

Christine Müller-Dittrich

The Historical Female Scientist  
in the Contemporary Anglophone Biographical Novel

Reimagining the Lives of Mary Anning,  
Caroline Herschel, Mileva Marić, and Ada Lovelace  
through the Lens of Literature

SALS

Studies in Anglophone Literatures

Eckart Voigts (Ed.)

Band 47

Christine Müller-Dittrich

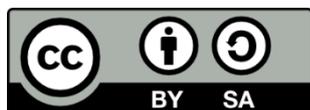
The Historical Female Scientist  
in the Contemporary Anglophone  
Biographical Novel

Reimagining the Lives of Mary Anning,  
Caroline Herschel, Mileva Marić, and Ada Lovelace  
through the Lens of Literature

 Wissenschaftlicher Verlag Trier

**Müller-Dittrich, Christine:** The Historical Female Scientist  
in the Contemporary Anglophone Biographical Novel:  
Reimagining the Lives of Mary Anning, Caroline Herschel,  
Mileva Marić, and Ada Lovelace through the Lens of Literature /  
Christine Müller-Dittrich. -  
Trier: WVT Wissenschaftlicher Verlag Trier, 2025  
(Studies in Anglophone Literatures, Vol. 47)  
Zugl.: Bremen, Univ., Diss., 2024  
ISBN 978-3-98940-102-0 (Open Access)

Cover Design: Brigitta Disseldorf



Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt.  
Der Text dieser Publikation wird unter der Lizenz Creative Commons  
"Namensnennung – Share Alike (CC BY-SA 4.0)" veröffentlicht  
(<https://creativecommons.org/licenses/by-nc-sa/4.0/legalcode.de>).

Eine Verwertung, die den Rahmen dieser Lizenz überschreitet,  
ist ohne Zustimmung des Verlags nicht zulässig. Das gilt insbesondere  
für die Bearbeitung und Übersetzungen des Werkes.

ISBN 978-3-98940-102-0

WVT Wissenschaftlicher Verlag Trier  
Bergstraße 27, 54295 Trier  
Postfach 4005, 54230 Trier  
Tel.: (0651) 41503  
Internet: <https://www.wvttrier.de>  
E-Mail: [wvt@wvttrier.de](mailto:wvt@wvttrier.de)

## Acknowledgements

I would like to express my gratitude to everyone who has accompanied and supported me on the long and challenging but also deeply satisfying journey to completing this dissertation.

First, I would like to thank my doctoral supervisor Norbert Schaffeld, who supported me with his great professional expertise, valuable feedback, and constant motivation and thus contributed significantly to the success of this dissertation. Thank you so much for your patience and for the advice you gave me in all stages of this project. I am very happy and grateful for the excellent supervision and the wonderful time I had as a member of your working group at the University of Bremen. Without you and your belief and trust in me I would never have started this dissertation.

I would also like to thank Martin Willis for his constructive and important feedback on my project and the fruitful discussions we had on the various occasions we met in Bremen, Delmenhorst, and Cardiff. I am very thankful and glad that you agreed to be my second supervisor and that you travelled all the way from Cardiff to Bremen for the defense of my PhD.

I would like to thank my former colleagues at the institute for English-Speaking Cultures at the University of Bremen and the various people involved in the *Fiction Meets Science* project, with whom I enjoyed an enriching experience, both professionally and personally.

A special thanks goes to Jennifer Henke, Katalina Kopka, and Kim-Nicola Kück who have accompanied me throughout the entire doctoral process. You were a constant and important source of support during this time and I thank you for all the helpful feedback you gave me along the way – without you, this time would have been only half as enjoyable, and I do not know how I would have managed without our little support network.

A big thank you also goes to the members of my colloquium, Karin Esders, Vanessa Herrmann, Jana Nittel, and Paula von Gleich. The discussions with you were a great help and inspiration to me.

I would also like to thank my family, especially my parents, Johanna and Volkhart Müller, who have always supported me relentlessly in everything I do.

Finally, I thank my husband, Malte Dittrich, for always being there for me, for never making me feel bad about working on my dissertation on weekends or late at night, and for cheering me on when I lacked the motivation to write. I would never have finished this project without you and I am very much looking forward to all the future projects we can now embark on together.

Christine Müller-Dittrich  
September 2025

This dissertation was written during my affiliation with the University of Bremen, Faculty 10: Linguistics and Literary Studies, Bibliothekstraße 1, 28359 Bremen, Germany.

The open access publication of this dissertation was supported by the publication fund of the State and University Library Bremen.

Material from MÜLLER, CHRISTINE, “The ‘Mother of the Theory of Relativity’? Re-imagining Mileva Marić in Marie Benedict’s *The Other Einstein* (2016)”, published in *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, Palgrave Macmillan, 2022, pp. 317-336, has been reproduced in this book with permission of SNCSC.

First ideas and earlier versions of small parts of the introduction and conclusion as well as chapter 3.1 have been published in: MÜLLER, CHRISTINE, “Women and Science in Tracy Chevalier’s Historical Novel *Remarkable Creatures* (2009),” published in *Contradiction Studies – Exploring the Field*, edited by Gisela Febel, Kerstin Knopf, and Martin Nonhoff, Springer VS, 2023, pp. 259-276.

## Table of Contents

1	Introduction: Biofiction and the Herstory of Science.....	1
1.1	The Aim and Approach of this Study .....	2
1.2	On the Chosen Text Corpus.....	7
1.3	The State of Research .....	9
1.4	The Structure of this Study .....	12
2	Biographical Fiction, Female Life Stories, and Feminist Efforts in Telling Herstory .....	18
2.1	Real Lives in Literary Fiction: On the Genre of the Biographical Novel .....	18
2.1.1	Biographical Fiction or Fictional Biography: Terminological Clarifications .....	20
2.1.2	Biofiction as Historical Fiction: An (Un-)Contested Generic Belonging.....	23
2.1.3	Between Fiction and Biography: The Hybrid Nature of Biofiction .....	26
2.1.4	Biofiction as a Postmodern Genre.....	28
2.1.5	Life Writing or Story Telling? Biofiction's Narrative Purpose(s).....	30
2.1.6	From Minor Genre to Major Literary Form: The Present-Day Rise of Biofiction.....	37
2.1.7	'Appropriation' or 'Silencing': Biofiction and Ethics .....	39
2.1.8	The Famous and the Marginalized: The Preferred Subjects of Biofiction ...	40
2.2	(Re)Imagining HerStory: Female Lives in Biofiction.....	42
2.2.1	The Female Figure in History: A New Literary Presence .....	43
2.2.2	From History to Herstory: A Discursive Shift in Writing the Past.....	45
2.2.3	Women's History and Feminist Biography .....	47
2.2.4	Similar Goals, Different Means: Female Lives in Herstorical Biofiction ...	49
2.2.5	Of Myths and Stereotypes: Herstorical Biofiction's Ambivalent Gender Politics.....	53
2.3	Approaching (Herstorical) Biofiction.....	57
2.3.1	Providing Gender-Sensitive Readings .....	57
2.3.2	Considering the Chosen Subject's Biography and Reception History .....	58
2.3.3	Studying the Literary Texts and Its Paratexts .....	61

3	The Lives of Historical Female Scientists in Biographical Novels.....	64
3.1	Fossils, Friendship, and a Fictional Love Story: Excavating Mary Anning, “The Greatest Fossilist the World Ever Knew,” in Tracy Chevalier’s <i>Remarkable Creatures</i> (2009) .....	64
3.1.1	“I Am Well-Known Throughout the Whole of Europe”: Mary Anning of Lyme Regis, an Unlikely and Unique Heroine in the History of Science .....	68
3.1.2	“A Mere Child Making Great Discoveries”? Mythologizing Her Story and Downplaying Her Abilities and Achievements.....	75
3.1.3	“How Can a Twenty-Five-Year-Old Middle-Class Lady Think of Friendship with a Young Working Girl?” Chevalier’s Relational Approach to Her Story .....	79
3.1.4	“[Are] You the Lightning Girl?” Perpetuating the ‘Anning Child Tale’ .....	90
3.1.5	“A Little in Love with Him Myself”: On the (Un-)Necessity of Romance....	97
3.1.6	Conclusion.....	108
3.2	The Stars, Sibling Love, and a Scientific Fairy Tale: Remembering Caroline Herschel, “the First Professional Female Astronomer in History,” in Carrie Brown’s <i>The Stargazer’s Sister</i> (2015) .....	109
3.2.1	A Dutiful Assistant to Her Famous Brother or a Distinguished Astronomer in Her Own Right? Caroline Herschel’s Still Disputed Role in the History of Science .....	114
3.2.2	“A Well-Trained Puppy-Dog Would Have Done as Much”: Herschel’s Carefully Crafted Yet Often Misunderstood Image of Herself.....	123
3.2.3	A Damsel in Distress in Need of Rescue by Her Savior Prince: Herschel as the Cinderella of Astronomy.....	126
3.2.4	“Let Whatever Shines Be Noted”: The Complex (Inner) Life of the Woman Behind the ‘Great Man’ .....	130
3.2.5	“What Will She <i>Not</i> Do to Repay Him with Her Gratitude?” (Re-)Writing the Romantic Fairy Tale of Brother and Sister Herschel .....	137
3.2.6	A “Star [...] in Orbit Around William” – Always Second to Her Brother? ...	145
3.2.7	Conclusion.....	150
3.3	Hidden Achievements, Historical Speculations, and the Shadow of a Famous Husband: Rescuing Mileva Marić, the ‘Mother of the Theory of Relativity’, in Marie Benedict’s <i>The Other Einstein</i> (2016) .....	152
3.3.1	“I Believe That a Woman Can Have a Career Like a Man”: Mileva Marić, a Pioneer for Women in Science and a Tragic Heroine .....	157
3.3.2	A Sounding Board for His Ideas or a Talented Scientist in Her Own Right? The Debate about Marić’s Scientific Legacy .....	163

3.3.3	“Lost in Albert’s Enormous Shadow”: Bringing Marić from the Darkness of Her Famous Husband’s Shadow into Her Own Bright Light.....	172
3.3.4	“The Ideal Bohemian Couple – Equal in Love and Work”: The Cautionary Tale of a Gifted Woman in Love with the Wrong Man....	178
3.3.5	Distorted Facts or a Fictional Truth? Exploring the ‘What Ifs’ in Her Story .....	185
3.3.6	Conclusion.....	197
3.4	Math, Poetry, and the Legacy of a Famous Father: Recovering Ada Lovelace, the ‘World’s First Computer Programmer’, in Jennifer Chiaverini’s <i>Enchantress of Numbers: A Novel of Ada Lovelace</i> (2017) .....	198
3.4.1	“The Most Famous Woman in Computing”: Ada Lovelace, Pioneer in Computer Science and Feminist Icon for Women in STEM .....	203
3.4.2	A Scientific “Genius” or a Delusional “Charlatan”? Diverging Perceptions of Lovelace’s Contributions to and Her Legacy in Computer Science .....	210
3.4.3	Byron’s Only Legitimate Daughter – The Role of Lovelace’s Parentage in the Cultural Narrative of Her Story .....	215
3.4.4	“And Why Should I Not Write My Life?” Bringing Lovelace from “the Margins and Footnotes” of the Historical Narrative “to the Forefront of the Story” .....	220
3.4.5	“A Mathematical Fairy Weaving Magic with Numbers and Words”: Rightening the Record about Her Scientific Abilities and Achievements....	227
3.4.6	“To Rise from My Own Achievements, Not My Father’s” – Forever Entrapped in the Daughter Stereotype .....	234
3.4.7	Conclusion .....	243
4	Conclusion .....	244
4.1	Summary .....	244
4.2	Outlook .....	252
5	Works Cited .....	256



# 1 Introduction: Biofiction and the Herstory of Science

Science is that body of knowledge that describes, defines and, where possible, explains the universe – the matter that constitutes it, the organisms that inhabit it, physical laws that govern it. This knowledge accumulates by a slow arduous process of speculation, experimentation and discovery that has been an integral part of human activity since the dawn of the race. Women have always played an essential role in this process. Yet, we think of the history of science as a history of men. (Alic 1)

