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Negotiations about Reproduction
by Domestic Tables
– Space, Gender and Genetic
Technology in Ian McDonald’s
River of Gods and Ken MacLeod’s
Intrusion

When thinking about science fiction, ‘space’ often invokes the image of the dark areas between star systems that often form the deadly yet neutral backdrop to the actions that happen within starships and on the surfaces of planets. However, following a general geographical turn it could be argued that this perception of neutrality has been renegotiated and that even the darkness between stars can be seen to be “charged with meaning through discourses and practices”.¹ Science fiction has contributed greatly to ideas about outer space by creating images of a location that is outside most people’s experience. However, it has also used spaces that are part of everyday human experience as its locations, such as business offices and homes, which are connected to much older and varied discourses.² Nevertheless, especially when discussing developing technologies, science fiction can combine and expose connections between discourses of technology and space in a way that highlights undercurrents that philosophical or political discussions might not. For example, in Ken MacLeod’s *Intrusion*³ and Ian McDonald’s *River of Gods*⁴, questions about genetic reproduction are discussed in the context of domestic space, thereby con-

necting them to concepts of public/private, gender and agency⁵ and highlighting the interlinks between issues of technology and control.

MacLeod's and McDonald's science fiction novels situate discussions about prenatal genetic modification around the space of domestic tables. However, while the settings have these clear similarities, some of the variables concerning gender, class and technological regulations are different. In *Intrusion*, the kitchen table is a site at which the government seeks to enforce its regulations on a pregnant mother, thus raising questions of agency, the body and biopower. In *River of Gods*, the dining table of a middle-class family serves as a setting for a patriarchal figure's attempt to hold onto his fixed ideas of identity and control by opposing his wife's wishes for a modified offspring. The two scenes therefore discuss what Jurgen Habermas⁶ introduces as two possible paths for the regulation of genetic reproductive technology, or normative regulation, where the responsibility falls on institutions and individual choice, and where individuals or parents make decisions without institutional supervision. Through these scenes these novels offer spaces for assessing the ethical implications, with fictional settings acting as "moral laboratories".⁷ The two scenes also emphasise – both through the setting and the dialogues between the participants – ideas about the distinction, or lack of it, between public and private, which can be seen as an integral part of the two regulations mentioned above. Through the novels I analyse how the ideas of control concerning technology are connected and intertwined with embodiment and gender in a space – the home – that is wrought with their discourses. Therefore, in this chapter I demonstrate how the settings reveal the ways in which discourses of space and identity interact with discussions about reproductive technology.

Recent developments in the field have meant that reproductive genetic technology has become significantly more visible in the media.⁸ However, as Esa Väliverronen⁹ has stated, gene technology only becomes interesting when it is part of everyday life. While there is an apparent consensus among several new publications that the issue is now much more topical, the technology is still far removed from the lives of average households. Väliverronen¹⁰ claims that fictional stories can serve as tools for understanding abstract phenomena, and I argue that the two mentioned novels are appropriate instruments for understanding how gene technology could affect homes in the future. I assert that not only do they discuss issues that the media has only recently shown interest in, but that they also connect these questions to where the effects of the discussion and decisions are ulti-

mately felt, namely in the domestic spaces and families that inhabit them. While the settings are similar enough to be effectively discussed together, they also offer contrasting contexts, such as different gender lines or modes of regulation that correspond with those discussed by Habermas¹¹. A close reading of these novels can be used to address important factors that are often overlooked in the public discussion about reproductive genetic technology, such as their connections to certain cultural dichotomies and social constructions.

In this chapter I study how domestic space, and especially the categories of public and private, connects with questions of identity and genetic reproductive technology. I first of all analyse how government regulations and individual choice are connected to questions of a mother's agency and embodiment in *Intrusion*. Indeed, as I will demonstrate, matters concerning the body and space are closely connected with technology and gender in both novels. I then examine how similar questions are linked to middle-class patriarchal identity in *River of Gods*. Finally, I conclude with a discussion about both novels and their overall implications for discussion on reproductive technology and domestic space.

Connections between Space, Gender, and Science Fiction

In the West, public and private are often seen as a dichotomous pair. The former is associated with the realm that is scrutinised by others and includes politics and community, whereas the latter is connected to home and the domestic space. Feminist theory has highlighted how the public has been associated with masculinity and the private with femininity, with the whole dichotomy being connected to questions of power.¹² The public is also connected to a more rapid conception of time and societal change, while the home relates to a “slower, more organic sense of time” and is regarded as a bastion of traditional values.¹³ Due to this association, the public space has been seen as the major site for identity politics and the construction of individual identities. However, as Andrew Gorman-Murray and Robyn Dowling¹⁴ have pointed out, home or domestic space is where matters of identity are constantly negotiated. For example, domestic space is where questions of gender, class and sexuality are constantly processed. The domestic setting is thus a site where discourses that are often associated with the public realm intersect and as such is important for “cultural formations and transformations”.¹⁵ In other words, it is

a site for identity politics and an arena for social change.

Iris Marion Young¹⁶ suggests that home is also “an extension of the person’s body”, where “the basic activities of life” are performed. In similar manner, Robyn Longhurst¹⁷ paraphrases Linda McDowell to indicate that a body not only “exists in places”, but that bodies “are places” in themselves. These ideas of the body are also connected to the concept of embodiment, where “collective behaviors and beliefs [...] are rendered individual and ‘lived’ at the level of body”.¹⁸ Young and Longhurst are also examples of the attention that the body has received in human geography in recent decades. Inarguably, the body as a concept has received significant attention not only in human geography, but also in cultural theory, the social sciences, literary scholarship and feminist studies¹⁹. While the Western philosophical tradition has presented the body as a static part of humanity and as a host to the ever-developing mind, in contemporary scholarship it is seen as a major site for the formation of identity that has been presented in various ways according to different cultural and societal factors.²⁰ Indeed, the body has been examined in various ways as a political site. For example, Michel Foucault²¹ famously examined how the body has been envisioned as an object of power that has been regulated by policies of social and medical origin.

