The NewClear Family in Times of the Anthropocene: The Nea-Human and her Family in James Bradley's *Ghost Species*

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Abstract

In this essay, I am analysing James Bradley's 2020 novel *Ghost Species* for its generic make-up and the ways in which this interacts with questions of gender. As I will argue, *Ghost Species* is a multi-genre mix of science fiction, climate fiction, domestic novel, and coming-of-age story and thus combines realist with speculative fiction. It defies classic genre conventions because of its female focalizers and their representation within the scientific community and society more generally. As a result, a *new*clear family is constructed, with the NeaHuman and her coming of age in the centre. By bringing together the different genres and their gendered presumptions, *Ghost Species* challenges traditional ideas of mothers as caretakers as well as of the coming of age as a female.

Introduction

I was reading parts of James Bradley's 2020 novel *Ghost Species* right next to the original excavation site of the Neanderthal (and the rest only a handful of kilometres further up the hills), trying to imagine how, in deep time, they roamed the very places I roamed then. I could even have gone and said "Hello" to a Neanderthal dressed in a suit, called Mister 4%[1], if the Neanderthal Museum had not been closed due to the Covid-19 measures in force at that time, discussing the family and the coming of age of what I call the Nea-Human with him.

The Nea-Human of *Ghost Species* is a new kind of human, as much post-sapiens as it is pre-sapiens (or rather simul-sapiens, to be scientifically correct). It is a female *homo neanderthalensis* created through reverse genetic engineering and tellingly called Eve, who is supposed to provide "other perspectives" (Bradley 20) in the face of rapid climate change. Eve is part of a complex programme devised by tech billionaire Davis Hucken's (any similarities to living tech gurus are, of course, purely coincidental) Hucken Foundation to "reconstruct ecosystems all over the planet" by "resurrecting lost species," thus "entirely re-engineering our [i.e., *homo sapiens*'s] relationship with nature" (19). The biblical intertextuality is hard to miss, as is the trope of the Edenic vision of a world populated by a new species.

Considering this, we would be right in reading *Ghost Species* as a science/climate fiction hybrid, yet it defies easy genre classifications, not least through its choice of female focalizers and their representation within the scientific context and within society. The coming of age of the Nea-Human as well as her family constellations, I will argue, are inextricably linked to the different genres *Ghost Species* is constructed of, especially to their representations of women. The nexus of science fiction, the domestic, and gender is what interests me here and what sheds a new light on the ways in which gender and the family, that is, women as caretakers as opposed to (or alongside of) professionals, especially as scientists, have been represented in the past. To do so, I will first consider the genre characteristics of such disparate genres as science fiction, climate fiction, the domestic novel, and the *bildungsroman* before discussing their take on gender and how *Ghost Species* both subverts and reinforces common generic stereotypes.

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[1] The name Mister 4% was chosen in 2012 because at that time it was believed that the genomes of modern humans still contain up to 4% of Neanderthal DNA (Deutsche Welle).

A Generic Hybrid

As Andrew Milner and J. R. Burgmann argue, "contemporary climate fiction is a subgenre of sf rather than a distinct and separate genre" (5). They have identified "three main tropes" within science fiction which deal with climate change: "the drowned world, the freezing world, and the warming or burning world" (6), and *Ghost Species* very clearly belongs to the last group. Yet those warming narratives, according to Milner and Burgmann, in the past hardly featured in science fiction (15), something they attribute to the fact that the actual dangers of global warming have only recently been fully identified by science (16). Rising water levels, on the other hand, have a long history in science fiction (6), and the idea that earth is approaching a new ice age has dominated much of twentieth-century science and science fiction (11). Despite its relative newness, the trope of global warming has gained some momentum and now is what, more often than not, lies at the heart of contemporary climate fiction. It is its "comparative fidelity to the findings of the relevant sciences," write Milner and Burgmann, that makes contemporary, i.e., global warming-related, stories of climate fiction prime examples of "*science* fiction" (20). They mirror current debates in climate science and that sets them apart from other, earlier, examples of climate fiction such as flooding narratives or stories of the new ice age—they, it seems, truly put the science in science fiction.