A male-centered focus has long determined the cultural narrative of the history of science. From the millennia of prehistory onwards, women have been ongoing and important participants in the systematic development of scientific knowledge and technology, Margaret Alic assures us (1). Undoubtedly, their historical interactions with the sciences have differed greatly from those of men, since women often had to overcome major obstacles to partake in scientific endeavors. Suzanne Le-May Sheffield points out that for much of history “patriarchal society in general, and male scientists specifically, have worked, both consciously and unconsciously, to keep women out of science”. She explains that “[o]ften women were barred by their inability to gain access to knowledge and learning, or by rules of social behavior that dictated that science was not for girls, roles that funneled women toward socially acceptable and respectable positions as wives and mothers in western society” (Sheffield xiii). “At other times,” Sheffield continues, “male scientists have used scientific knowledge itself to ‘prove’ that women’s minds were incapable of practicing science, and that their bodies were unable to stand the intense intellectual work and physical labor required” (xiii). Despite the various barriers and obstacles they faced, many women successfully negotiated their ways into the ‘men’s world’ of science. For a variety of reasons, however, their stories have long been excluded from the official historical narrative of science and thus our recollections of the scientific past. For much of history, the traditional cultural narrative of science read like a list of ‘great men’. Aristotle, Copernicus, Newton, Darwin, Einstein: the history of science was a story of significant discoverers and inventors, those exceptional and overwhelmingly male (as well as oftentimes white and upper- or middle-class) individuals, whose pioneering ideas, extraordinary observations, and groundbreaking theories “drastically altered our view of the universe” (Alic 1). This began to change radically in the latter half of the last century with the revival of the feminist movement and the emergence of women’s history or herstory. In the late 1960s and early 1970s, ‘herstory’, e.g., the feminist revision, re-evaluation, and rewriting of the traditionally male-dominated and male-authored historical narrative from the omitted or sidelined perspectives of women (‘herstory, n.’, *OED*), became an important endeavor – also within the disciplines of science. Discovering that all but a very few women had been left out of the standard narrative of the history of science, feminist scholars began by searching the archives for the lost, overlooked, and hidden stories of noteworthy women in the history of science, to rescue from obscurity those women that had overcome gendered obstacles to pursue scientific objectives in previous centuries. Building on and continuing the pioneering efforts to narrate the herstory of science that writers have produced throughout

history,<sup>1</sup> they set about identifying and recuperating the names of their female predecessors and restoring their life stories and scientific achievements to the historical record and thus our cultural memory of the scientific past (Schiebinger, *Feminism* 2). Doing so, they have not only pointed to the achievements of women throughout the centuries. They have explored the political, economic, and social barriers to women's opportunities of getting involved in the sciences and disclosed the ways that science itself has been used to create and continue sexist gender stereotypes. The desire to revise and rewrite the history of science from the previously often neglected or marginalized perspectives of historical women, to add the successes but also struggles of female scientists to our recollections of the past, was thereby driven by a sense of justice, a wish to rescue scientific women, their names, stories, and achievements from historical oblivion and to set the record straight about female engagements with and accomplishments in the sciences throughout the centuries. It was also stirred by the need to find historical women in science and to document the achievements they had made despite the barriers that were put in their ways to counteract the patriarchal and sexist cultural myth that "women simply cannot do science as well as men" (Schiebinger, "History and Philosophy" 307) and to provide future generations with positive female role models "to counterbalance male stereotypes" (Schiebinger, *Feminism* 21).

Not only historians and biographers engage in the feminist endeavor of rewriting and revising the history of science from the previously excluded and neglected perspectives of historical women. This study is based on the observation that feminist efforts to relate scientific herstory are in recent years taken up and supported by a steadily growing number of artists who are reflecting and carrying on these concerns and goals within their literary and cultural artefacts. Novelists who devote their literary works to the life stories of historical female scientists also contribute to making the history of women in the sciences accessible to a wide audience and thus changing the understanding of the history of the sciences as one determined by men. With their fictional reimaginings of the lives of actual women in science they are, consciously or not, building on and joining feminist efforts at rewriting and revising the history of science from a female perspective. This dissertation will focus on these novels about historical women scientists, more precisely, on contemporary Anglophone biographical novels dedicated to the life stories, and with that the struggles and successes, of historical female scientists.

### 1.1 The Aim and Approach of this Study

Recent years have seen a real proliferation of biographical novels, e.g., fictional narratives that have a historically documented person as their protagonist, dedicated to the

---

1 This is not to say that no attempts in recording and preserving female achievements in science have been made throughout the centuries. In science history writing, one can find a couple of pioneering yet frequently overlooked and/or neglected efforts to tell the history of women of science. See Londa Schiebinger for examples of such early herstorical writings ("History and Philosophy" 306-311, *The Mind* 3-6, *Feminism* 21-24).

oftentimes little-known or completely forgotten life stories of women in science history.<sup>2</sup> Both well-known and lesser-known authors have contributed to bringing the life stories of historical female scientists to a wide audience with their literary texts. Within the Anglo-American literary context, they include:<sup>3</sup> Joan Spicci's *Beyond the Limit: The Dream of Sofya Kovalevskaya* (2002) (about Sofya Kovalevskaya), Tracy Chevalier's *Remarkable Creatures* (2009) and Joan Thomas' *Curiosity* (2010) (both about Mary Anning), Kelley Swain's *Double the Stars* (2014) and Carrie Brown's *The Stargazer's Sister* (2015) (both about Caroline Herschel), Marie Benedict's *The Other Einstein* (2016) (about Mileva Marić), Jennifer Chiaverini's *Enchantress of Numbers: A Novel of Ada Lovelace* (2017) (about Ada Lovelace), Jillian Cantor's *Half Life* (2021) (about Marie Skłodowska-Curie), and Marie Benedict's *Her Hidden Genius* (2022) (about Rosalind Franklin). Those who adopt a broader understanding of the notion of science than merely the disciplines that are involved in the study of phenomena of the natural world, e.g. the natural sciences of astronomy, biology, chemistry, geoscience, and physics, as well as fields which concentrate on formal systems, e.g. the formal sciences, which include the areas of logic, mathematics, and (theoretical) computer science, might also consider examples that focus on women in the history of the social sciences or the applied sciences. Examples that can be named here are Patricia Duncker's *James Miranda Barry* (1999) (about James Miranda Barry), Mary Sharratt's *Illuminations* (2012) (about Hildegard von Bingen), Danielle Dutton's *Margaret the First* (2016) (about Margaret Cavendish), Andromeda Romano-Lax' *Behave* (2016) (about Rosalie Rayner), Lucy Jane Bledsoe's *A Thin Bright Line* (2016) (about Lucybelle Bledsoe), Margaret Potter's *Beautiful Invention* (2018) and Marie Benedict's *The Only Woman in the Room* (2019) (both about Hedy Lamarr), or Tracy Enerson Wood's *The Engineer's Wife* (2020) (about Emily Warren Roebling) as part of the noticeable and unprecedented literary interest in the history of women in science. Together with the many plays and films dedicated to the life stories of historical female scientists, these novels prove that the subject of the history of women in science has experienced a discursive shift in recent times: from a mainly academic topic to a popular literary theme picked up by various agents in the cultural scene.<sup>4</sup> Although new publications reach the literary market every year, the growing

---

2 A thorough discussion of the genre and the terminology used to describe it will be offered in the chapter following this introduction. For now, let me just point out that the terms 'biographical novel,' 'biographical fiction,' and 'biofiction' are understood as synonyms here and will subsequently be used interchangeably throughout this study.

3 Though extensive, the list provided is certainly not intended to be exhaustive. It does not include any newer publications that might have been released after 2023, which is the year I finished my research for this dissertation.

4 Contemporary playwrights and filmmakers are also paying serious attention to the stories of historical female scientists. Biographical dramas or 'bioplays' include Alan Alda's *Radiance: The Passion of Marie Curie* (2012), Arthur Giron's *Emilie's Voltaire* (2010), Lauren Gunderson's *Emilie: La Marquise du Châtelet Defends Her Life Tonight* (2010), *Silent Sky* (2015), and *Ada and the Engine* (2018), and Anna Ziegler's *Photograph 51* (2015). Examples of biographical films or 'biopics' of this kind are Theodore Melfi's

literary interest in the history of women in science has received little academic attention to date. The aim of this study is to close this gap and provide a thorough discussion of the reconstruction and representation of the life stories of historical female scientists in recently published Anglophone biographical novels. In doing so, my dissertation will bring together studies of the genre of biographical fiction or biofiction and questions of the history of women (in science).

The central questions I will be asking myself are what image does the respective biographical novel create of the historical woman, her life story as well as her scientific abilities and accomplishments? What (gendered) messages do the novels send to their twenty-first-century readerships about (these) women in the history of science, their lives, and their achievements? What is the relationship between the image generated of the respective woman in science in contemporary literary fiction and other previously produced portrayals of her life within factual historical-biographical discourse? To what extent does the image created of the chosen subject continue, challenge, perhaps even (seek to) correct previous (mis-)representations of her life, her aptitudes, and achievements in the traditional androcentric narrative of the history of science? By answering these questions, I seek to determine whether these biographical novels truly live up to their feminist potential of rewriting history from a female perspective and changing the male-dominated perception of science in the past. Do they really tell *herstory* or do they narrate *history*, in the sense not only of privileging ‘great men’ but in perpetuating even strengthening the narrative patterns and stereotypes that have led to women’s exclusion from the traditional narrative of science, the distortion and diminishing of their scientific abilities and achievements as well as their stories in the first place?

As might be guessed from the chosen research questions outlined above, the critical perspective I will adopt when examining the chosen biographical novels about historical women in science can be assigned to the field of feminist literary criticism, i.e. those approaches which take a gender-sensitive look at the literary text in the effort of recognizing and determining the extent to which the narrative is entangled in the (re)construction and continuation or deconstruction and challenging of traditional, patriarchal gender myths and stereotypes. Building on arguments made by other literary scholars who study female-centered historical and biographical fiction, such as Ina Bergmann, Julia Novak, and Stephanie Bird, among others, I maintain that by centralizing a previously neglected or marginalized historical woman in science and retelling her little-known or completely overlooked story from her supposedly own perspective and often-times also in her supposedly own voice, the literary texts at hand make herstory ambitions, e.g., ambitions at revising and rewriting the male-oriented and male-authored historical narrative from the long-time sidelined and omitted perspectives of historical women, clearly visible. Foregrounding the concerns, experiences, and perspectives of female scientists and reimagining their life stories through the genre-typical combination of historical facts and creative invention the chosen biographical novels all engage

---

*Hidden Figures* (2016), Marjane Satrapi’s *Radioactive* (2019), and Francis Lee’s *Ammunite* (2021).

in the feminist project of herstory, which is why Bergmann's recently proposed label "herstorical biofiction" ("Historical Biofiction" 311) is surely applicable here. At first glance, the selected biographical novels all seem to be driven by the feminist endeavor of writing herstory, of reinserting women back into the historical narrative of science from which they have all too often been excluded or in which they have so far been marginalized. Frequently, this narrative goal is also underlined once more by direct authorial commentaries through which the authors position themselves within recent feminist endeavors at telling herstory aligning their literary ambitions with the cause of historians and biographers of women (in science). However, feminist literary criticism has long shown that a feminist motivation does not automatically generate a feminist novel, in fact, that even apparently feminist-motivated narrative texts are not free from (re-)creating and circulating problematic images and ideas of women and female lives. Already the titles chosen by the novelists (or their publishers) suggest that the text corpus is not free from this. They reiterate stereotypes about women (*Remarkable Creatures*, *Enchantress of Numbers*, *Beautiful Invention*), position the chosen female subject in relationships to famous, canonical men (*The Other Einstein*, *The Stargazer's Sister*, *The Engineer's Wife*), or emphasize the women's singularity or status as 'firsts' (*The Only Woman in the Room*, *Margaret the First*). Against this background, a critical feminist examination of this in terms of its subject matter undeniably very welcome corpus of biographical novels about women in science history seems justified and legitimized.