According to Patricia Melzer²², feminist theory and science fiction share an interest in the body and its relation to what Foucault refers to as biopower: “scientific, discourse and technology’s systems, institutions, and representations”. This has been especially visible in feminist technoscience and cyborg feminism, which are often connected to Donna Haraway. Haraway has criticised the patriarchal origins of science and technology and seen their potential to deconstruct these very structures as well as the potential of science fiction in the related discussion. Feminist critique of science has emphasised how scientific knowledge and technology have been used to enforce patriarchal authority and power.²³ Similarly, early feminist critiques of science fiction argued that it historically reflected patriarchal values and masculine concerns.²⁴ However, more recent critics have pointed out how contemporary science fiction constantly explores gender and its relationship to technology.^{25 26} While science fiction has served as what Istvan Csicsery-Ronay Jr.²⁷ calls “a propaganda arm of technocratic ideology”, it has also critically engaged with technology and the cultures surrounding it. Due to its speculative nature, it even has a special ability to negotiate questions relating to emerging technologies. As Csicsery-Ronay Jr. observes,

[Science fiction w]riters take known, plausible, or just widely entertained scientific ideas and extend them speculatively into the unknown, exceeding their contexts, revealing their fantastic dimensions, and undermining obliquely their claims to universal applicability.²⁸

Gene technology is especially interesting for science fiction, as the two novels by MacLeod and McDonald demonstrate. Several scholars agree that genetic technology has an unforeseen potential to change the very concept of humanity.²⁹ In what follows, I demonstrate how the two analysed novels not only extend the ideas of genetic reproductive technology into the unknown, but also connect them to familiar discourses.

A Kitchen Table and a Government Ultimatum

Scottish author Ken MacLeod (born in 1954) is described by Graham Sleight³⁰ as having a particular “interest in how societies structure themselves” and how individuals form groups and societies. In *Intrusion*, his sixtieth novel, technology superficially appears to be an unproblematic agent of progress for the society concerned, thereby following a role that Roger Luckhurst³¹ claims is common in science fiction. To the general public of the novel’s future British technology appears to have solved many problems in the world, for example by genetically enhancing trees so that they clean the air and medical achievements that have cured many diseases. Indeed, even Hope and Hugh, the couple at the centre of activity in the novel, have faith in society at the beginning of the narrative. However, the medical enhancements, or rather how society seeks to control them, start to undermine the idea of progress and highlight its problems.

In many ways, the elements of dystopia are already in place in the lives of Hope and Hugh. For example, women’s lives are limited, and these limitations are justified by the benefits that they will apparently have for women and children alike. According to Hope, the changes have been progressively unveiled:

[T]hey’d come to stand in her mind for a larger failing on her mother’s cohort, who’d somehow let their guard down for a moment of post-feminist frivolity and found a whole shadow sexist establishment just waiting to pounce [...] and before you knew it, the tax advantages of having one parent home were so significant it was more than it was worth not to do it unless you were something like a lawyer – like, for instance, all those lawyers who’d dreamed up all the ostensibly child-protective legislation

that had put so many workplaces outside the home off limits for women of childbearing age whether they ever intended to have children or not, which meant that nine times out of ten the parent at home was the mother.³²

In the novel, society has created limitations for women through what are seemingly advantageous and good intentions. These limitations have gradually restored a patriarchal structure that is often associated with the 1950s. The society in question has not walked the path suggested by Adrienne Rich³³, where choices about reproduction have led to a deconstruction of social gender norms. “The child-protective legislation” is a classic way of justifying limitations that directly affect women, although at the same time uses children to shield the legislation from accusations of sexism. In this case, society has used children as an excuse to reinforce the gender barrier between public and private. As Burman and Stacey³⁴ claim with reference to research by Yuval-Davis, Anthias and Ueno, the cultural and biological aspects of reproduction have been used to “render [them] targets of social policy”. Furthermore, in connection to space, due to their ability to reproduce, in other words, their embodiment, women have been locked inside what Iris Marion Young³⁵ refers to as “private spheres” that confine “some persons to a certain realm of activity and excludes them from others”. The society has bypassed other possible options to restricting where people can go, such as dealing with the root cause of the danger. Restricting women from certain spaces, especially in a society that is technologically advanced, can be seen as a political choice that is comparable to those made in recent times outside fiction.³⁶

Although there are several examples in the novel of how technology and legislation are used to control women, in this chapter I concentrate on one specific scene and its location. As this scene depicts, and as narrated from Hope’s point of view and set in the family kitchen, it is not enough for the government to limit the public spaces in which women can work. Its legislation also invades traditionally private spaces. The scene is set when Fiona, a social worker/visiting nurse arrives and sits down to talk in the couple’s kitchen:

Hope stared across the table at Fiona: friendly, businesslike, almost motherly. In the grey light from the window and the white light from the led fixture, she sat in a halo in which she looked serene, concerned, informed, everything a visiting nurse should be.³⁷

It is noticeable how the setting affects Hope's perception of Fiona. Her composure is highlighted by the light, the mixed nature of which almost foreshadows her as an outside force entering this private space to discuss the faith of Hope's unborn child with her.

Despite her benign presentation, Fiona's visit is a continuation of the process that started with "the failure of Hope's mother's cohort". Whereas earlier changes had limited women like Hope to working in the privacy of their homes, this time the lines between what is controlled are moved further into the private sphere. Indeed, as Carole Pateman³⁸ states, welfare policies have extended their reach from public to private sector to support a patriarchal family model since the early 20th century. As a guardian of welfare policies, Fiona steps into the couple's kitchen, which has historically been seen as the woman's zone in the house³⁹, and makes it known that this too is already partly her jurisdiction: "[Hope] watched Fiona slip a computer out of her tunic pocket [...] and poked at it for a few seconds, then sat back, no doubt relieved that no molecules of dangerous substances had been detected in the air."⁴⁰ Fiona already has the right to monitor Hope's and Hugh's household so that they do not do anything that might be harmful to the future child, such as smoking. Indeed, close to her wedding ring, Hope wears a ring that reports any violations to the health centre, such as drinking whisky during pregnancy.⁴¹ However, it quickly becomes apparent that Fiona's visit is not just an ordinary house call to check toxic levels. Instead, she has a clear agenda, which is to ask for Hope's opinion as to whether she has decided to follow the government's recommendations in the case of her second child.