The emphasis on science becomes apparent in the very first pages of *Ghost Species*: in a not-too-distant future (if not present), Kate and Jay, two world-renowned geneticists, are invited to take part in a privately run scientific project to recreate the world as it was before *homo sapiens* arrived on the scene. "We're not at a tipping point, we're past the tipping point. The world we knew, it's over. Our civilization is already dead. The question now isn't how to save what we had, it's how we make something new," says Davis Hucken, self-styled patron of climate science (14). His plans are described in purely scientific terms, such as "Genetic engineering," "Synthetic biology," "Biotech" (15), or "Geoengineering" (18), as well as by technological jargon and buzzwords: "'We know it's possible. Ecosystems are really just cycles of energy. We have computational power to model them, to understand the way energy flows through them. […]'" (19). In this vision, science completely replaces natural procreation and the family, including the traditional paths of coming of age; nothing is more than the sum of its matter and the energy which runs through it. Science is thus from the beginning characterized as diametrically opposed to nurturing, at least according to Hucken, who functions as the mad scientist-father prototype in the novel.

Genetic engineering, which has been a stock element of contemporary science fiction since the 1990s (Vint 184), no longer is wholly a fiction: in September 2021, a group of scientists announced they have received funding worth $15m to create an elephant-mammoth hybrid in order "to make a cold-resistant elephant" (Sample). The plans of the research team surprisingly accurately resemble Hucken's project of re-introducing megafauna to the tundra—or is it the other way round? When we read Bradley's text alongside current news coverage, we can hardly see any difference:

> 'In the case of the tundra, it's mostly grassland, which is a relic of the last Ice Age. But the grasses only exist because large herbivores prevent the forest from taking root. Those large herbivores are now almost gone, meaning the forest is free to spread. […] if we can reintroduce large herbivores we can re-create the conditions of the last Ice Age and keep the forest at bay.' (Bradley 18-19)

> But the scientists also believe introducing herds of elephant-mammoth hybrids to the Arctic tundra may help restore the degraded habitat and combat some of the impacts of the climate crisis. For example, by knocking down trees, the beasts might help to restore the former Arctic grasslands. (Sample)

Science, it seems, has caught up with fiction. There no longer is a "*fictional 'novum'* […] *validated by cognitive logic*" so famously introduced by Darko Suvin (63) in his structuralist definition of science fiction and echoed in the title of the first chapter of *Ghost Species*, "Impossible Things" (Bradley 5-65). There no longer are fictional inventions, constrained only by logic, there is nothing but factual possibilities, leaving us with a generic uncertainty. To put real science into science fiction then means to reassess long-held beliefs in genre conventions and to question the representation of science and scientists in science fiction.

In a recent interview, James Bradley classifies *Ghost Species* as "a literary novel that uses science-fictional devices". For him, there has been "a shift in the emphasis of science-fiction itself," something he describes as a "pulling in of the horizon" (Edwards). Rather than continuing to direct its gaze towards space, contemporary science fiction turns to the world around us and that necessarily also includes an engagement with the "climate and environmental crisis" (Edwards). However, as becomes clear, *Ghost Species* does not care about rigid structuralist genre definitions and actively rejects any generic labelling altogether: the idea of (re-)creating human species other than *homo sapiens* to at least save the *planet* from climate catastrophe, though not its current inhabitants, is nothing but an introduction (Bradley 19-20). Soon after this initial setting of scenes, the focus shifts from the climate aspects of the novel and the strict emphasis on science to a relational level. At the end, the scientific has become not much more than white noise in the background. Even in those chapters of the novel the titles of which suggest a resurgence of

the climate-change subject, i.e., "Homo Genocidus" (147-74), "Meltwater" (199-229), "The Forest" (231-60), and "The Silent World" (261-69), the relations between individuals take centre stage. At this point, genre conventions of both the domestic novel and the *bildungsroman* (or, more broadly speaking, coming-of-age stories) mix with those of science fiction and climate fiction. It is at the intersections of those two genre families that issues of gender, manifested in both the coming-of-age of the Nea-Human and the representation of the scientist-cum-mother, play out.