In the context of this study, special attention will be paid to the genre of the biographical novel which the authors have chosen for their literary explorations of the herstory of science. A particular focus shall thereby be placed upon its use(fulness) for the feminist endeavor of telling herstory. As I will show in the second chapter of this study with reference to current research, the biographical novel is a form of literature that uses the biography of an actual, usually historical person and imagines the life story through the lens of fiction. Biographical novels are always based on a complex interplay between the historical-biographical facts about the respective person's life and times and the authors' creative handling of the facts. Indeed, writers of biographical novels make substantial use of their artistic liberties and imagination when shaping the factual life into a fictional story. The extent and way the above-mentioned authors fictionally supplement or even freely change the available historical facts about their protagonists' lives certainly differs. The liberties taken depend on the author's own understanding of the genre under discussion and the narrative privileges as well as ethical and moral responsibilities that come with it. Some novelists closely follow the existing biographical records using their fictional privileges only occasionally to provide some details which have been lost in the historical records or to imagine their subjects' interiority. Others take more liberties with the material at hand making use of their poetic licenses not only for the invention of their protagonists' often otherwise unavailable thoughts, feelings, and perceptions or to creatively imagine unrecorded private moments and personal conversations, but to fictionally explore speculative but unprovable 'truths' offering their readers engaging but completely fictive 'what if'-scenarios. They sometimes also change some of

the established facts about their female figures' lives and times for their narrative purposes. Michael Lackey emphasizes that writers of biographical fiction or biofiction "consciously and strategically [invent] stories or [alter] established facts about the biographical subject" (*American Biographical Novel* 6). He argues that authors of biographical novels sometimes deliberately distort the historical figure to enhance the symbolic significance of their stories and present their readers with a different kind of truth (*American Biographical Novel* 67-68). The very narrative choices made possible by the fictional nature of the literary text at hand and the ways in which they impact the images created of the historical women, their life stories as well as their scientific accomplishments, are what I am particularly interested in here. In the context of this study, I am especially concerned with the interplay between feminist politics and fictional privileges, in the ways in which novelists use their narrative possibilities as writers of fiction in the service of their feminist efforts at telling herstory or how they use them (unconsciously) to undermine their herstorical ambitions. I argue that the biographical novels examined can surely be called feminist for the sole reason that they bring back into collective memory the life stories of historical women long neglected and marginalized by androcentric scholarly discourse on science in the past. The choice of a woman scientist protagonist and with that the centralization of female experiences, concerns, and perspectives, frequently also voices, shows a clear feminist predisposition. However, the realization of this feminist potential within the narrative text itself is at times rather problematic. My argument is that while these biographical novels are clearly interested and engaged in celebrating and commemorating previously neglected and marginalized historical women in science and making their stories, and with that their scientific abilities and achievements accessible to and acknowledged by a contemporary readership, they often repeat, sometimes reinforce, problematic images and ideas of these female figures and their stories instead of challenging and contradicting them.

My approach to the chosen novels necessitates a couple of methodological considerations. On the one hand, familiarity with the historical and biographical facts that are known about the chosen person, perhaps even disputed, or lost. As outlined above, authors play with the facts, add to them, change them. Without knowledge of what is known or controversial or perhaps cannot be known, it is impossible to recognize and study the creative use of facts in fiction. On the other hand, an understanding of the dominant image of her in academic and/or popular discourse, i.e., the previous reception history of the chosen person, is central to the present study. As the research questions listed above make clear, I am interested, among other things, in the extent to which the authors make use of already established and possibly problematic images or consciously question and perhaps even break through them. To do this, it is essential to familiarize oneself with the previous portrayal of the chosen female figure.

## 1.2 On the Chosen Text Corpus

My study does not pursue the goal of a comprehensive examination of all existing texts about women in the history of science that can be assigned to the genre of the biographical novel and the English-speaking literary context. Rather, it provides examinations of selected case studies that can be considered representative of the corpus of biographical novels about historical female scientists outlined above. This will allow me to discuss the biographical novels and the life stories represented therein in their complexity (though certainly still not in their entirety). I will carry out the outlined project based on four selected examples from the cycle of novels that I have identified: Tracy Chevalier's *Remarkable Creatures* (2009) which represents the life of the English fossil hunter and dealer as well as geologist and paleontologist Mary Anning (1799-1847) constitutes the first case study. The second example is Carrie Brown's *The Stargazer's Sister* (2015) which reconstructs the story of the German-born and England-based comet huntress and professional astronomer Caroline Lucretia Herschel (1750-1848). Marie Benedict's *The Other Einstein* (2016) which recalls a period in the life of Serbian physicist, mathematician, and first wife of Albert Einstein, Mileva (Einstein-)Marić (1875-1948) is the third case I will be studying. The fourth and last example is Jennifer Chiaverini's *Enchantress of Numbers: A Novel of Ada Lovelace* (2017) which reimagines the story of the English mathematician and computer programmer Ada Lovelace (1815-1852).

The four novels selected here share a couple of common characteristics that unite them as the corpus of this study. The most obvious connection is, of course, the chosen subject matter, as they all tell (part of) the life story of a historical female scientist. I have now repeatedly referred to the women featured in the selected narrative texts as scientists. However, this designation is, strictly speaking, incorrect for at least some of the historical figures that feature here. To use the notion of the 'scientist' to describe a person who was involved in scientific investigations before the late nineteenth/early twentieth century is anachronistic because William Whewell only coined the term in 1834. Prior to that most people who pursued scientific research would have been referred to as 'natural philosophers,' 'savants,' 'cultivator of science,' 'virtuosi,' or 'men of science' (Kragh 25). Alternatively, the branch of study they were working in would have identified them. Terms which describe the practitioners of a specific scientific discipline such as 'astronomer,' 'botanist,' 'chemist,' 'mathematician,' 'geologist,' or 'zoologist' had been in existence for a long time (other terms like 'biologist' and 'physicist' were only coined at the beginning of the nineteenth century though) (Cahan 4, White 154). Taking the history of the word into account, to refer to someone like Mary Anning or Caroline Herschel as a scientist is anachronistic. There is another reason why my use of 'scientist' as a linguistic unity for the above-mentioned historical women is problematic and that has to do with the very definition of the term itself. Due to a variety of cultural, educational, and social reasons, women did often not perform the kind of original research that is commonly associated with the 'scientist' or its predecessor, the 'man of science.' While women have been active and significant participants in the development of scientific knowledge throughout the centuries, due to gendered constraints, their

participation in the sciences has frequently differed from that of their male contemporaries. Most women who worked scientifically in previous times did so by adopting roles other than researcher, for instance those of assistants, computers, illustrators, popular science writers, translators, patronesses, or teachers, which, while considered suitable for members of the female sex, are generally not seen as doing scientific work in the proper meaning of the word. For reasons of simplicity and because it seems to be widely done so in both public as well as academic discourses on the history of science, I will still group the women together here under the notion of the scientist. The women depicted in the chosen novels come from various places and historical moments, yet all were somehow or other engaged in scientific (here understood as the natural sciences) or mathematical research and the production of new scientific knowledge. As common in the genres of factual biography and biographical fiction, each novel focuses on the life of a noteworthy historical figure who, despite her scientific accomplishments and the attention and acknowledgment these brought for her in her own day, has received little to no attention in traditional historiographical narratives of science or whose image has been distorted in the past. Another common denominator is that the selected case studies all are biographical novels in the narrow sense of the term, i.e., they “name its protagonist after [the] actual historical person” whose life they depict (Lackey, *American Biographical Novel* 4, emphasis added). This means they are not written in the tradition of the roman à clef, in which the historical figure is covered with a fictional facade. The chosen novels are written by relatively well-known and established authors and were produced by large publishing houses. They might be classified as commercial texts aimed at a general readership.

The corpus of texts also resulted from things I wanted to avoid: I wanted to focus on biographical novels that narrate the lives of different women. For some of the women featuring in this study (Anning, Lovelace, and Herschel) several fictional portraits exist. A comparative approach that considers various biofictional representations of the same person and the same life story from a diachronic or synchronic perspective would have been an interesting endeavor as well, as proven, for instance, by Julia Novak in her studies on historical women artists/writers such as Nell Gwen and Elizabeth Barrett Browning (2014 and 2016 respectively). However, this is not the goal of this study. If more than one novel about an individual woman existed, I have chosen the one that appeared to be the commercially most successful. I also did not want to overemphasize the work of an individual author by discussing several novels by the respective person in this study. Benedict has written about quite a few women in the history of science, namely Mileva Marić (*The Other Einstein*, 2016), Hedy Lamarr (*The Only Woman in the Room*, 2019), and Rosalind Franklin (*Her Hidden Genius*, 2022). I have chosen her first novel of this kind, which is *The Other Einstein*.

Two characteristics which are common to the selected novels are not the outcome of a purposeful selection but result from the material available on the book market. All novels have been written by U.S.-American women novelists. The disciplinary affiliation of this study to the field of English literary studies made it necessary to confine

myself to novels first published in the English language. The focus that the study places on novels first published in English and thus assignable to the Anglo-American culture context shall by no means suggest that only novelists from Anglophone countries contribute to the recent proliferation of biographical fictions about historical female scientists. Examples such as German novelist Sabine Friedrich's *Immerwahr* (2007), Swedish writer Per Olov Enquist's *Boken om Blanche och Marie* [*The Book of Blanche and Marie*] (2004), Spanish author Rosa Montero's *La Ridicula Idea de No Volver a Verte* [*The Ridiculous Idea of Not Seeing You Again*] (2013), or Croatian novelist Slavenka Drakulić's *Mileva Einstein, Teorija Tuge* [*Mileva Einstein or the Theory of Solitude*] (2016) show that the rising literary fascination with the lives of actual women from the history of science is a transnational development. While I chose only novels assignable to the Anglo-American cultural context, a specific English-speaking country was not a selection criterion. The U.S.-American background of the chosen authors (Benedict, Chiaverini, and Brown are American; Chevalier was born in the United States but now lives in the United Kingdom) reflects that so far mostly U.S.-American novelists are dealing with the topic of women in the history of science. The gender of the author was not a selection criterion either. However, in my research, I only came across biographical novels written by female authors. This is why I could not include any male writers here.<sup>5</sup>

### 1.3 The State of Research<sup>6</sup>

Focusing on the ways in which contemporary Anglo-American novelists reconstruct and represent the life stories of historical women in science in recently published English-speaking biographical fictions or biofictions, this study addresses a gap in scholarship. As I have shown, historical female scientists increasingly appear as characters in popular culture – not only in novels but also in films and plays. However, these fact-based yet clearly fictionalized portrayals have so far received comparatively little critical consideration. Of the four literary examples which constitute the object of study in the present book, only Tracy Chevalier's *Remarkable Creatures* has met with some academic interest by now. The other three case studies chosen here, namely Marie Benedict's *The Other Einstein*, Carrie Brown's *The Stargazer's Sister*, and Jennifer Chiaverini's *Enchantress of Numbers: A Novel of Ada Lovelace*, have not captivated any scholarly attention at all. This lack of academic consideration paid to the steadily growing text corpus of bio-

---

5 This is not to say that male novelists do not care to write about the herstory of science. When looking at filmic or dramatic examples of biofiction, for instance, one can find works produced by men, too. Furthermore, when considering historical novels about women in the sciences that are not rooted in the actual biography of a historical person, one can find a couple of male novelists, too, even though women authors clearly dominate here as well.

6 The state of research provided is certainly not intended to be exhaustive. It does not include any newer publications that might have been released after 2023, which is the year I finished my research for this dissertation.

graphical novels dedicated to the life stories of historical women in science is surprising given the huge amount of scholarship produced on the genre of biographical fiction, especially on biofiction about historical women, in recent times.

The generic hybrid of the biographical novel had long been considered an undesirable even contemptible aesthetic form and had consequently been critically neglected for much of the twentieth century, as Michael Lackey has shown (*American Biographical Novel* 1-34). However, in the last thirty years or so, academic interest in the historical origins and development, formal characteristics, generic boundaries and locations, thematic concerns, cultural functions, and recent popularity of biographical fiction is growing substantially. Some of the major theoretically oriented works on the genre of biofiction include: Ina Schabert's monograph *In Quest of the Other Person. Fiction as Biography* (1990), Martin Middeke and Werner Huber's edited collection *Biofictions: The Rewriting of Romantic Lives in Contemporary Fiction and Drama* (1999), Lucia Boldrini's *Autobiographies of Others. Historical Subjects and Literary Fiction* (2012), Michael Lackey's *Truthful Fictions: Conversations with American Biographical Novelists* (2014), *The American Biographical Novel* (2016), his edited volumes *Biofictional Histories, Mutations, and Forms* (2017), the already-mentioned *Biographical Fiction: A Reader* (2017), and *Conversations with Biographical Novelists: Truthful Fictions across the Globe* (2018) as well as *Biofiction: An Introduction* (2021) and *Ireland, the Irish, and the Rise of Biofiction* (2021), Julia Novak and Lucia Boldrini's edited collection *Experiments in Life-Writing: Intersections of Auto/Biography and Fiction* (2017), and Marie-Luise Kohlke and Christian Gutleben's edited volume *Neo-Victorian Biofiction: Re-Imagining Nineteenth-Century Historical Subjects* (2020). For their typological approaches to the genre Ansgar Nünning's article "Fictional Metabiographies and Metaautobiographies: Towards a Definition, Typology and Analysis of Self-Reflexive Hybrid Metagenres" (2005) and Marie-Luise Kohlke's paper "Neo-Victorian Biofiction and the Special/Spectral Case of Barbara Chase-Riboud's *Hottentot Venus*" (2013) are surely also important contributions to advancing the understanding of the genre of biographical fiction. All these studies have laid out basic understandings of the genre. They provide useful frameworks for approaching fictional narratives that have a historically documented person as their protagonist. It is to these studies that my own work here owes much of its theoretical and methodological foundations.