The recommendation is a pill called 'the Fix', which is

[...] a complex of gene-correcting machinery made up into a single tablet which when swallowed during pregnancy fixes errors in the baby's genome, and confers immunity to almost all childhood ailments.⁴²

'The Fix' is designed to ward off the various conditions that a child may experience to 'correct' the mother's DNA. Either because of this, or the fact that it indiscriminately fixes all the strands in the DNA that are perceived as errors, whether proven dangerous or not, Hope does not want to swallow the pill. However, a precedent that is in danger of giving the government leverage to force people into taking the treatment has just been set. In fact, this is the warning or threat that Fiona brings. Hope should take 'the Fix' now instead of being forced to do it later:

‘It’s the principle’, Fiona said. ‘[...] You can’t have people dodging an obligation just because they don’t feel like it.’ [...] ‘I sympathise, obviously, but all I can say is, I hope you’re not one of those picked to be made an example of.’⁴³

Fiona’s choice of words clearly indicates her perception of the matter: Hope’s personal choice to not take ‘the Fix’ means “dodging an obligation” – avoiding a compulsory and universally beneficial treatment without any understandable reason. Despite her appearance of niceness and apparent sympathy, Fiona works for a governmental agency that wants to determine the path of Hope and Hugh’s future child and take away the possibility for Hope to govern her own body. When Fiona later in the scene puts a ‘Fix’ tablet on the couple’s table in front of Hope, she not only introduces this technology to their domestic space, but also wants Hope to swallow it.

Of course, Fiona warns Hope of the possibility that her jurisdiction will be much deeper than the inside of her house, i.e. inside her. ‘The Fix’ and the government’s possibility to force it on Hope means that it is ready to invade her privacy and that of her future child’s body. Turning around yet connecting to the idea of “home as an extension of the body”⁴⁴, the control that Fiona represents and tries to enforce extends from the domestic space to Hope’s embodiment. Hope’s pregnant body, with a child in the womb, could be considered the most concrete extension of the idea of the body as a space. After all, the womb is even regarded by some as a vessel for new life, which is perhaps an appropriate metaphor for those developing artificial wombs that remove much of the connection between the mother and the foetus. While Rosi Braidotti⁴⁵ talks about how the work carried out by scientists in laboratories to develop reproductive technologies, such as artificial insemination, can be used to control women, here similar technology is brought from the labs to private dwellings with the same intent. Producing the best possible citizens has been seen in Western philosophy as the ultimate goal for society and for parents.⁴⁶ Here, society is willing to take control of more of the process. In order to provide ideal, healthy citizens for its society, representatives of the government are willing to take the agency for their own bodies away from adult women. By moving this into the private sphere, the government dismantles the boundaries between public and private by extending its control over women further into the latter. It could be argued that this is similar to the historical idea of the kitchen as women’s domain in the property that belongs to their husbands.

This threat also makes Hope seriously doubt the system and Fiona as part of it: “Fiona wasn’t a villain. Fiona was just a person who represented an impersonal system closing in and grinding them down. That was how Hope saw her.”⁴⁷ As this vision is quite distinct from the earlier benign one, Hope becomes disenchanted with Fiona, but more significantly with the society she represents and, consequently, is ready later in the novel to rebel against society and escape with her family. Iris Marion Young⁴⁸ refers to privacy as the “autonomy and control” that a person has over information about themselves and their private space and embodiment. In the novel, Hope not only loses her privacy but society also makes a very strong effort to limit her embodied agency and her ability to reproduce, therefore tying her womanhood to motherhood and using it to oppress her.⁴⁹ The concepts of private and privacy culminate in the body, Hope’s body, which is the ultimate object of the (bio)power the government wishes to wield. In *Intrusion*, the society can be defined as a woman’s dystopia, as indicated by Sarah Lefanu⁵⁰: Hope’s femaleness is used against her, and she is in danger of being “reduced from subjecthood to function”.

Dining Table and a Dream of a Perfect Child

Award-winning British author Ian McDonald (born in 1960) has set much of his work outside the First World paradigm and has often explored Britain’s demise as a world power in connection with rising technologies.⁵¹ *River of Gods* is set in a largely different world from that of MacLeod, in India in the 2040s, where traditional nation states have mostly been replaced or removed from power by private corporations in ways that are usual for post-1980s science fiction.⁵² As is often the case, the choice of using technology is left to the customer. Instead of a “socialist dystopia”, the world is more like a typical capitalist dystopia, or is on the verge of becoming one. *River of Gods* also has a central scene set around a table where choices about gene technology are discussed. While this table is a dining table and represents a more middle-class environment, the distinction between public and private and their connection to gender is also discussed around it. However, this time the person who is ‘under threat’ is not the future mother but the possible future father, who arrives home from work to find his wife and mother-in-law emphasising the old association between the masculine and the public and the feminine and the private.⁵³ As the patriarchal breadwinner, Mr Nandha feels that the home

should be his area of control. As Carole Pateman⁵⁴ argues, there has always been a legitimate space for men in public and at the head of the table. As such, the novel continues a tradition of middle-class families discussing topical societal concerns at the dinner table whether historically or in novels⁵⁵, but also questions matters of identity in a domestic setting.⁵⁶

Parvati, Mr Nandha's wife, and Mrs Saburdhai, her mother, disrupt these dreams of accord and induce a prideful (sic) reaction from him:

A fine government roof, earned by my care and dedication to my profession. A roof under which I expect the peace and calm and domestic order that profession demands. [...] Things you could not even begin to understand, that threaten our every belief about our world, I confront them on a daily basis. And if my horrible, tuneless Western music, if my bland white firengi diet, my cook and my sweeper all give me that peace and calm to face another day in work, is that unreasonable.⁵⁷

To him, his home, and especially the dinner table at which he sits when coming home from work, represents a space where he can leave his public role behind and concentrate on his private indulgences. The description also highlights the family's home with its human servants as a space that is almost devoid of technology, in contrast to Mr Nandha's work where the most recent technology is ever present. To Mr Nandha, his job represents the chaos of the public world against which he expects his home and dinner table to present a countering private world of "peace and calm", which is mentioned twice in the above passage. However, the peace and calm are not produced by his wife or even the site, but by the commodities he lists, from the roof to what is on the dinner plate and to who made it, all of which he owns. His idea of home is connected to what Iris Marion Young⁵⁸ refers to as a "commodified concept of home" that "ties identity to a withdrawal from the public world and to the amount and status of one's belongings". But in this particular moment the fortress of tranquillity that he feels he has earned is broken from the inside by the people he expects to be part of his private life. What is more, they confront him with a discussion about the kind of technology that he fights against in his public life.

