Tolkien's Mind*, University of St Andrews, 1939, p. 28.
- ¹² Darko Suvin. *Metamorphoses of science fiction: on the poetics and history of a literary genre*. New Haven, 1979, n.p.
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- ¹⁶ Marek Oziewicz. <https://oxfordre.com/literature/view/10.1093/acrefore/-9780190201098.001.0001/acrefore-9780190201098-e-78>, 2017 (latest accessed: 2022-12-14).
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- ²⁰ James Mellard. *The Exploded Form: The Modernist Novel in America*. Urbana: University Press of Illinois, 1980, p. 30.
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- ²⁴ Humanityplus, 2022.
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- ³⁷ Shulamith Firestone. *The Dialectics of Sex. The Case for a Feminist Revolution*. New York: Verso Books, Brooklyn, 2015.
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- ⁴⁰ Le Guin. *The Left Hand of Darkness*, p. 4.
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