Additionally, many academics have contributed important studies on individual historical figures or collectives of people and the ways in which contemporary biofiction represents or appropriates their live(s). Current novelists show themselves particularly fascinated with the stories of their literary predecessors, especially those of the Victorian period: Oscar Wilde (Peter Ackroyd's *The Last Testaments of Oscar Wilde*, 1983), Gustave Flaubert (Julian Barnes' *Flaubert's Parrot*, 1984), Lewis Carroll (Katie Roiphe's *Still She Haunts Me*, 2002), Sylvia Plath (Kate Moses' *Wintering: A Novel of Sylvia Plath*, 2003), Henry James (David Lodge's *Author, Author*, 2004), Katherine Mansfield (Janice Kulyk Keefer's *Thieves*, 2004), Elizabeth Barrett Browning (Laura Fish's *Strange Music*, 2008), Charles Dickens (Richard Flanagan's *Wanting*, 2008), Vir-

ginia Woolf (Susan Sellers' *Vanessa and Virginia*, 2009), Emily Dickinson (Jerome Charyn's *The Secret Life of Emily Dickinson*, 2011), or Georg Eliot (Dinitia Smith's *The Honeymoon*, 2016), among others, have been recently resurrected by novelists. By consequence, scholars within the field of biofiction studies have often focused on fictional reimaginings of the lives of historical writers. The edited collection of Paul Franssen and Ton Hoenselaars, *The Author as Character: Representing Historical Writers in Western Literature* (1999), Laura E. Savu's monograph *Postmortem Postmodernists: The Afterlife of the Author in Recent Narrative* (2009), Bethany Layne's PhD thesis (*Post-)modernist Biofictions: The Literary Afterlives of Henry James, Virginia Woolf, and Sylvia Plath* (2013), her edited volume *Biofiction and Writers' Afterlives* (2020) as well as her monograph *Henry James in Contemporary Fiction. The Real Thing* (2020), or Azure Engelbrecht's dissertation *Neo-Victorian Dickens(es): The Hogarth/Dickens Circle and Recent Biofiction* (2016), are only a couple of English-language examples here. In addition to these comprehensive anthologies and monographs, innumerable free-standing academic papers on what has been termed 'literary biofiction' (Stuart-Reid 68) could be named here as well.

While journal articles, book chapters, and scholarly monographs are multiplying around biographical fictions dedicated to historical writers, those featuring actual scientists from the past as their protagonists, e.g., 'scientific biofictions,' have so far not raised any academic attention at all within the field of biofiction studies – neither have other dominant vocational groups been the subject of comprehensive scholarly studies yet. This is surprising, indeed, for recent years have seen a real proliferation of anglophone biographical novels which recount scientific life stories – something that also Jan Gollinski (2007) and Norbert Schaffeld (2016) have observed in their studies. In addition to the many biographical fictions devoted to the lives of historical women in science, John Banville's *Doctor Copernicus* (1976) (about Nicolaus Copernicus), *Kepler* (1981) (about Johannes Kepler), and *The Newton Letter* (1982) (about Isaac Newton), Irving Stone's *The Origins* (1980) (about Charles Darwin), Claire Dudman's *Wegener's Jigsaw* (2003) (about Alfred Wegener), Neil Belton's *A Game with Sharpened Knives* (2005) (about Erwin Schrödinger), Janna Levin's *A Madman Dreams of Turing Machines* (2006) (about Kurt Gödel and Alan Turing), David Leavitt's *The Indian Clerk* (2007) (about Srinivasa Ramanujan), Anthony Flacco's *In the Matter of Nikola Tesla* (2013) (about Nikola Tesla), Avi Sirlin's *The Evolutionist: The Strange Tale of Alfred Russel Wallace* (2014) (about Alfred Russel Wallace), Thom Conroy's *The Naturalist* (2014) (about Ernst Dieffenbach), and Louisa Hall's *Trinity* (2018) (about J. Robert Oppenheimer), are all examples of contemporary biofictions which have found their subject matter among scientists from the past. While some of these novels have been critically discussed by academics, a detailed discussion of the representation of the historical scientist's life story is not what the existing studies offer.

While the intersections between biographical fiction and the history of (women in) science remain largely undertheorized so far, what has been met with quite some attention in recent years from those working in the field of biofiction studies are the connec-

tions and tensions between biographical fiction and women's history or herstory. The literary texts at the center of attention in this study clearly belong to what Julia Novak and Caitríona Ní Dhúill have observed to be a recent boom of biofictional narratives about notable women from the past (10, 16, cf. Novak, "Notable Woman," "Feminist to Postfeminist"). Female-centered biographical fictions have not only met with critical acclaim and commercial success, but have in recent years become a growing field of research for feminist literary and cultural scholars interested, above all, in the gender politics inherent in these fictional reimaginations of actual historical women's life stories. The scholarly output is growing substantially. One of the latest additions is undoubtedly the edited collection by Novak and Ní Dhúill, *Imagining Gender in Biographical Fiction* (2022), to which I had the honor of contributing myself. Other studies to be named here are Stephanie Bird's *Recasting Historical Women* (1998) and James Fitzmaurice, Naomi J. Miller, and Sara Jayne Steen's edited collection *Authorizing Early Modern European Women: From Biography to Biofiction* (2021). Not specifically dedicated to biofiction but still oftentimes featuring discussions of biographically-based examples among its text corpus are the various studies on the historical woman's novel, which have also developed into a flourishing subfield within historical fiction studies (see for example: Nünning 1995, Wallace 2005, King 2005, Cooper and Short 2012, Barlow 2014). Given the predominance of historical women artists and writers in contemporary herstorical biofiction, it might seem little surprising that the scholarly focus is mainly directed towards literary or artistic biofictions again, with the huge number of biofictions about women scientists not receiving any attention. Nonetheless, the available publications have been tremendously helpful for developing my own arguments in this study. The present study will draw from and build on existing critical examinations of the feminist politics of herstorical biofictions and thus situate itself within the field of biofiction studies. It seeks to add a new perspective to a growing body of scholarship dedicated to contemporary biofictions about historical women, one that has so far not considered the many novels depicting female scientists. By focusing on the ways in which contemporary women writers reimagine the lives of historical female scientists within their present-day biographical novels, the scholarly contribution of this study lies in its discussion of a body of literary texts that has so far not received much critical attention from academics. The academic value of this study is also to be found in the crucial contributions it makes to ongoing discussions about the functions and values of the genre under discussion, especially its usefulness for telling herstory.

#### 1.4 The Structure of this Study

The analysis of the selected biographical novels about historical female scientists forms the centerpiece of this work. A couple of theoretical and methodological considerations precede the four chapters dedicated to the examination of the literary texts. Grouped together in chapter 2, these background chapters provide the critical framework against which I analyze the chosen text corpus. I begin with an investigation of the genre the

authors chosen for this study use for their literary explorations of the history of women in science, that is the biographical novel. Naming their protagonists after historical women in science and offering fictional(ized) accounts of their life stories or parts thereof, the literary texts at hand can all be described as biographical fictions or bio-fictions. Chapter 2.1 offers some basic reflections on this booming but also much-discussed genre, in which biographical facts are fused with artistic imagination. It explains some of the distinctive features of and key issues surrounding biographical fiction as they are presently being discussed within the thriving field of biofiction studies. The biographical novel is an interesting hybrid genre which, according to current scholarly opinion, is situated between life writing or biography and (historical) fiction combining elements of both. In addition to a basic understanding of the genre, its historical origins and development, central features, and generic location, the chapter focuses primarily on the genre's characteristic relationship between fact and fiction, or more precisely, on the question of how far a fictional narrative is allowed to go with the biographical template and where its ethical and moral boundaries lie, if it has them at all. Despite the increasing number of critical studies on the biographical novel, there continues to be much confusion about how exactly the genre can be defined. This chapter should not be understood as an attempt to fill in the gap and to give a clear, absolute definition. It is rather characterized by my effort to make the plurality of understandings fruitful for the texts under discussion in this study.

While the first background chapter places the chosen novels into a generic context, the objective of the second background chapter 2.2 is to situate the chosen literary texts within the ideological (gender-political) context from which they originate and to which they contribute. In terms of ideology, literary scholars regularly connect female-centered historical biofiction with feminist ambitions to rewrite and revise history from the previously neglected or marginalized perspectives of women, efforts that came to be known as herstory. In this chapter, I will discuss the feminist endeavor of herstory, its goals and manifestations (especially in the genre of biography), and show how present-day novelists are reflecting and carrying on these ambitions in fiction. A special focus will thereby be placed upon the question of how biographical fiction, because of its hybrid nature, might be seen as especially suitable and useful for the feminist endeavor of narrating women's lives. The goal of this chapter is also to point to some of the insights that academics have gained regarding the feminist or gender politics of contemporary female-oriented biofictions. The chapter will show that biographical novels which centralize the lives and accomplishments of actual women in history and thus give visibility and voice to their previously often marginalized and omitted perspectives, experiences, and concerns are frequently and oftentimes rightly so applauded for the ways in which they challenge our traditional, male-focused understanding of history. They allow to reinstate women's stories to the historical record and our cultural memory and to reinterpret their lives from a gender-sensitive point of view. However, herstorical biofictions have been accused of by scholars as sometimes also reinforcing cultural myths and patriarchal stereotypes surrounding historical women and female lives. They, at times, reproduce and

thus confirm the problematic images and conservative plots that feminists contest. Their potential for subversive feminist historiography must therefore, scholars have suggested, be treated with caution.

Before delving into the analysis of the gender politics of the chosen biographical novels about the herstory of science, chapter 2.3 will address some methodological considerations. As alluded to above, this study situates itself methodologically in the broader field of feminist literary criticism, especially gender-sensitive approaches to representations of historical women and their life stories as developed by scholars in the fields of life writing and historical-biographical fiction studies. I will examine the available historical-biographical literature about the respective woman and her life and times alongside the literary texts at hand. In doing so, my aim is not to evaluate the respective novel's faithfulness to historical evidence and/or biographical truth (if such a thing even exists) as well as the dominant narrative of her story in scientific and/or popular discourse. I am familiarizing myself with the details of her story – as far as they are documented and can be considered reliable – to be able to see where the novelists use their poetic license in the biofictional retelling of her life, where they add to, deviate from, or change the historical-biographical record as it exists. Likewise, I am studying her reception history, the ways in which her life has been represented in the past, to see the ways in which the novels challenge and contradict the dominant cultural narrative of her story, and with that some of the patriarchal stereotypes and cultural myths that surround it, or reproduce and repeat it. Thus, I will also read the novels against the background of the individual's biography and reception history to see in what ways the novels critically engage with and perhaps even reject the myths and stereotypes that have dominated her story so far. In addition to the literary text itself I am discussing selected paratextual elements. Like all works of literature, biographical novels are narrative constructs that reveal their meaning through an interplay of different aspects. The paratexts are interesting discursive spaces in which the authors often disclose their novelistic motivations for writing about the chosen woman, the goals they seek to accomplish in telling her story through a fictional lens. In the paratexts they also often discuss the relationship between historical facts and creative invention, and reveal some of the omissions, additions, or changes they made to the biographical record of the chosen woman's life story. I am considering both epitextual and peritextual elements and thus aspects within the novel itself, such as the afterword, author's notes, or acknowledgements section, but at times also elements outside the novel, such as reviews by critics and interviews with the novelist.

The main part of the present book, which is chapter 3, consists of the examination of the selected biographical novels about historical female scientists. I will discuss the chosen narratives individually against the background of the outlined framework. Each chapter will focus on a specific aspect of her story and the historical-biographical scholarship existing. As just pointed out, in my analyses of the selected literary texts, I will draw on ideas developed by current research on the genre of biofiction and especially herstorical biofiction. I will also consider some concepts and debates from recent femi-

nist scholarship on the history of women in science whenever they are relevant in the context of the respective woman's life story and its literary portrayal in the chosen biographical novel. The novels are discussed in chronological order based on their date of publication.