Coming of Age as a Nea-Human

Before I can trace the ways in which gender is mapped in the novel, I need to say a few words about the generic conventions of the domestic novel and the *bildungsroman* and how they are taken up in *Ghost Species*. As Lori Merish points out, the difference between domestic fiction and the *bildungsroman* centres on the centrality of the domestic sphere. In the *bildungsroman*, the home is only the catalyst for the protagonist's development. In the domestic novel, on the other hand, the domestic becomes the centre of the plot and does not merely feature as the background and starting point for the hero (262). In its mid-nineteenth century original, and even more so its classic mid-Victorian form, the domestic novel is an expression of the dichotomy of the private vs. the public sphere and it is women who are at the centre of the domestic novel (262). Especially chapter two of *Ghost Species*, with its title "Foundling" (Bradley 67-96) invoking the common literary motif of the orphan, focuses on the home in its traditional meaning—the home Kate has created for herself and Eve, whom she has abducted from the facility. This home, however, is "poor, threadbare, broken-down, the cheap second-hand blanket that covers the couch a desperate attempt to disguise its meanness" (100). It is a dysfunctional home, with Kate living in constant fear of being found by Hucken and having Eve taken from her (90, 95, 99). In the chapter which follows, "Childhood" (97-145), it is still the home, albeit a different, less poor but due to its being run by the facility even more dysfunctional home, which is at the heart of the action. For Eve, the first home of her toddler, not her childhood years, nevertheless is the starting point for her to embark on her journey into the world. This development is reminiscent of the basic plot structure of the *bildungsroman*: unlike domestic fiction, the typical *bildungsroman* tells the story of an individual's way into the world, that is, their (though most often his) successful entry into society (Slaughter 93). In the anglophone world, the term is often used synonymously with the much broader term coming-of-age (Slaughter 93), thus the emphasis on *Bildung*, which we find in the original German term, is lost. This loss of a central idea, that of *Bildung*

as both education and formation (in their particularly German understanding) (Selbmann 1-7), is as subversive as it is suppressive: on the one hand, it subverts the patriarchal mindset of *Bildung* being a male prerogative by opening up the concept, but on the other hand, by shedding this reference altogether, it completely glosses over the fact that *Bildung* has for long indeed been a male prerogative—a fact which needs to be addressed. In the remainder of the text, I will use the anglophone term coming-of-age, but in my analysis will also discuss the male-centrism of both the original term and its anglophone equivalent. Just like there are different variations of the basic model of the coming-of-age-story, the milestones of Eve's coming-of-age and their readings vary. But first, let us consider some of the guises in which the coming-of-age story may come.

As Joseph Slaughter writes, "the term [*bildungsroman*] can be capacious enough to cover any story of social initiation that may be found in any culture" (93). Such a story of initiation has been defined by Mordecai Marcus as showing "its young protagonist experiencing a significant change of knowledge about the world or himself, or a change of character, or of both, and this change must point or lead him towards an adult world" (222). The coming-of-age story may also come in the form of the novel of adolescence, "the typical pattern of [which]," writes Barbara White, "is said to be estrangement from the social environment, conflict with parents, disillusionment in love, departure from home, and encounter with different people and ideas" (3). For White, the age of the protagonist is a defining characteristic which distinguishes the initiation story from the novel of adolescence and that, in turn, from the *bildungsroman*: "while the Bildungsroman requires an older hero than the novel of adolescence, the initiation story might include characters of any age" and "there are stories about young children" (4). For long, the typical *bildungsroman* was considered to feature a male protagonist, yet since the 1980s, a growing body of feminist scholarship has drawn attention to the female *bildungsroman*, one which centres on the development of a female main character. However, it follows its very own rules, as Susan Fraiman criticizes in her inverted reading of the *bildungsroman*'s typical "development in emphatically masculine terms" (5). Such a model of the female *bildungsroman*, analyses Fraiman, suggests that all of the different milestones in a woman's life culminate in the marriage to her male mentor and leave no room for choice (6). For Fraiman, the irreconcilability of what society expects of women with the mastery achieved at the end of the *bildungsroman* ultimately reveals an uncertainty about "what female formation is and […] about what it should be" (6). Similar to the novels analysed by Fraiman, the coming-of-age story of Eve in *Ghost Species* can be read as one of those "dissenting narratives that break away and stray beyond the bounds" of classic models (6).