The matter that Parvati and Mrs Saburdhai confront Mr Nandha with is having a child, and not just any child but a "true heir".⁵⁹ They want to procure what is considered in their society to be the highest status symbol, a Brahmin child:

A genetically engineered child. A human child that lives twice as long but ages half as fast. A human being that can never get cancer, that can never get Alzheimer's, that can never get arthritis or any number of the degenerative ills that will come to us, Parvati.⁶⁰

In the novel, the Brahmin represents the most advanced technology in the field of reproduction. Like 'the Fix' in the world of *Intrusion*, this prenatal modification offers the child protection against ailments. However, this time the matter is not just about avoiding the negative but about actually enhancing the child. As such, and as explained by Matti Häyry⁶¹, the technologies of the two novels represent two methods of modifying children genetically in the discussion about bioethics: correcting harmful defects or enhancing the child. In both novels, the effects on the children represent something that not only affects those who are modified, but also their progeny. However, in *River of Gods* the degree of modification is different, as is the inherited effect discussed by an expert in biotechnology:

[...] we have reached a stage where wealth can change human evolution. [...] Parents have always wanted to give their children advantages, now they can hand them down through future generations. And what parent would not want that for their children?⁶²

In the capitalistic world of the novel, the technologies are available to those who can afford them, and a Brahmin is regarded as a luxury item that is only available to the wealthiest.⁶³ This connection between social class and technology is marked by the name of the enhanced children, thus referring to the old and the highest spiritual caste in India, previously reserved for the priestly class and the holders of the highest ritual status and economic and political power.⁶⁴ The Brahmin, with their long life span and the ability to transfer precious genetic property, uphold the 'sacred law' of privilege and command ritual and secular status.

Although Mr Nandha's speech demonstrates his understanding of commodities and status, he opposes the idea of a modified child, not because of the 'class problem but due to the price. He could just about afford to have the child, but has other reasons for opposing the action that only seems reasonable to his wife and mother-in-law, as revealed in the passionate reaction to the topic:

We will take our seed to the doctors and they will open it up and take it apart and change it so that it is no longer ours and then fuse it and put that inside you, Parvati; fill you full of hormones and fertility drugs and push it into your womb until it takes and you swell up with it, this stranger within.⁶⁵

His horror at the suggestion is triggered by the technological aspects. His opposition is primarily based on his perception of the process as unnatural, as well as other gender-rooted social constructions. Mr Nandha is a member of the patriarchy, which according to Adrienne Rich⁶⁶ is based on the continuation of the genetic material and control of this process. Therefore, the creation of a Brahmin child, while also representing the inheritance of privilege, represents a loss of that control. In effect he would only be the distributor of genes. The control would instead be given to the doctors who carry out the changes that make the Brahmin such valued heirs. It is not Mr Nandha's genetic imprint that is important but how it is changed. Merete Lie⁶⁷ discusses how "the separation of sexuality and procreation" caused by the contraceptive pill "disturbed the naturalness of the nuclear family's role [...] in the process of reproduction". In similar fashion, Mr Nandha sees an analogous threat to his status in his family unit from the Brahmin technology. In his appeal to Parvati, he first uses the pronouns 'we' and 'our', but after the doctors take charge of the process he only says 'you', referring to Parvati. With his choice of pronouns, Mr Nandha expresses how he feels about the process that will remove him from the reproductive narrative and deny his agency in the matter. While many feminist scholars⁶⁸ have discussed how science has taken on the role of a father through its increasing participation in reproduction, this danger is now a reality for Mr Nandha, who is to become the father replaced by science. His words almost echo the fears expressed by feminist scholars, who argued that reproductive technology, seen as inherently patriarchal, would be used to assert dominance over women.⁶⁹ However, the technology is now eroding his patriarchal status. While he attempts to describe Parvati in terms of an object, it is still clear that she will be more of an agent in the process of securing a Brahmin child. If nothing else, she will carry the child when the doctors have carried out their task. Thus, as Merete Lie⁷⁰ discusses, the woman becomes a participant rather than a creator in this technologically influenced reproductive process, which is more than the role reserved for Mr Nandha.

How Mr Nandha connects the Brahmin with his loss of domestic con-

control is also reflected when he says: “[...] the Brahmins, they are the destruction of all of us. We are redundant. Dead ends. I strive against inhuman monsters, I will not invite one into my wife’s *womb*”.⁷¹ Here he uses pronouns to again connect the question of a child not only to himself and Parvati, but to the whole of (hu)mankind. However, his own role as a “dead end” is emphasised by his verbal seizure of agency in the following sentence. He not only paints himself as a hero fighting the enemies of the current version of humanity, but also claims his right to control his wife’s reproductive organs. Erica Burman⁷² discusses how in the connection between women and children both have been marked as the property of their husbands/fathers and infantilised. Mr Nandha’s passionate, almost preacher-like, rhetoric infantilises Parvati as someone who does not understand the full implications of her request. The words also connect to his job and remind him of his created role as a breadwinner, which as the rhetoric implies, gives him ownership not only of his house, but also the wife living in it with him. The connection between discourses of domestic space, embodiment and femininity can also be read from his choice of words when he refers to impregnating Parvati using the verb ‘to invite’, at the same time as emphasising himself as the person who makes the decisions and the one left as a mere bystander in the process. Iris Marion Young⁷³ paraphrases how Luce Irigaray “writes about the association of house and home with a male longing for fixed identity in a timeless tone”. Mr Nandha has certainly built his identity around the concept of home and uses it to shield himself from the cruelties of his work. While the novel gives some support to his technophobia, the scene set around the dining table highlights what Margrit Shildrick⁷⁴ might call “nostalgia for purity”, rather than any ethical concern behind his actions and words, especially concerning the Brahmin.