Chapter 3.1, the first analysis chapter, will deal with Tracy Chevalier's fictional reconstruction and representation of the life and times of Mary Anning in her biographical novel *Remarkable Creatures*. Particular attention will be paid to the relational approach the novelist has chosen to adopt: the pairing of Anning's story with that of her friend and fellow fossilist Elizabeth Philpot who is known to have functioned not only as her colleague but as her mentor and advocate. In retelling Anning's story by means of her relationship with Philpot, Chevalier addresses and appreciates an aspect of her chosen heroine's biography which has been rarely discussed by scholarly research so far, namely the role of friendship and collaboration in her life, the kind of sisterly support and solidarity Anning had received from like-minded women in science. The pairing of Anning's story with that of Philpot allows Chevalier also to highlight the remarkability and exceptionality of Anning in the context of the history of women in science: the double odds of gender and class despite which she succeeded in the male-dominated world of early nineteenth-century geology and paleontology and eventually entered the annals of history. However, as I will show, it is by means of this relational approach that *Remarkable Creatures* also continues, even emphasizes, a rather problematic, if, unfortunately still dominant and highly stereotypical image of Anning that has often worked to downplay or even dismiss her experience and expertise as a fossilist. Furthermore, Chevalier's reliance on gendered clichés of female lives and women's relationships with each other as playing out in an entirely invented romantic interlude undermines the revisionist potential of this novel.

Chapter 3.2 focuses on Carrie Brown's *The Stargazer's Sister*, a novelistic reimagining of the life of German-born England-based astronomer Caroline Herschel. Despite her own scientific accomplishments, among them the discovery of eight comets as well as her important cataloguing work, Herschel has so far usually been perceived as nothing but the dedicated and dutiful assistant to her famous astronomer brother. Even today, biographers, historians, and laypersons alike often remember Herschel more readily as William's self-sacrificing 'Cinderella sister' rather than as a significant scientist in her own right. As I will show, Brown's biofictional account of Herschel's life continues rather than challenges this problematic and patronizing portrayal of the female stargazer. Undoubtedly, through its fictional exploration of Herschel's otherwise inaccessible interiority, the biographical novel at hand represents an important revisionist intervention into the oversimplified image that has determined the historical memory of this pioneering woman in science throughout the centuries. Nevertheless, while Brown transforms her chosen historical subject from a one-dimensional stereotype into a multi-dimensional and clearly sympathetic fictional character, I argue that *The Stargazer's Sister* does not qualify as a feminist revision of the dominant patriarchal representation of her story. I criticize this fictionalized version of her life for perpetuating, even reinforcing,

the tendency of traditional male-focused historiography to diminish and devalue Herschel's personal and professional achievements in favor of a focus on her relationship to her brother and her role as his devoted assistant. Moreover, I also criticize the novel for telling her life story in the style of a romanticized and rather gender-clichéd fairy tale which is also furthered by the author's use of her poetic license for the inclusion of fictional love stories.

Chapter 3.3 will take a closer look at Marie Benedict's fictional recreation of the life of the Serbian mathematician, physicist, and first wife of Albert Einstein, Mileva Marić, in her biographical novel *The Other Einstein*. This chapter seeks to discuss the author's decision to use her artistic liberties to explore in fiction what has become a widely held yet extremely speculative and highly controversial assumption about the historical figure of Marić: that she was Einstein's scientific assistant and collaborator as well as the true originator of the special theory of relativity and that her spouse cheated her out of recognition for it, like it was the case with many women in the history of science. I will show that in her novel, Benedict seeks to reveal Marić's own intellectual brilliance and scientific productivity as well as the crucial part she had played in Einstein's scientific successes. Yet, Benedict's fictional exploration of the so-called 'Mileva Story' in *The Other Einstein* serves mainly one purpose, namely to foster the tragic victim narrative that she creates about this female figure in scientific history. I argue that this deliberate if fictional misrepresentation of history does have the potential to create a powerful reminder of the very mechanisms that have led to women's exclusion from science and its historical narrative for much of the past. However, ultimately, it runs the risk of lastingly damaging both Marić's and Einstein's cultural afterlives and of harming the feminist cause.

The fourth and final chapter of my analysis part, chapter 3.4, discusses Jennifer Chiaverini's *Enchantress of Numbers: A Novel of Ada Lovelace*, a biographical fiction based on the life of the English mathematician and writer of the same name. Long reduced to little more than an interesting footnote in history because of her status as the only legitimate daughter of the (in-)famous Romantic-era poet George Gordon Byron, Lovelace has now become a key figure in the development of computer science. She is widely celebrated today as the 'world's first computer programmer' and is seen together with Charles Babbage as the pair of parents for modern-day computer science. The self-declared goal of the author in the present novel is to give her chosen protagonist long overdue recognition for her intellectual labor and scientific accomplishments and bring her to public consciousness. Furthermore, Chiaverini shows herself convinced that narrating the stories of extraordinary and exemplary women in the history of science like Lovelace is vital in counteracting problematic stereotypical beliefs and prejudices about women and/in STEM which continue to impact negatively female participation and retention in these fields. Shedding a critical-feminist perspective on the image and idea this biographical novel presents of the historical female scientist and her life story, I will show that Chiaverini, despite her clearly articulated feminist-revisionist ambitions, remembers Lovelace primarily once again for her complicated family situation rather than

for her pioneering efforts in computer science. In doing so, the novel perpetuates a long-held idea of Lovelace as a memorable historical person because she was Byron's daughter and not because she is an important and inspiring woman in the history of science.

To conclude, chapter 4 will provide a summary of my findings about the representation of historical female scientists and their life stories in contemporary biographical novels and give an outlook which aims to underline their relevance in the context of feminist efforts to address STEM's gender problem in the present day.

Before proceeding, a note on my use of names might be useful. As is the overall standard in feminist studies, I have chosen to refer to all women and men discussed in this study by their last names after having introduced them with their full names. Whenever the first name is used, this is because the author herself chose to use it within interviews or what is variously referred to as author's notes or acknowledgements. To distinguish between the historical figures and the literary characters in the respective biographical novels, I will use last names whenever I am speaking about the historical person and first names when talking about the literary character (unless the narrator insists on using last names when referring to a certain person in the story). This practice of differentiating between the historical figure and literary character by use of their first and last names seems to be a common convention in (English) literary studies. If necessary, further details on the use of names will be provided in the respective chapters.

## 2 Biographical Fiction, Female Life Stories, and Feminist Efforts in Telling Herstory

### 2.1 Real Lives in Literary Fiction: On the Genre of the Biographical Novel

Biographical fiction or biofiction<sup>7</sup> is a form of literature which takes the biography of an actual, usually historical figure as a point of departure and offers a fictional account of the chosen subject's life. As Julia Novak explains, "biographical fiction – or 'biofiction' – is a narrative based upon the life of a historical person, weaving biographical fact into what must otherwise be considered a novel" ("Experiments" 10). Thus, most basically, biographical fiction or biofiction can be defined as the novelization of a factual life. It is essentially fiction based upon a real person's life story.

While biographical fictions are based on the lives of actual persons and are therefore often understood as a form of life writing,<sup>8</sup> it is important to note that biofictions do not follow the same conventions and do not make the same truth claims as factual biographies. Certainly, postmodernist thought has severely challenged the traditional differentiation between historiographical and literary discourse, between factual and fictional writing, which has long been considered unproblematic. "Rather than strictly demarcating fact and fiction, biography and the novel, or a historical figure and a fictional character, postmodernists suggest that fact is fiction and that fiction is inseparable from fact," Michael Lackey explains ("The Rise" 10). By demonstrating that writers of real-world stories, like historians and biographers, use the same rhetorical means as writers of creative fiction when constructing their factual narratives and that novelists often use actual places, events, and persons for their fictional stories, our attention has been increasingly drawn to the many parallels and overlaps between fictional and factual writing and the fact that every (narrative) representation, whether in historiography and biography or literature, is constructed and thus somehow artificial and subjective. However, despite the many parallels and overlaps between factual and fictional literature, which are based upon the "narrative nature of both genres" (Middeke 3), there are still some fundamental differences between them, since writings from these two realms make

---

7 Biofiction is a neologism coined by Alain Buisine in 1991 in his French-speaking article of the same title. It was adapted for the English-speaking literary context by Martin Middeke and Werner Huber in 1999 with their anthology *Biofictions: The Rewriting of Romantic Lives in Contemporary Fiction and Drama*.

8 The concept of life writing considers that the forms of writing about lives or parts thereof have diversified, that they are no longer limited to the traditional forms of biography or autobiography (and perhaps never were) (cf. Novak, "Experiments" 1-2). As Zachery Leader explains: Life "writings include not only memory, autobiography, biography, diaries, autobiographical fiction, and biographical fiction, but also letters, writs, wills, written anecdotes, depositions, court proceedings, ... marginalia, nonce writings, lyric poems, scientific and historical writings, and digital forms (including blogs, tweets, Facebook entries)" (1, omission in original).

different truth claims and since their production and reception follow different conventions.

Looking at the genres under discussion here, this means that, undoubtedly, both biographies and biofictions are narrative constructs in which the writer creates the life story of a person by carefully choosing from and arranging the available material that the historical record provides. Yet, despite thematic, structural, and functional parallels, the genres follow different writing contracts and raise different expectations in readers, as Novak emphasizes:

While biographers are expected to adhere to the principles of truthfulness, verifiability, and objectivity, no such restrictions apply to novelists, who can change facts, shift dates, and invent dialogues, thoughts, and even characters, and who can thus be said to enjoy greater freedom in representing, and appropriating their subject. (“Notable Woman” 85)

Like biographers, writers of biofiction focus on the real-life stories of actual people. However, writing within the conventions of fiction and not history or biography, there are certain liberties they can take both on the level of narrative mediation and in their selection of reality references. Novak continues: “This is not to say, however, that they operate independently of biographical fact: they draw on the ‘facts’ of a life in their accounts of the biographee, sometimes adding to and confirming, sometimes contesting the image preserved of a subject in cultural memory” (“Notable Woman” 85). In biofiction, “the relationship between fact and fiction” can thus be “renegotiate[d]” (Novak, “Biographical Fiction to Historiographic Metafiction” 146). Differentiating between the two modes of writing, and with that also between genres like factual biography and biographical fiction, is therefore not only possible but important. Criteria like historical accuracy, scholarly objectivity, or verifiability of sources, which are central to biography proper (Novak, “Notable Woman” 85), should not be used when discussing a biographical novel, which is, though based upon facts, clearly marked and thus to be understood as fiction and does not claim to be true. Biofiction, as Valentina Vanucci argues, “casts everything – biographical facts, inventions – on the same ontological order of fictional creation, demanding not to be taken literally” (382). There seems to be little doubt that “the biographical novel is first and foremost fiction” (Lackey, “Locating and Defining” 5). When reading biographical fiction, the unambiguous designation on the book cover – biofictions frequently bear the subtitle *A Novel* – as well as the legal disclaimer on the first page which states that *This is a work of fiction...* are meant seriously. The biographical novel, at least regarding its claim to truth and the conventions it follows, is clearly to be classified as fiction and should therefore not be read with historical accuracy and authenticity in mind. While subtitles and/or summaries on the dust cover or back of the book as well as legal disclaimers often announce the literary narrative’s fictionality, the inclusion of lists of historical-biographical sources or further readings as well as giving credit to historians and biographers lays claim to at least some kind of authenticity and accuracy of the represented life story. However, the factual basis of the story does not alter the fictional status of the literary work at hand. Frequently, the authors themselves overtly distance themselves from historiographical-biographical discourse when they

emphasize the fictional status of their works. This is also the case in the novels chosen for this study: “*Enchantress of Numbers* is a work of fiction inspired by history,” Chia-verini claims (427). Benedict emphasizes that “[c]ertainly, speculation exists in *The Other Einstein* – the book is, first and foremost, fiction” (313). Chevalier, too, states clearly that “*Remarkable Creatures* is a work of fiction” (349). Brown stresses the fictional nature of her novel *The Stargazer’s Sister* noting that “a historian seeking to understand the Herschels’ lives would approach their story very differently than I have done, though we might depend on many of the same sources of information” (326). Such comments are typical in biographical fiction. Lackey asserts that

[a]ccentuating the fact that they are writing novels rather than biographies liberates biographical novelists from what they consider the strictures of biographical representation and allows them to take many liberties with the biographical subject in order to project their own creative vision. (“Locating and Defining” 7)

Authors of biofiction, as Lackey notes, want their novels to be judged as works of creative art and not as biography or history (“Narrative Space” 10-11). Clearly labelling their novels as fiction they contend that their literary texts be read as such and not measured against biographical facts and historical accuracy and authenticity. By emphasizing the fictional nature of their works, authors distance themselves from the conventions of factual biography and history writing. Instead, they accentuate their poetic freedom as novelists.