In *Ghost Species*, we find a number of milestones which correspond to the different definitions given above, and they can be read differently according to which type of coming-of-age story the reader would assign them to: first of all, we witness the development of the Nea-Human from planning stage (Bradley 20) through birth (57-58) and childhood (67-145) to adolescence (175-97) and maturity (263-69). However, the decicisive moments of entering society vary, depending on the perspective you apply: a first introduction to society is the re-introduction to the "proper" community (of scientific observers rather than general society) at the facility (96), which happens when Eve is still a toddler. Through this introduction she is re-assigned the status of object. As a teenager, Eve is told she is a Neanderthal (174), which is the very moment that makes her realize the degree of her estrangement from the social environment (in line with White's definition): "Is this why she feels so different? So alone?" (177). At this point in the narrative, Eve also becomes the focalizer of the narration through whose eyes the reader sees the events unfolding. In the text, this initiation rite is marked by the title "I was a Teenage Neanderthal" (175-97). In this part, we are faced with a tale of adolescence characterized by a growing conflict with Kate, Eve's surrogate mother, and a disappointing first love and sexual experience (192-95). It is not until the world collapses—"And just like that the world is over" (229)—that Eve leaves her home and eventually meets other people whom she then lives with in a commune. All the milestones mentioned so far represent particularly female introductions into the different stages of societal order and development of (a female) *homo sapiens*: Eve as what she truly is in a society full of sapients, Eve into the society of what would have been considered her peers had she not been a Neanderthal (with a focus on romantic and sexual relationships), and Eve in a post-apocalyptic new-world order (as the one tending the vegetable garden). Interestingly, her journey is not yet completed at those various points, as it still lacks her transformation into an adult who may fully participate in society, which is one of the cornerstones of the *bildungsroman* structure. This final milestone, however, leaves us questioning the idea of what constitutes society in a world falling apart due to climate catastrophes: it is Eve meeting other Neanderthals in Europe who are the result of projects similar to the one Eve was born into (269). By then, *homo sapiens* and its life cycle have been written out of the story altogether.

The Trope of the Failed Scientist-Mother

However, the white noise of science and climate change returns to haunt the seemingly easy categorization of *Ghost Species* as a coming-of-age-story-cum-domestic-novel. Although science fiction does not seem to share many characteristics with the domestic novel and the two

categories seem "diametrically opposed" to each other (Yaszek 107), there are also points of contact between them. Lisa Yaszek argues that authors from the late 19th century onward have used what she terms domestic science fiction "to assess the impact of technoscientific change on labor practices and social relations in the home" (107). According to her, domestic science fiction presents "women as domestic engineers" (108) or is concerned with "the technoscientific restructuring of women's work" (111) as a means of addressing issues of domesticity, thus the home remains central to this subgenre. Despite the obvious parallels between Yaszek's description of domestic science fiction and various elements in *Ghost Species*, I hesitate to think of the novel as an example of domestic science fiction. Instead, I prefer discussing the novel in terms of a genre mix of speculative fiction which deviates from common genre characteristics at crucial points, asking us to reconsider our understandings of the world as we know it. *Ghost Species* does not mix the different genres to create a homogenous hybrid genre (such as domestic science fiction), but rather creates a multi-genre mix of characteristics that partly attract and partly repel each other.