Parvati’s topic breaches Mr Nandha’s control over what is private and what is public, as well as the separation of these two categories. He also perceives it as a challenge to his masculinity and the traits he considers to be part of it. As Andrea Kaston Tange⁷⁵ argues about Victorian middle-class homes, the dining room is a site for evaluating men’s masculinity based on their behaviour. Although the setting is not a Victorian home, Mr Nandha’s defensive and aggressive reaction certainly implies that he feels unnerved by the discussion that is taking place under ‘his roof’. While Parvati may not connect his behaviour to his masculinity, the scene is portrayed in the novel as having a part to play in her later decision to abandon Mr Nandha for another man, thus breaking down their family unit and leaving the breadwinner without anyone to support – neither a wife nor a potential child.

Novels at an Ethical Intersection between Gender, Technology, and Space

The novels considered here offer two quite different societies that consequently discuss matters of prenatal genetic modification from two different points of view. In *Intrusion*, government interests and individual choice collide, revealing questions of biopower and women's agency over their embodiment. In *River of Gods*, on the other hand, women's agency over their own bodies is connected to patriarchal control and the construction of fixed male identity. Whilst different in many ways, the scenarios also have clear similarities.

As indicated, the scenarios represent two distinct views of the control of genetic technology, as discussed by Jürgen Habermas⁷⁶ and others. However, in both cases, the choice, whether regulated by the government or left to the individual or family unit, disrupts the structures of society. On the one hand, in Hope's and Hugh's case, the weight of the matter first makes them disillusioned with their status as citizens of their society, and then leads them to rebel and act against the best interests of that society. On the other hand, in Mr Nandha's and Parvati's case, it is the family unit that is broken by the choice and their different opinions and approaches to it. While the scenes explored in this chapter raise interesting questions of citizenship and what constitutes a family, they are also overshadowed by questions of gender and space.

Even though the societies in the novels offer different views of the dichotomy of public/private, both novels discuss the effects of reproductive technology and related ethical questions on this binary. Hope, Hugh and Mr Nandha see home, to quote Gorman-Murray and Dowling⁷⁷, "as a safe haven". However, in both cases, technology disturbs the peace of these havens. The public discussion about prenatal modification invades private facilities and dissolves the boundaries. Both novels highlight the fact that whether the choice is seen as a private matter decided by parental units, or as a public affair with institutional control, the very nature of the technology disrupts the dichotomies and borders connected with and concerning the matter. The choice made by the family unit affects the society as a whole, while society's involvement invades the autonomy of its members in ways that are intersected by questions of class and gender. The effects are almost the opposite to those in *Intrusion*, where the government could be seen to represent a patriarchal force that seeks to control women and reduce them to their reproductive function. In *River of Gods*, it is a woman's wish to

explore her reproductive ability in combination with prenatal technology that is seen as a threat to the identity and control of a patriarchal figure. The two novels demonstrate science fiction's potential to discuss the relationship between gender and technology and its capacity to dissolve cultural boundaries and norms, such as ideas connected to space.

The locations serve to establish the interconnections between the discourses, practices of space and genetic reproductive technology. The domestic setting contains various non-neutral discourses that are connected to, for example, class and gender. The various scenes remind us how technology, even one that is under development, and the discussions surrounding it, will always connect to previous discussions about identities, bodies, boundaries or previous technologies. In the scenes analysed here, clear connections are visible between discussions about gene technology and those concerning earlier reproductive technologies, such as artificial insemination and the contraceptive pill.⁷⁸ When science introduces new technologies, they and the discussions concerning them always exist in a continuum connected to social values and constructions. Science may appear as “the new father”, to quote Merete Lie⁷⁹, but how fatherhood is defined and what rights fathers have are matters of social agreement. Consequently, it is hardly surprising that in *Intrusion* this ‘father’ represents the patriarchal system and in *River of Gods* Mr Nandha sees the more active role of women in it as a threat to himself and to the whole of mankind (sic). However, beyond the concerns of patriarchy, developing technologies require a reassessment of what motherhood and fatherhood are and what childhood means in the 21st century.

Gene technology is at the same time connected to essentialist ideals concerning humanity and the research that disrupts them. Consider, for example, one of the most significant and visible projects in gene research in human history, the Human Genome Project. This started as a project essentially to map human nature, or the essence of it, but has resulted in discoveries that Richard Twine⁸⁰ claims have led to, “prior assumptions about human nature appear increasingly fragile in the face of genomic visions of human ‘enhancement’”. This effect, which is shown in the novels as gene technology, is linked directly to the body, past the usual fields of discussion examining genetically modified tomatoes or human cells that are examined without any direct connection to the entities they are a part of. The body, the political space of biopower, is ultimately at the centre of the discussion about gene technology, the most private part in the domestic setting that is invaded by technology and, in the case of *Intrusion*, the regulations that

seek to govern it. While gene technology might be a new invader, the discussion in the novels follows much older patterns that are recognisable from other discussions about women's rights for self-determination. One such issue is abortion, which like reproductive gene technology has had considerable media coverage in recent years.⁸¹ There are clear similarities between the government in *Intrusion* that wants to seemingly protect the lives of its citizens by restricting women's rights to the self-government of their own bodies and the outrage that Mr Nandha expresses over the threat to his patriarchal identity from women who want to choose how they reproduce. This is also reflected in the discussion that is currently taking place in the United States. Issues of reproduction in both cases quickly become questions of gender and power.