The degree to which authors of imaginary life stories of actual historical persons depart from the known biographical facts varies greatly and certainly depends on the writer’s understanding of the narrative purpose of the genre under discussion and the fictional privileges as well as ethical responsibilities that come with it (I will discuss this further down in this chapter). There seems to be no universally valid answer to the question of how much poetic freedom authors of biographical fiction can take in relation to the historical record of the chosen subject’s life. Bethany Layne argues that “each biographical novelist must decide how much artistic license is permissible in the construction of an engaging narrative, and at what point the departures are so many, or so great, that biofiction becomes simply fiction” (*Henry James* 8).

### 2.1.1 Biographical Fiction or Fictional Biography: Terminological Clarifications

Before proceeding, some terminological clarifications might be useful. Most scholars use the terms biographical fiction and the compounded form biofiction to refer to biographical novels, as do I in this study. However, there are others who also employ it as “a multimedia umbrella term” which encompasses “biofictions on page, stage, and screen” (Kohlke and Gutleben 3), and thus also comprises bioplays/biodramas as well as biofilms/biopics.

For Marie-Luise Kohlke, the notion of biofiction also functions as a collective term that includes so-called ‘autobiofictions.’ This is how Kohlke differentiates: “Biofiction re-imagines an historical Other’s life in the third-person or via an omniscient narrator, while autobiofiction narrates the subject’s life from her/his purported first-person point

of view” (6). Lucia Boldrini prefers the term ‘heterobiography’ for novels which “are presented *as if* they were the autobiographies of historical personages” even though here the autobiographical pact is broken since “the ‘autobiography’ is written by another,” i.e., the author whose name is on the book cover (*Autobiographies of Others* 1, italics in original). The possibility to make use of the various ways for structuring the mediacy of the narrative is one of the privileges of biographical fiction as opposed to factual biography, Novak notes (“Father and Daughter”). Biographers might include letters or diary entries through which one may gain access to the inner life of a person, their thoughts, feelings, and perceptions, and through which one might also hear the voice of said individual. In biographical fiction the chosen subject can be focalized throughout the whole story and literally be given a voice, e.g., the power to narrate their own story from their supposed own viewpoint and in their supposed own words. Indeed, “because of its fictional status,” Vanucci points out, “the genre appears to also be allowed to include fictional autobiographies without any further distinction: biography, on the contrary is based on a non-coincidence between the narrating and the narrated subject, whose life is reconstructed by the former” (382). Novak and Ní Dhúill remind us that voices given to historical subjects in biographical fiction are never actual voices but always fictional ones: “Obvious though it may seem, the biofictional subject’s experiences, thoughts, and utterances spring from the writer’s mind and are based to varying (and sometimes negligible) degrees on historical research” (21). They continue by emphasizing that “the ‘recovered voice’ is not recovered but invented. In this sense, the ‘voice’ granted a subject through biofiction is that of a ventriloquist” (21). Though it appears quite common among writers and scholars to claim that biographical novels engage in the act of ‘giving voice to subjects rendered voiceless by history’ (Kohlke 9-10), Novak and Ní Dhúill emphasize that one should never forget that letting historical figures in biographical novels speak for themselves represents an example of ventriloquism that raises “critical questions around agency and appropriation” (21). The ethical questions that surround the act of “biofictional [...] re-voicing” (Kohlke and Gutleben 20) will be discussed in a moment.

Fictional reimaginings of the real-life stories of once-living persons are sometimes also referred to as ‘fictional(ized) biographies’ or ‘novelized biographies.’ The different terms used to describe the genre under discussion might be seen as representing diverging interpretative approaches regarding biofiction’s narrative purpose and by consequence the extent of the author’s fictional privileges and ethical responsibilities. The different terms linguistically convey the diverse directions from which scholars have sought to understand the genre. Because it merges biographical fact and authorial imagination and thus situates itself “somewhat uncomfortably” between historiography, biography, and literary writing, as Novak remarks (“Father and Daughter”), scholars working on biographical fiction have tried to understand the genre within the generic frameworks and thus cultural functions of biography or life writing as well as (historical) fiction, as I will elaborate on later in this chapter. Some writers and researchers also use the above-mentioned terms interchangeably, even if they seem to not represent com-

pletely identical concepts. The difference between the concepts lies in the unlike emphases they place upon biographical representation and fictional creation – something that is already suggested linguistically when considering the arrangement of nouns and adjectives. After all, “[n]ouns always trump adjectives,” as writer Thomas Mallon once aptly put it (qtd. in Kohlke and Gutleben 15). Vanessa Guignery thus cautions against using them as synonyms, for the different emphases the respective notions place on the biographical and the fictional element might raise very different expectations in readers and by consequence also reviewers and critics of the literary text at hand. She explains that

[t]he distribution of nouns and adjectives is of utmost importance as a biographical novel explicitly presents itself as fiction and therefore does not need to validate the information it conveys, whereas a [...] fictionalised biography should, at least to a certain extent, be accountable for the facts referred to. (162)

Thus, while the designations biographical fiction and fictional(ized) or novelized biography are frequently used interchangeably, they still emphasize different genres, namely fiction and biography, and thus carry different meanings. As it seems to be the more widely used term, I prefer the notion of biographical fiction and the compounded form biofiction. I use it synonymously with that of the biographical novel.

In biofiction, the fictional recreation of the historical subject does not necessarily have to cover the whole life. Indeed, in contrast to factual biography which typically strives for completeness, “a biographical novel will usually select only a few dramatically interesting episodes and a specific period of the subject’s life, and expand these as much as possible,” Guignery argues (161-162). Biography is, while inevitably selective, generally expected to cover the whole story, or should cover as much as possible in the case of a still living person, though not necessarily chronologically from ‘cradle to grave’ (Lee 8). By contrast, the focus of the biographical novelist can only be directed towards certain parts of a chosen person’s life story. The criterion of completeness, which Hermione Lee defines as essential for biography proper (8), does not apply to biographical fiction which ranges from stories covering only a few moments in a person’s existence to full life cycles. The examples chosen for this study illustrate this: while Chiaverini and Brown cover almost the entire life stories of their chosen subjects, Chevalier and Benedict concentrate only on one specific chapter.

What is essential in biofiction is that the factual basis of the fictional story becomes immediately and unmistakably clear to the reader through the unity of names between the novels’ protagonists and the real-life figures they are modelled after. The fictional characters of biographical novels, Lackey emphasizes, cannot only be based on the historical individuals they represent but must bear their names. Through his insisting that biographical fiction encompasses only those novels which “*name* its protagonist after an actual historical person” (*American Biographical Novel* 4, emphasis added), Lackey clearly distinguishes the genre from the roman à clef, in which the real-life story of an authentic figure is overlaid with a façade of fiction, including a fabricated name. Some scholars have contested this criterion of the name, however. Kohlke, for instance, also

discusses as biofiction literary works with “supposedly non-referential, made-up characters and plots, [but] which are nonetheless extensively modelled on famous historical subjects [...] often with little or no attempt at any effective disguise” (11). She refers to them as “appropriated” or “glossed biofiction” which she positions in contrast to “realist” or “named biofiction” (11, cf. Kohlke and Gutleben 6-7). Ina Schabert, too, lists a couple of historical novels based upon real figures in disguise, among them Virginia Woolf’s *Orlando* (1928) and Robert Penn Warren’s *All the King’s Men* (1946), as examples of what she terms fictional biographies (*Fiction as Biography* 42-43). However, it is Lackey’s definition of the genre that most researchers in the current field of biofiction studies seem to agree upon when looking at the kind of novels which they choose to investigate and/or refer to in their respective scholarly works. Lackey’s understanding of the genre of biographical fiction has therefore also been adopted for the present study.<sup>9</sup>

### 2.1.2 Biofiction as Historical Fiction: An (Un-)Contested Generic Belonging

What already resonated with the definitions and examples given so far is that biographical fiction deals primarily with the lives of historical individuals. Theoretically at least, it seems that biofiction could also be written about contemporary persons. After all, biography, too, is not only dedicated to the already-deceased but at times written about the still-living. Yet practically, and possibly for the ethical, moral, and legal reasons that accompany the genre’s playful and sometimes bold handling of the historical-biographical facts on the subject’s life and times, the protagonist of a biofictional narrative is usually “a figure from the past of whom the author could not have direct, personal experience” (Schabert, *Fiction as Biography* 3). Ina Bergmann suggests that biofiction is commonly understood “as being implicitly accompanied by the adjective ‘historical’” (“Historical Biofiction” 310). She therefore proposes the modified term ‘historical bio-

---

9 Consequently, not only those novels which approach the history of women in science via a completely fictional character, like Elizabeth J. Church’s *The Atomic Weight of Love* (2016), Elizabeth Gilbert’s *The Signature of All Things* (2013), Joyce Carol Oates’ *The Man without a Shadow* (2016), Diane Smith’s *Letters from Yellowstone* (1999), or Sarah Perry’s *The Essex Serpent* (2016), to name but some examples, have been excluded from this study. Furthermore, those literary works have been left out, which, in the style of the roman à clef, tell a story based on an actual historical figure, but nevertheless conceal their factual basis by using fictional names for their protagonists. The central characters of Amy Brill’s *The Movement of Stars* (2013) and Lily King’s *Euphoria* (2014), for instance, are only inspired by but neither named after nor completely based on the historical figures they represent, namely the American astronomer Maria Mitchell (1818-1889) and the American anthropologist Margaret Mead (1901-1978) respectively. Even though these novels clearly invite their readers to understand the fictional stories in view of these women’s actual biographies, not least through direct comparisons in the afterwords or author’s notes included in the respective books, and while some researchers might have included them for that in their studies, because they use fictional names for their protagonists they have not been considered here.

fiction' to emphasize the genre's focus on former lives ("Historical Biofiction" 310, cf. Bergmann, "Poe's Shadow" 248-249). Kohlke and Gutleben point to "biofiction's death-orientation" (20) which manifests in the genre's preferred choice of "already dead historical subjects" as the respective novel's focal point as much as in the genre's "fascination with subjects' dying moments" (25, 20). They explain that "making us privy to historical subjects' dying moments, when individuals are at their most vulnerable, stripped of confidence in the face of their imminent extinction as they face up to their superfluity to the world, which will go on without them" is a "typical move of biofiction" (19).

Since biographical novels look overwhelmingly into the past, many scholars subsume the genre under the umbrella term of historical fiction. Most essentially, the genre of historical fiction can be defined as "fiction set in the past" (Johnson 1) which is written from research and not personal experience (Johnson 1).<sup>10</sup> While Lackey advocates "a narrative space uniquely its own" ("Narrative Space" 3) within the realm of fiction for the biographical novel, most other researchers in the field of biofiction studies connect the biographical novel to the established genre of historical fiction. Kohlke, for instance, notes that "fictional life-writing of real subjects has established itself as a significant subgenre of historical fiction" (4). Bergmann, too, claims that the genre of historical biofiction "can be considered a subcategory of the new historical fiction" ("Historical Biofiction" 320) as it "shares its trajectories of recovery and revision" ("Poe's Shadow" 248). Likewise, Schabert sees fictional biographies or biographical fictions as possible variants of those literary works, in which "collectively known history is thematized," e.g., historical novels (*Der Historische Roman* 34, translation mine).