A case in point is the issue of gender in all the genres which have come up thus far. One of the most obvious angles from which to approach questions of gender in the matrix of science fiction and coming-of-age stories is the issue of representation. In her 1970 study *The Image of Women in Science Fiction*, Joanna Russ pointedly wrote "There are plenty of images of women in science fiction. There are hardly any women" (208). More than 50 years later, in 2021, even those few women seem to have completely vanished from some newspaper's literary knowledge (see New York Times Books). What we find in speculative, and more particularly science fiction (of the more educated kind) are representations of women who, according to Russ, are modelled on the then "present-day, white, middle-class suburbia" (201)—that is, the nuclear family with a father-scientist and a child-rearing stay-at-home mother. Russ draws attention to the fact that it is especially the relational level of families, where issues of how gender roles interact or of how care responsibilities are divided, which are left out in science fiction produced by both male and female writers (204, 207). To a certain degree, this changed when the first female hero of blockbuster science fiction, Ellen Ripley, entered the screen in the 1979 movie *Alien* and challenged traditional stereotypes of science fiction (especially those Joanna Russ identifies as prevalent in space operas, cf. 202–203). Furthermore, her character has also more often than not been analysed in terms of family relationships and motherhood, most notably in Barbara Creed's seminal *The Monstrous Feminine*: "The science-fiction horror film, *Alien*, presents a complex representation of the monstrous-feminine as archaic mother" (16). As Rachel Johnstone points out, images of "Ripley as a muscular,

gun-toting saviour cradling a frightened child" have become iconic (243), imagining the possibility of hero and mother coexisting within a single character. Unlike other critics, who read the various birth scenes in the *Alien* series "as reflecting deeply entrenched reproductive anxieties" (244), Johnstone invites us to understand the series as "treating motherhood as *one* defining characteristic among *many*," a representational act which ultimately challenges traditionally held beliefs about motherhood (245, emphasis mine).

This focus on motherhood is both opposed to and complemented by another stock convention of science fiction, that of the mad scientist-father paired with the absent mother (Allman 125). "It is curious," writes John Allman, "that so many of the mad scientists we find in science fiction are engaged in creating beings without the agency of a woman or of a nurturing maternal principle" (126) (which, of course, begs the question why a nurturing principle needs to be maternal). Whereas the representation of motherhood in science fiction is confirmed by the father's denial of his own creation, the representation of fatherhood is characterized by the absence of the mother. The mad scientist-father is the epitome of the horrors of unnatural procreation, the mother that of the nurturing principle. This is a step backwards when it comes to the roles of mothers in science fiction, yet it is still useful for piecing together different types of family relations in science fiction as far as representations of the *father* in the genre are concerned. In her analysis of how science fiction either mirrors suburban middle-class life (as in high-brow science fiction) or simplifies gender roles (as in low-brow space operas), Joanna Russ also writes of the father as scientist whose "job may be to test psychedelic drugs or cultivate yeast-vats" (201) or who brings along his "beautiful daughters [...] as his research assistant" (202), respectively. She does, however, leave out the (pro-)creative capacities of the scientist-father, which almost amount to a reverse form of parthenogenesis, as in the case of Victor Frankenstein and his creation.

It is not far-fetched to read *Ghost Species* in light of these science fiction tropes, that is of motherhood and the (mad) scientist-father: on the one hand, there is Davis Hucken, whose "increasingly bizarre public appearances" (Bradley 106) are not the only signs of "something harder, closer to madness" (125). It also seems to be no coincidence that the Nea-Human is named Eve, at once implying the first female and the motherless creation of what patriarchal cultures tend to describe as a *male* God. Eve is the product of reverse genetic engineering, a purely scientific process at the hands of the mad scientist who considers himself god-like. On the other hand, there is Kate, who before she joins the team at the facility has suffered a miscarriage (48-52). What complicates matters, is the ambiguous role of Kate, who is both a world-renowned

scientist and a surrogate mother. It is tempting to read Kate's motherhood in the same ways Johnstone reads Ripley's motherhood, i.e., as one characteristic of the (successful) female protagonist among others. The way Kate is framed in opposition to her male scientist-counterparts, however, tells a different story: the assessment that her "work as a genetic programmer is without parallel" (21) may be the official reason she has been asked to join the project, but it later becomes clear that her psychological status after her miscarriage "certainly played a part" (124) in recruiting her. Even in the beginning, it is Jay, her partner, who is as fascinated by the scientific possibilities and challenges of the project as the male mastermind behind the scheme, whereas Kate is the one who is concerned about the ethical implications of the creation of Eve, thinking of her as a child rather than a project (23-24). From the perspective of the male scientists, her emphasis on the ethical dimension of the project is considered an unwelcome obstacle to their own "purely" scientific approach—a perspective which reads science and ethics as binary oppositions instead of as part of each other. In the eyes of her male counterparts, Kate's position as a scientist is not complemented by the aspect of motherhood, but rather undermined. Furthermore, Kate is also framed in terms of her (non-existent) relationship to her own mother and her troubled childhood. It is indeed a whole chapter, "Homo Genocidus" (147-74), which is devoted to Kate's own personal history, one that is characterized by its dysfunctionality—a dysfunctionality she has unconsciously reproduced in her time alone with Eve: "How has she ended up living in a repeat of her childhood after all these years?" (100).