While gene technology presents unforeseen dilemmas to humankind⁸², many of its questions are connected to historical constructions of motherhood, female embodiment, reproduction and power. The novels also highlight a discussion that is often neglected in the public sphere, despite being the central area for the final confrontations of these matters, i.e. the home. At an allegorical level, the domestic settings that seem bereft of the technological advances that have changed the societies around them serve as metaphors for the directions that technological discussions take. Of course, as the matter becomes ever more urgent and part of everyday life, and as Esa Väliverronen⁸³ implies, gene technology will become further integrated into domestic discussions. While traditionally, as Joanne Hollows⁸⁴ explains, home has been associated with "slower, more organic sense of time", the novels certainly imply another possibility. In them, the short domestic scenes have powerful consequences in terms of radical change, not only within the families inhabiting the spaces but also in the societies around them. It could therefore be argued that this will also probably happen when gene technology one day emerges from the laboratories and legal councils and affects everyday life, especially if the implications are not carefully considered beforehand.

To conclude, these two science fiction novels discuss the moral and ethical implications of gene technology; a technology that despite being increasingly discussed in the mainstream media is still removed from everyday life, as are the ethical choices connected to it. As such, *Intrusion* and *River of Gods* operate as what Jèmeljan Hakemulder⁸⁵ refers to as 'moral laboratories': "in which plausible implications of human conduct and ideas can be studied in a relatively controlled way". Hakemulder⁸⁶ argues that, as many

scholars have also claimed, literature “defamiliarizes our perception of the world”, therefore enabling a re-examination of moral issues and norms. While Hakemulder⁸⁷ suggests that ‘literary fiction’ has a more powerful effect than ‘popular fiction’ (sic)⁸⁸, I claim that science fiction, which has even been defined in terms of its use of estrangement⁸⁹, is especially adept at this, particularly when discussing questions related to technology. Furthermore, Hakemulder⁹⁰ discusses how this re-examination is partially caused by empathic reactions to similarities between the literary characters’ experiences and the readers’ memories. It can be argued that these two novels operate on two levels: first by alienating the home environment with the addition of a technological discussion and secondly creating an empathic resonance to the technological discussion by connecting it to the characters and their domestic experiences, thus enhancing the re-examination of norms and ethical issues. As such, the two domestic scenes act as moral laboratories in which we can examine our relationship to gender, gene technology and domestic space.

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- ¹ J. Kneale and R. Kitchin. "Lost in Space", In J. Kneale and R. Kitchin (eds), *Lost in Space. Geographies of Science Fiction*. London: Bloomsbury Publishing, 2005, p. 2.
- ² This, of course, connects science fiction to non-speculative fiction. For example, 19th century novels such as those by Jane Austen had strong distinction between public and private. Often in these novels the public was seen as something far away from the domestic main settings of the novels. Meanwhile, in classic science fiction the private or domestic was situated far from the main story line. A few examples are Ray Bradbury's *The Martian Chronicles* (1951), where the Martians are imagined to have similar domestic spaces as American middle-class in the 1950s, Clifford Simak's *City* (1952), where domestic space in the shape of home On Earth of many generations is left behind as people expand to live on other planets, or Frederik Pohl's *Man Plus* (1976), where a male astronaut is willing to subject himself to drastic modifications and take a mission on Mars to support his wife still living far on Earth in a middle-class suburbia.
- ³ K. MacLeod. *Intrusion*. London: Orbit, 2012.
- ⁴ I. McDonald. *River of Gods*. London: Gollanz, 2004.
- ⁵ Agency as a term has been criticised for its exclusivity to subject-centred human individuals. See, for example, J. Bennett, *Vibrant Matter. A Political Ecology of Things*, Durham, Duke University press, 2010, pp. 9, 30. While perhaps actant would be more suitable term, I use agency and agent with their full human-centred package because this is appropriate for the discussion about connecting new technologies to older discourses.
- ⁶ J. Habermas. *The Future of Human Nature*. Cambridge: Polity Press, 2003, p. 12.
- ⁷ J. Hakemulder. *The Moral Laboratory. Experiments Examining the Effects of Reading Literature on Social Perception and Moral Self-Concept*. Amsterdam: John Benjamins Publishing Company, 2000, p. 150.
- ⁸ See, for example, "The Era of Human Gene-editing May Have Begun. Why that Is Worrying", *The Economist*, 29 November 2018., A. Wallius, "Missä kulkee tautien parantamisen ja ulkonäön parantelun raja? Asiantuntija varoittaa vauvojen geenimuokkauksen kaltevasta pinnasta", *Yle Uutiset*, 22 July 2018., and Zimmer, C., "Genetically Modified People Are Walking Among Us", *The New York Times*, 1 December 2018. (Accessed 3 December 2018.)
- ⁹ E. Väliverronen. *Geenipuheen lupaus. Biotekniikan tarinat mediassa*. Helsinki: Helsingin yliopisto, 2007, p. 12.
- ¹⁰ Väliverronen. *Geenipuheen lupaus*, pp. 30, 34.
- ¹¹ Habermas. *The Future of Human Nature*, p. 12.
- ¹² J. Hollows. *Domestic Cultures*. Maidenhead: Open University Press, 2008, pp. 2–3; J. Landes, "Introduction", In J. Landes (ed), *Feminism, the Public and the Private*. Oxford: Oxford University Press, 1998, p. 1.
- ¹³ Hollows. *Domestic Cultures*, pp. 3–6.
- ¹⁴ A. Gorman-Murray and R. Dowling. "Home", *M/C Journal*, vol. 10, no. 4, 2007, p. 2.
- ¹⁵ Hollows. *Domestic Cultures*, p. 3.
- ¹⁶ I. Young. *On Female Body Experience. Throwing Like a Girl and Other Essays*. Oxford: Oxford University Press, 2005, p. 152.
- ¹⁷ R. Longhurst. "Situating bodies", In L. Nelson, and J. Seager (eds), in *A Companion to Feminist Geography*. Oxford: Blackwell Publishing, 2005, p. 337.
- ¹⁸ C. Noland, Agency and Embodiment. *Performing Gestures/Producing Cultures*. London: Harvard University Press, 2009, p. 9.