The biographical novel's belonging to historical fiction was already suggested by Georg Lukács. Lukács, who is frequently still seen as "the most influential and thoughtful critic of the historical novel" (de Groot 13), had great difficulties with "the popularity of the biographical form in the present-day historical novel" (Lukács 300). For Lukács, the biographical novel is part of historical fiction, albeit "an irredeemable aesthetic form" even a "bastardized version," as Lackey has shown ("Narrative Space" 1), since it fails to achieve what he defines as historical fiction's aim. In his fundamental study *The Historical Novel* (1937), Lukács dedicates a whole chapter to "the problem of biography" in historical fiction (301, for the whole chapter see 300-322). He emphasizes its inability to achieve the historical novel's goal of portraying "the great driving forces of history" because of its focus on the psychology and biography of a historical figure (321). He claims that in the biographical novel, which focuses on the life of a single heroic person, the historical reality is misrepresented and distorted since "the character is inevitably exaggerated, made to stand on tiptoe, his historical calling unduly emphasized while the real objective causes and factors of the historical mission are inevitably omitted" (314).

---

10 While the time span between the moment of writing the novel and the setting of the narrative has been a matter of much debate among historical fiction scholars and novelists, it is beyond dispute that the narrated story must lie outside the author's own life and times and must subsequently rely on historical research and not personal memory (Johnson 1).

He adopts a view shared by many historians who say that “biography is a misleading way of writing about the past [because] concentration on an individual life distorts historical processes and can trivialize or over-personalize events” (Lee 14). Lukács points out that

[w]e may generalize this weakness of the biographical form of the novel by saying that the personal, the purely psychological and biographical acquire a disproportionate breadth, a false preponderance. As a result, the great driving forces of history are neglected. They are presented in all too summary a fashion and relate only biographically to the person at the center. And because of this false distribution of weights what should be the real center of these novels – the given historical transformation – cannot make itself felt sufficiently strongly. (321)

For Lukács the biographical novel is thus “doomed to aesthetic failure,” to put it with Lackey (*American Biographical Novel* 2). Lukács sees novels that place too much emphasis on individual biographies as unable to achieve what he understands to be the central goal of the historical novel, namely to represent the forces that drive history forward (33). The great historical persons who become the protagonists of biographical novels are pushed to the periphery of his ‘classical historical novel,’ where they may only appear to underline the historical context of the story, while “more or less mediocre, average” heroes, “who, in their psychology and destiny, always represent social trends and historical forces” and thus function as “historical-social types” should be at the center of the narrative (Lukács 33-35, cf. Lackey, *American Biographical Novel* 1-34).

Lukács’ definition of the historical novel, which he largely developed from Walter Scott’s *Waverley; or, ‘Tis Sixty Years Since* (1814), has long dominated the public perception and academic discussion of the genre of historical fiction. In the present day, however, Lukács’ definition is no longer considered the measure of all things as, for instance, Schabert’s typology of historical fiction proves. Schabert considers the restriction of the historical novel to the kind of narrative that Lukács defined based upon *Waverley* as problematic (*Der Historische Roman* 34). For her, as for many other current scholars, Lukács’s classical historical novel is but one possible variant or subgenre of historical fiction; the fictional biography or biographical novel, in which an actual historical individual’s life and times are at the center of attention, is another (see Schabert’s typology of the genre in *Der Historische Roman* 34-91). Bergmann, too, notes that the classical or traditional historical novel à la Lukács has developed into a new kind of historical fiction that is characterized increasingly by generic hybridity (“Poe’s Shadow” 248-249). When adopting such a broad and more general definition of the genre of historical fiction one can certainly locate the biographical novel under this umbrella term, even though some scholars, Lackey perhaps most vehemently, have also contested this generic allocation.

The generic allocation of biographical fiction to the historical novel depends very much on the respective academic’s understanding of the genres under discussion. For Lackey “biographical novelists do something radically different from historical novelists” (“Agency Aesthetics” 6). Therefore, biofiction is not historical fiction – neither is it a form of biography in his understanding of the genre. It is a genre that seems to resist

traditional generic classifications altogether and thus deserves “a narrative space uniquely its own” (Lackey, “Narrative Space” 3). Lackey’s rejection of the labels of historical fiction and biography indicates his diverging approach to the genre. Contrary to most scholars, the above-mentioned included, who understand biofiction as a form of life writing and thus as being engaged in biographical representation albeit with different means than the writer of straight or scholarly biography, he sees it as not involved in the representation of the historical past nor a person’s biography (“Agency Aesthetics” 6). Lackey claims that biofiction engages in the creation of a fictional story and a living character which just happens to be based upon the real life of a historical person (“Locating and Defining” 6). For him, biographical novelists are “using rather than representing history and biography”; they are not pretending “to give readers unadulterated historical or biographical truth” (“Agency Aesthetics” 6, 7). They can thus be neither called historical novelists nor biographers. He argues that

[w]hat readers want from the historical novel is an accurate representation of ‘the realities of that time,’ but what they want from the biographical novel is a model of a figure that transcends the deterministic forces of history and the environment, and this is something that places the protagonist of the biographical novel in irreconcilable conflict with the protagonist of the historical novel. (“Agency Aesthetics” 8-9)

What resonates here is a different understanding of the genre. I will come back to this shortly.

### 2.1.3 Between Fiction and Biography: The Hybrid Nature of Biofiction

Biographical fiction is generally understood as a “hybrid genre” (Novak, “Nell Gwen” 374) which is “placed somewhat uncomfortably between historiography and the art of fiction” (Novak, “Biographical Fiction to Historiographic Metafiction” 146). Indeed, the use of the historical subject’s actual name, as Layne points out, “situates biofiction on the ontological frontier between biography and fiction” (*Henry James* 3). Practitioners of the genre combine two ontologically different forms of writing about the past, namely the factual or referential genre of biography as well the fictional genre of the (historical) novel – something that is already visible in the generic term biographical fiction, Guignery notes (161). With her modified genre designation historical biofiction Bergmann not only seeks to emphasize the authors’ preferences of writing about past rather than current lives, as discussed above, but to linguistically convey the two-fold generic roots of this literary form, which lie in both biographical writing and historical fiction (“Historical Biofiction” 310, “Poe’s Shadow” 248-249). Biographical novels, as Nünning notes, blur traditional generic boundaries and thus “bear witness to the fact that the conventional dichotomy between ‘fact’ and ‘fiction’ has of late been called into question” (“Fictional Metabiographies” 364, 366). Undeniably, the traditional differentiation between factual and fictional writing, which has long been considered unproblematic, has been severely challenged by postmodernists’ revelation of the “numerous parallels between real-world stories and fictional narratives” (Neumann and Nünning 21). Consequently, the strict, positivist demarcation between factual and fictional literature has

become increasingly destabilized and the biographical novel, which fuses “fact and fiction, authenticity and invention,” could be understood as the “logical consequence” of this new permeability of the “ontological frontier” separating factual and fictional literary discourse, Guignery suggests (161-162). Biofiction can be seen, Novak agrees, as “the product of a postmodern disregard for generic boundaries” (“Feminist to Postfeminist” 224).

Since biofiction crosses the line between the conventions of biographical narratives and the (historical) novel, it is commonly understood as a generic hybrid. The hybridity of the genre has been accounted for with various terms: “in-between genre” (Novak, “Notable Woman” 84), “transgeneric literary product” (Latham 105), “generic cross-breed” (Nünning, “Fictional Metabiographies” 367), or “hybrid aesthetic form” (Lackey, “The Rise” 10) are just a few expressions that are in use for the “mixed genre of the biographical novel” (Guignery 161) which fuses “true facts and imagined details” (Latham 105).

The hybridity of the genre, its “liminal status” (Novak, “Biographical Fiction to Historiographic Metafiction” 145) at the crossroads of history, biography, and literary fiction, is often reflected on the level of the paratext. Here signals of the presented story’s rootedness in historical-biographical facts co-exist with those that point to its fictional nature. As Kylie Mirmohamadi clarifies, the “interplay between biography and fiction, which is one of the crucial elements of the appeal of biofiction, is often claimed, highlighted, developed and elucidated in the material that exists in, around, and about these fictional texts” (46). Biographical fictions commonly bear the generic marker “*A Novel*” on the front cover, usually as a subtitle, which suggests that the represented story will surely use the techniques and follow the conventions of fictional writing. In addition to the genre label on the book cover, the legal disclaimer “*This is a work of fiction...*,” which is always included in similar wording on the first page of every (biographical) novel to prevent libel actions, also functions as an unambiguous signal for the depicted story’s fictionality. This is also the case with the novels chosen for this study which are all subtitled “*A Novel*.” Apart from Brown’s *The Stargazer’s Sister*, they also all bear a legal disclaimer that emphasizes the fictionality of the presented story on the first page. The publishers of *Remarkable Creatures* write for instance: “This novel is entirely a work of fiction. The names, characters and incidents portrayed in it, while based on real historical figures, are the work of the author’s imagination.” Given the fact that all these novels are based on real persons’ lives and times, such publishing statements might “strik[e] one as a little bizarre,” as Novak points out (“Experiments” 12). For legal reasons, they may, however, be necessary and understandable. While the subtitle and indication on the front cover emphasize the fictional status of the literary text under discussion, the frequently included bibliographies point to the novel’s basis in scholarly research and historical facts. Biographical novelists also often express their gratitude to the many historians and biographers, without whose works the writing of their fictional texts would not have been possible. Layne argues that by invoking established scholars, writers of biofiction lend their works authority (“Biofiction and the Paratext” 20).

While they do not include extensive foot- or endnotes with explanations and bibliographic references as a biographer or historian would be expected to do, all the writers chosen for this study provide their readers with comprehensive lists of sources or recommendations on further reading. They often reveal their writing methods when approaching the chosen subject, the combination of a use of fictional technique and their basis in the practice of scholarly historical research. At the same time, it is precisely by revealing the deviations, adjustments, and alterations that were made from the historical-biographical material that the fictional nature of the story is emphasized once again. Many biographical novelists untangle the mixing of fact and fiction in their novels in the afterwords, author's notes, or acknowledgements. Strategies of legitimation such as references to source material, which can also be found in factual biography, exist here alongside strategies of fictionalization. Thus, in biographical novels, the paratext becomes an important discursive space in which the genre's hybrid nature is discussed and reflected. Mirmohamadi explains, the paratexts often "illustrate the dual and sometimes conflicting assertions of biofictional texts; that they are the result of creative imagination, but still hold some claim to verifiable 'truth'" (49).

#### 2.1.4 Biofiction as a Postmodern Genre

The generic hybridity, the fact that it questions traditional boundaries between established genres, is undoubtedly one of the reasons why many scholars understand biofiction as a "postmodernist literary genre" (Lackey, "Biofiction Studies" 343). Lackey claims that "[f]or many biographical novelists, developments in postmodernism made it possible to fuse biography and the novel" ("The Rise" 2). For Guignery, the biographical novel is the "logical consequence" of a new postmodern understanding of the relationship between fact and fiction, because for writers of biofiction the "ontological boundaries between fact and fiction" have become permeable (162). However, to speak of the biographical novel only as a postmodern genre also rings false, Lackey notes, because "the aesthetic, political, and epistemological innovations of modernist English writers laid the groundwork for what would become the contemporary valorization and popularity of biofiction" ("Biofiction Studies" 343). As he explains: "Lytton Strachey and the new biographers revolutionized the biography by making liberal use of the creative imagination and fictional techniques in picturing a person's life, while Virginia Woolf made biography and the biographer a central feature of her novels *Orlando* and *Flush*" ("Biofiction Studies" 343, italics in original). Lackey acknowledges modernist thinkers like Strachey and Woolf as paving the way to biofiction with their use of fictional imagination in biographical narrative (Strachey) and their metafictional/metabiographical focus on the process and conventions of life writing (Woolf) ("Biofiction Studies" 343). Novak agrees when she points to the existence of several novels from the early twentieth century that meet the definition of biofiction as novels based upon the lives of actual historical figures ("Experiments" 9-10).