Kate is represented as a failed mother, both because of her miscarriage and her supposed failure in mothering Eve. At the same time, she is also represented as a failed scientist. This reading, however, has its pitfalls, as it is the men Kate interacts with who all so subtly make her believe she has failed: first, when the two of them are privately discussing whether or not to join the project, it is Jay who suggests her ethical concerns are rooted in her own experience of having suffered a miscarriage and are thus closely linked to her motherly instincts (24). Later on, it is not Kate who feels contempt for the home she has created for herself and Eve, but she rather "sees the place as he [Jay] must see it" (100). When she wants to rejoin the project as scientist-cum-mother, she is constantly rejected and considered unable to fully participate in the project as a scientist by both Jay and Davis Hucken. In this way, Kate's motherhood is framed as failed because it does not conform to an idea of motherhood (or science) as devised by male expectations and as seen through the male gaze, despite Kate's focalizer status. She is less certain in her assessment of motherhood in general, which she equates with vulnerability (27), and herself as mother in particular: "Gradually, she

realised it wasn't the children themselves that frightened her, it was something deeper, less easy to articulate. Not just the loss of autonomy over her body, her life, but of being vulnerable in that way" (37). What we get is a male representation of failure for which the opposition of science and nurture is the frame of reference. This then is internalized by the female who is therefore necessarily represented as not having succeeded in either motherhood or a scientific career, let alone in both.

Quite a different take is offered by Joseph Jenner, who reads the failed mother in contemporary representations of female astronauts in terms of anthropogenic anxieties: "the *failure* of procreation is projected onto anxieties about the Earth's increasing inability to sustain life" (105-06). This ties in very well with reading *Ghost Species* as climate fiction, as the demise of the failed mother parallels Earth's (and human society's) decline. Moreover, Kate's slow death, "extinction" (212), at the hands of a brain tumour almost coincides with the sudden end of the world as we know it (225, 229). Yet the novel does not stop at this point. From a narratological perspective, Kate has long since lost her grip on the narration, before the tumour is even diagnosed, having been replaced as focalizer by Eve. The failed scientist-mother is as much gradually written out of the story as the mad scientist-father (who is last referred to as having "relocated to a safehouse in New Zealand", 212)—but only to make way for the Nea-Human. Just like Earth's development mirrors the different stages of the decline of *homo sapiens*, it also mirrors the coming-of-age of the Nea-Human: rather than being fatally connected to *our* species, Earth is entering a new phase of its life, the post-Anthropocene.

As I have shown, the different generic strands of the novel I have analysed in this article—there are more to focus on in articles to come—all tell the story of gender and of how it is nothing but a construct devised by *homo sapiens*. On the one hand, there is the development of the Nea-Human, which clearly follows classic female milestones—but only as long as she is a member of the heavily regulated society and company of sapiens. On the other hand, there is the trope of the scientist-mother, who is represented as a failed mother as long as the terms of reference are that of a male-dominated understanding of science and motherhood as opposites. Once the perspective changes, the certainties of gender stereotypes crumble and fall: Eve enters the post-sapient society, and thus concludes her coming-of-age journey, not as a female member of her group, but simply as a Neanderthal who has newly arrived in a different part of the world. At the same time, it is thanks to the scientist-mother and the way in which she complemented science with nurture that Eve successfully completes her journey into adulthood. As a female Neanderthal, Eve carries a promise of procreation, a promise of caring for Earth born in science.

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