- ¹⁹ See, for example, Longhurst, "Situating bodies", J. Morrison. *Contemporary Fiction*. London: Routledge, 2003, H. Thomas. *The Body and Everyday Life*. London: Routledge, 2013.
- ²⁰ Thomas. *The Body and Everyday Life*, p. 1, E. Grosz. *Volatile Bodies: Toward a Corporeal Feminism*. Indianapolis: Indiana University Press, 1994, p. x.
- ²¹ M. Foucault. *Discipline and Punish. The Birth of the Prison*, trans. A. Sheridan. London: Penguin Books, 1991, pp. 136–8.
- ²² P. Melzer. *Alien Constructions. Science Fiction and Feminist Thought*. Austin: University of Texas Press, 2006, p. 20.
- ²³ Melzer. *Alien Constructions*, pp. 19–21.
- ²⁴ See, for example, R. Roberts. *A New Species. Gender and Science Fiction*. Chicago: University of Illinois Press, 1993, p.1–12, S. Lefanu. *In the Chinks of the World Machine. Feminism & Science Fiction*. London: The Women's Press, 1989.
- ²⁵ See, for example, Melzer. *Alien Constructions*, pp. 19–21, B. Attebery, *Decoding Gender in Science Fiction*. London: Routledge, 2002.
- ²⁶ Creation of life has been a theme in science fiction at least since Mary Shelley's *Frankenstein, or the Modern Prometheus* (1818) that many science fiction scholars refer to as the first science fiction novel (see, for example, B. Aldiss, and D. Wingrove, *The Trillion Year Spree. The History of Science Fiction*. London, Victor Gollanz Ltd, 1987, and A. Roberts, *Science Fiction*, London, Gollanz, 2006). Similarly, as R. Roberts, in *A New Species. Gender and Science Fiction*, Chicago, University of Illinois Press, 1993, p.1–12 notes, motherhood has been of interest for science fiction for a long time, although not as directly as Robin Roberts notes. Reproduction has been visible part of science fiction novels, such as Octavia Butler's *Xenogenesis trilogy* (1984–1989), and in the media, e.g. *The Handmaid's Tale* (2017–) based on Margaret Atwood's novel of the same title (1985).
- ²⁷ I. Csicsery-Ronay. *The Seven Beauties of Science Fiction*. Middle-town: Wesleyan University Press, 2008, p. 112.
- ²⁸ Csicsery-Ronay. *The Seven Beauties of Science Fiction*, p. 112.
- ²⁹ See, for instance, Habermas, *The Future of Human Nature*, p. 13, M. Shildrick, "Beyond the Body of Bioethics. Challenging the Conventions in the Ethics of the Body", in M. Shildrick and R. Mykitiuk (eds), *Ethics of the Body: Postconventional Challenges*, Cambridge, US: MIT Press, 2005, p. 2.
- ³⁰ G. Sleight. "MacLeod, Ken", *The Encyclopedia of Science Fiction*, 31 August 2018. (Accessed on 23 February 2019)
- ³¹ R. Luckhurst. *Science Fiction*. Cambridge: Polity Press, 2005, p. 5.
- ³² MacLeod. *Intrusion*, p. 10.
- ³³ A. Rich. *Of Woman Born. Motherhood as Experience and Institution*. 10th anniversary edition, New York: Virago, 1986, pp. ix–x.
- ³⁴ E. Burman and J. Stacey. "The Child and Childhood in Feminist Theory", *Feminist Theory*, vol. 11, no. 3, 2010, p. 229.
- ³⁵ Young. *On Female Body Experience*, p. 152.
- ³⁶ See, for example, L. Bondi, who in "Gender, Class, and Urban Space. Public and Private Space in Contemporary Urban Landscape", *Urban Geography*, vol. 19, no. 2, 1998, pp. 160–185 connects discourses concerning women and public space, for example, with sexual violence.
- ³⁷ MacLeod. *Intrusion*, p. 37.
- ³⁸ C. Pateman. *The Disorder of Women*. Cambridge: Polity Press, 1989, 183.

- ³⁹ For example, A. Meah in “Reconceptualizing Power and Gendered Subjectivities in Domestic Cooking Spaces”, *Progress in Human Geography*, vol. 38, no. 5, 2014, pp. 674–5 examines how especially second wave feminism regarded the kitchen as a site in which gender roles were reinforced and women oppressed. However, she also discusses how later readings and historical developments have resulted in the kitchen becoming less of a gender segregated space and an arena for re-examining boundaries.
- ⁴⁰ MacLeod. *Intrusion*, p. 32.
- ⁴¹ MacLeod. *Intrusion*, p. 8.
- ⁴² MacLeod. *Intrusion*, p. 17.
- ⁴³ MacLeod. *Intrusion*, p. 37.
- ⁴⁴ Young. *On Female Body Experience*, p. 152.
- ⁴⁵ R. Braidotti. *Nomadic Subjects: Embodiment and Difference in Contemporary Feminist Theory*. New York: Columbia University Press, 1994, pp. 86–7.
- ⁴⁶ See, for example, M. Häyry. *Ihminen 2.0. Geneettisen valikoinnin ja parantelun eettiset kysymykset*. Helsinki: Gaudeamus, 2012, p. 67.
- ⁴⁷ MacLeod. *Intrusion*, p. 38.
- ⁴⁸ Young. *On Female Body Experience*, p. 152.
- ⁴⁹ Compare to ideas presented by, for example, S. Firestone, who in *The Dialectics of Sex. The Case for Feminist Revolution* (1978) discusses the possibility of freeing women from the oppressive biological task of giving birth (see, for example, Lefanu 1989). This, as J. Slonczewski and M. Levy in “Science Fiction and the Life Sciences”, in E. James and F. Mendlesohn (eds), *The Cambridge Companion to Science Fiction*. Cambridge: Cambridge University Press, 2003 argue, directly or indirectly influenced many feminist science fiction authors to explore different ways of changing the role of women in reproduction in their fiction, especially in the late 1970s.
- ⁵⁰ Lefanu. *In the Chinks of the World Machine*, p. 71.
- ⁵¹ R. Kaveny and J. Clute. “McDonald Ian”, *Encyclopedia of Science Fiction*, 3 February 2018. (Accessed on 23 February 2019)
- ⁵² I. Csicsery-Ronay. “Dis-Imagined Communities: Science Fiction and the Future”. In V. Hollinger, and J. Gordon (eds), *Edging to the Future. Science Fiction and Contemporary Cultural Transformation*. Philadelphia: University of Pennsylvania Press, 2002, pp. 223–5.
- ⁵³ Hollows. *Domestic Cultures*, p. 3.
- ⁵⁴ C. Pateman. *The Disorder of Women*. Cambridge: Polity Press, 1989, p. 183.
- ⁵⁵ The scene is similar to ones in 19th century novels depicting family life, such as those by Jane Austen, or scenes from later television sitcoms where “breadwinners” discuss matters of private and public concern.
- ⁵⁶ A. Tange in *Architectural Identities. Domesticity, Literature and the Victorian Middle Classes*. Toronto: Toronto University Press, 2010, pp. 138–9 refers to John Tosh, who argued that domestic life was quintessential for the definition of Victorian middle-class masculinity and adds that the same construction is visible in literary texts from fiction, guides to young wives and architectural plans. Tange further discusses how despite many assumptions to contrary, the dining room was considered a masculine space and an arena for displaying masculinity, for example, in the form of displaying the monetary contributions of the ‘breadwinner’. While *River of Gods* is not a Victorian novel and is not set in Victorian Britain, there are nevertheless interesting similarities to those settings in the scene in which Mr Nandha arrives home expecting peace and harmony.

- ⁵⁷ McDonald. *River of Gods*, p. 396.
- ⁵⁸ Young. *On Female Body Experience*, p. 131.
- ⁵⁹ McDonald. *River of Gods*, p. 397.
- ⁶⁰ McDonald, *River of Gods*, p. 397.
- ⁶¹ Häyry. *Ibminen 2.0*, p. 29.
- ⁶² McDonald. *River of Gods*, p. 284.
- ⁶³ N. Katherine Hayles in the seminal *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago Press, 1999 discusses how certain posthumanist, or rather transhumanist, futures may lead to increased inequality rather than technologically created equality. This has certainly been the effect of the Brahmin technology, which has intensified the possibility of making social advantages inheritable by moving them from the unstable world of money to the genes themselves.
- ⁶⁴ S. Kumar. "Indian Social Structure. Continuity and Dynamism", *The Oriental Anthropologist*, vol. 16, no. 1, 2016, p. 110.
- ⁶⁵ McDonald. *River of Gods*, p. 397.
- ⁶⁶ Rich. *Of Woman Born*, p. 60.
- ⁶⁷ M. Lie. "Science as Father? Sex and Gender in the Age of Reproductive Technologies", in R. Baccolini and T. Moylan (eds), *Dark Horizons. Science Fiction and the Dystopian Imagination*. 2003, p. 178.
- ⁶⁸ See, for example, Braidotti, *Nomadic Subjects*, p. 87, Lie, "Science as Father?", p. 180.
- ⁶⁹ See, for example, K. Toffoletti, *Cyborgs, and Barbie Dolls. Feminism, Popular Culture and the Posthuman Body*. London: I.B. Tauris, 2007. p. 22.
- ⁷⁰ Lie. "Science as Father?", p. 179.
- ⁷¹ McDonald. *River of Gods*, p. 398. italics in the original.
- ⁷² E. Burman. "Beyond 'Women vs. Children' or 'WomenandChildren'. Engendering Childhood and Reformulating Motherhood", in *International Journal of Children's Rights*, vol. 16, 2008, p. 182.
- ⁷³ Young. *On Female Body Experience*, p. 124.
- ⁷⁴ M. Shildrick, *Embodying the Monster. Encounters with the Vulnerable Self*. London: SAGE Publications, 2002, p. 128.
- ⁷⁵ Tange. *Architectural Identities*, p. 138.
- ⁷⁶ Habermas. *The Future of Human Nature*, p. 12.
- ⁷⁷ Gorman-Murray and R. Dowling. "Home", p. 2.
- ⁷⁸ When editing the text that was for the most part completed in 2019, comparisons cannot be drawn between the recent discussions about COVID-19 vaccinations. That remains to be discussed in more detail in the future.
- ⁷⁹ Lie. "Science as Father?", p. 180.
- ⁸⁰ R. Twine. "Genomic Natures Read through Posthumanisms", in *The Sociological Review*, vol. 58, no. 1, 2010, p. 175.
- ⁸¹ See, for example, P. Belluck, "Trump Administration Blocks Funds for Planned Parenthood and Others Over Abortion Referrals". *The New York Times*, 22 February 2019 and J. Glenza, "US abortion rights hang by 'dangerously thin' thread, pro-choice advocates warn". *The Guardian* 8 February 2019.

- ⁸² Habermas. *The Future of Human Nature*, p. 13; Shildrick. "Beyond the Body of Bioethics.", p. 4.
- ⁸³ Väliverronen. *Geenipuheen lupaus*, p. 12.
- ⁸⁴ Hollows. *Domestic Cultures*, pp. 3–6.
- ⁸⁵ Hakemulder. *The Moral Laboratory*, p. 150.
- ⁸⁶ Hakemulder. *The Moral Laboratory*, pp. 151–4.
- ⁸⁷ Hakemulder. *The Moral Laboratory*, p. 153.
- ⁸⁸ J. Hakemulder in *The Moral Laboratory. Experiments Examining the Effects of Reading Literature on Social Perception and Moral Self-Concept*. Amsterdam: John Benjamins Publishing Company, 2000, pp. 153–5 bases his claim on the assumption that what he calls 'literary fiction' often includes more demanding narratives and deeper characterisations and in general forces the reader into a more slower reading pace that results in a more introspective reading experience.
- ⁸⁹ Darko Suvin introduced the concept of 'cognitive estrangement' as a definition of science fiction by claiming that it was the 'cognitive' that separated science fiction from other estranging speculative genres such as fantasy and horror. While Suvin has been rightly criticised for his elitist attempt to define science fiction and for the problems with the 'cognitive' element of the term, his work established estrangement as a central concept in science fiction scholarship (see, for example, I. Csicsery-Ronay, *The Seven Beauties of Science Fiction*. Middletown: Wesleyan University Press, 2008, and Roberts, A., *Science Fiction*, London: Gollanz, 2006).
- ⁹⁰ Hakemulder. *The Moral Laboratory*, pp. 153–4.

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