Biofiction's association with postmodernism has also other reasons. While biographical fictions certainly form part of "a postmodern blurring of the lines between

truth and fiction” (Boldrini, *Autobiographies of Others* 6), many of the novels subsumed here are furthermore concerned with what Kohlke with reference to Nünning describes as a “typically postmodernist, self-reflexive ‘epistemological problematization of life writing itself’” (5). Indeed, prominent examples of contemporary biofiction, Nünning observes, are self-consciously engaged in the process of life writing itself, discussing the possibilities and limitations of biographical representation and thus raising important metafictional or metabiographical questions (“Fictional Metabiographies” 365-368). The different degrees to which biofictional narratives are self-reflexively involved with the constructivist process of creating a biographical subject and text and thus engage with the generic conventions of biographical writing become visible in Nünning’s typology of biographical fiction or fictional biography, terms he uses interchangeably in his study: “I would suggest designating these main subgenres, which are of course merely ‘ideal types’ [...], as ‘documentary fictional biographies,’ ‘realist fictional biographies,’ ‘revisionist fictional biographies,’ ‘fictional metabiographies,’ and explicit forms of ‘biographic metafiction’” (“Fictional Metabiographies” 368). For Nünning, documentary and realist fictional biographies are characterized by references to reality. According to his definition, documentary fictional biographies “have a great number and wide scope of reality references and [...] foreground the conventionally backgrounded factual reality” (“Fictional Metabiographies” 368). Realist fictional biographies “represent the life of a real historical individual, using conventional fictional devices and foregrounding the plot against the backdrop of some identifiable historical context” (Nünning, “Fictional Metabiographies” 368). In the third category it is not representation but rewriting that is at the heart of the novel. In revisionist fictional biographies, authors “reinterpret the biographical record and revise the formal conventions of traditional biofictions [...]” (Nünning, “Fictional Metabiographies” 368). In the latter two subgenres it is not the representation of the life story of the biographee that is at the center of the narrative but the reflection about that representation through the biographer. Here, the emphasis is shifted from “the mere writing, or rewriting, of an historical individual’s life to the epistemological and methodological problems involved in any attempt at life writing itself” (Nünning, “Fictional Metabiographies” 367). Thus, in biofiction, the influence of postmodernism is not solely confined to the blurring of the fact and fiction divide. It becomes visible in the novels’ self-reflexivity and self-consciousness as attempts of life writing, its questioning and challenging of issues of representation (Nünning, “Fictional Metabiographies” 367). However, not all biofictions are experimental/postmodern in their form. Bergmann notes that many are realist and traditional in their depiction of the chosen persons and their stories (“Historical Biofiction” 320). While most of the novels I have chosen for this study seem to rather belong to the category of realist fictional biography – in fact most of the novels that come together in this study are rather conventional realist narratives about the lives of women from the past – at least one example, Chiaverini’s *Enchantress of Numbers: A Novel of Ada Lovelace*, could also be seen as being concerned with the representation and reconstruction

of a real life, since here Ada Lovelace is creating her own autobiography and the novel thus certainly draws attention to questions of life writing.

### 2.1.5 Life Writing or Story Telling? Biofiction's Narrative Purpose(s)

Biofiction is not only a flourishing genre but also a much-debated one. Especially the purpose of biographical fiction has been controversially discussed, something I already hinted at in the beginning of this chapter when pointing to the different terms that are used, sometimes synonymously, to refer to literary texts of this kind. While there seems to be an overall agreement that biofictions are novels based upon the biographies of real-life people from the past and that the protagonists are not only modeled from but also named for the persons they represent, there is far less consensus about what authors aim for and are allowed to do when they write novels based upon the real-life stories of actual historical individuals. Over the last couple of decades, scholars have offered different interpretations of the genre in question. In the huge amount of scholarship produced on biofiction, two dominant positions might be discerned: one position sees it as a form of life writing, and thus also uses notions of fictional(ized) or novelized biography interchangeably with that of biographical fiction or biofiction. But there is another position which understands the genre mainly or solely as a work of creative art though based upon historical persons and their life stories. These scholars clearly reject designations like fictional(ized) or novelized biography. While representatives of the former position argue that in biographical fiction writers use their creative imagination and fictional techniques *to tell a life*, proponents of the other view claim that in biofiction authors use or appropriate biography *to create a good story*. Both positions will be explored now by focusing on scholars that might be seen as representative of the respective approach to the genre.

As has already been stated above, biographical novels are not biographies insofar as they clearly distance themselves from the genre's claim to historical accuracy, scholarly objectivity, and the verifiability of the sources. However, biofictions are often understood as a fictional(ized) form of biography, which, analogous to its factual counterpart, is interested in portraying a life but which has, due to its status as fiction, different means to do so and enjoys greater freedom in depicting the chosen subjects and their stories (Novak, "Father and Daughter"). This understanding of the genre is also reflected linguistically, because precisely those researchers who understand the genre through the lens of biography often use or even prefer the term fictional(ized) biography to biographical fiction or biofiction though some also use these terms interchangeably (which leads to some confusion). For these scholars, the narrative privileges of the novelist come into play above all where the genre of factual biography faces limitations and constraints due to the historiographic conventions it follows. The poetic freedoms of authors of biofiction allow them to consider those aspects of a life that are not or cannot be considered in evidence-based biography because they are poorly or not at all documented. In this way, the fictional privileges allow not only a different approach to the subject but also the telling of life stories, which are sometimes barely or controversially

handed down, because here missing or debated facts can be freely supplemented and interpreted.

This view is held, for example, by the German literary scholar Ina Schabert whose study *In Quest of the Other Person: Fiction as Biography* (1990) was one of the first intensive preoccupations with the genre. Approaching the genre from the perspective of biography studies (as might be guessed from the chosen title of her just-cited monograph), Schabert sees biographical fiction as “a special kind of biography,” one that is engaged “in the comprehension of real historical individuals by means of the sophisticated instruments of knowing and articulating knowledge that contemporary fiction offers” (*Fiction as Biography* 4). Like its factual counterpart, e.g., biography proper, fictional biography, a genre description she uses interchangeably with that of the biographical novel and which linguistically conveys her understanding of the genre, “attempts to get knowledge of the real, other person” (*Fiction as Biography* 1). For Schabert both fictional and factual biographies seek “to represent the lives of historical persons” and to do so organize “as much factual evidence as possible within the interpretative context” (“Fictional Biography” 287). She emphasizes that fictional biographies are not necessarily characterized by a greater distance from traditional factual knowledge – indeed, as she notes, writers of biographical fiction insist as much on “scrupulous scholarship” as writers of factual biography (“Fictional Biography” 286). Nevertheless, the two forms of biographical writing represent different realities (Schabert, “Fictional Biography” 287). Both genres, she explains, are “based on the facts of history and of an individual’s life [...], [y]et the constructs are different in kind” (“Fictional Biography” 295). Unlike writers of factual biography, authors of fictional biography are not bound by the restrictive conventions of historiographical writing but free to use creative invention and imagination when shaping the existing material into a life story (Schabert, *Fiction as Biography* 60).

Precisely because fictional biography wants to represent a life, there seem to be certain limits to the poetic liberties that authors can take with the historical life at hand. For Schabert, fictional biography should remain connected to the persons as they are conventionally known, it should “come as close as possible to individual reality” (*Fiction as Biography* 32); biographical and historical facts are not to be changed to better fit narrative purposes. Schabert draws a distinction between “an imaginative treatment of the facts, which is desirable, and the imagining of facts, which is not allowed” (*Fiction as Biography* 67). She speaks of a “responsible imagination” which “as a rule respects the known facts, yet is free to interpret them, enlarge upon them and supplement them according to the certainties of the empathic act” (*Fiction as Biography* 147). In Schabert’s view, the narrative privileges of writers of fictional biography, may be used where a lack of historical detail requires a compensation to represent the chosen persons and their life stories adequately and accurately. For her, this compensatory function of fictional biography plays out especially when it comes to revealing the chosen persons’ interiorities, their thoughts, feelings, and perceptions, which are often undocumented and thus unable to be shown and known otherwise. She argues that fictional biography

has developed itself into a flourishing genre, because it “fill[s] a void” left by its factual counterpart, which cannot “reveal an inner life” (“Fictional Biography” 295). Showing the inside, which is generally undocumented, is for her the most important function of fictional biography (*Der Historische Roman* 43). The ideal type of fictional biography is one “which takes the facts of a historical life as external points of orientation, but from these it reaches out with wide-ranging, meaningful narrative movements to create an inner life” (*Der Historische Roman* 46, translation mine). She notes that it has been claimed that biography should or should try to reach the inside of the biographee, that it should portray “the inward, spiritual, creative, subjective dimension of the life which it tells,” but the claim to factuality imposes “considerable restrictions on the act of comprehending the other as a full person” (*Fiction as Biography* 49, 48). Certainly, there were efforts, Schabert emphasizes, to investigate the inner life in a scientifically objective way (*Fiction as Biography* 52, 54-55). Under the influence of psychology, new forms of biography have been created that attempt to reconstruct the inside of a person. However, the representation of (a stream of) consciousness is one of the narrative privileges of fiction (Schabert, “Fictional Biography” 295). Fictional biography, in Schabert’s assessment, is thus a genre that makes up for certain deficiencies in biography proper. Schabert argues that “fictional biography, because of its ability to comprehend an alien, historical person from the inside, becomes an important complement to the other varieties of biography” (*Fiction as Biography* 48). For Schabert, the possibility to use known facts about a historical person’s life for the creation of an imaginable version of the subject’s interiority makes it so valuable and attractive as a genre in comparison to factual biography. For her, the genre is characterized by a different approach to the historical subject, an inner, explanatory, and sympathetic interior view of the biographee (*Der Historische Roman* 52). She also evaluates biofiction as an important tool for writing the lives of those individuals where a scarcity of available sources disqualified them from the genre of biography when she notes that fictional biography “is most successful with obscure lives, where lack of material reduces the factual portrait to a mere sketch or silhouette” (“Fictional Biography” 295).

Schabert’s assumption that biofiction wants to represent a life has also been called into question, especially by Michael Lackey. Approaching the genre from the perspective of fiction rather than biography, the American literary scholar, who recently published several foundational works on biographical fiction, among them *Truthful Fictions: Conversations with American Biographical Novelists* (2014), *The American Biographical Novel* (2016), *Biographical Fiction: A Reader* (2017), and *Biofiction: An Introduction* (2022), purports a very dissimilar understanding of the genre and the writer’s poetic license and ethical responsibilities towards the chosen subject and the historical-biographical record of the life. Lackey, undoubtedly one of the leading scholars in the field of biofiction studies, emphasizes biographical fiction’s status as a work of creative art rather than life writing. Clearly distancing himself from the above-mentioned position which sees biofiction as part of biographical discourse and thus as ultimately interested in offering a detailed exploration of an individual life, he defines it as categorically

different from biography not only in the conventions it follows and the truth claims it makes but also in the authorial objectives it pursues. Lackey shows himself surprised by the large number of scholarly attempts which seek to describe and define the genre of biofiction in relation to biography since “most authors explicitly claim that they are not doing biography” (“Locating and Defining” 5). He emphasizes that biographical novelists are not engaged in biographical representation at all but in the artistic construction of a fictional story “which just happens to be based on the lives of real people” (“Locating and Defining” 6). He insists that in biofiction “biographical representation is subordinate to fictional creation” (“Narrative Space” 2). Lackey claims that authors of biographical fiction intend to “*use* rather than *represent* the biographical subject,” that they “*appropriate* the life of the biographical subject in order to express their own vision of life and the world” (Lackey and Avery 1, emphasis added). For Lackey, it “is the novelist’s vision of life and the world, and not an accurate representation of an actual person’s life” that is of central concern in biofiction (“Locating and Defining” 7).

To underline his point of view, he refers not only to the reassurances of the novelists in the author’s notes or acknowledgments sections as well as in the numerous interviews he conducted with writers of biofiction but, above all, to the various instances of “explicit and intentional misrepresentation” (“Locating and Defining” 7) which can be found in novels of this kind. Authors of biofiction, Lackey notes, “unapologetically change facts” (“Narrative Space” 8); they “invent stories that never occurred in order to answer perplexing questions, fill in cultural lacunae, signify human interiors, or picture cultural ideologies” (Lackey, *American Biographical Novel* 14). For Lackey, the narrative or fictional privileges of the writer of biographical fiction are thus far more wide-ranging than for Schabert. Given that biographical novelists “consciously and strategically [invent] stories or [alter] established facts about the biographical subject” (*American Biographical Novel* 6), Lackey has strong reservations about the notion of fictional(ized) biography. He claims that referring to biographical novels as fictional(ized) biographies is not only inaccurate but inappropriate as the notion places too much emphasis on the biographical rather than on the fictional part and thus on the accurate representation of a life rather than on the imaginative creation of a story, which he defines as the overall goal of the genre (“Narrative Space” 2, 10). While biographical novelists are free to “alter established facts in order to make what they consider a more important intellectual point,” such liberties are denied to serious biographers, whose contract with readers forces them to “represent the life of the subject with as much accuracy as possible” (Lackey, “Narrative Space” 8-9). Their freedom to use their poetical license clearly distinguishes writers of biographical fiction from biographers. Of course, as Lackey points out, biography is also not a neutral form of writing about the past but a discursive construct shaped by the subjective, ideological position of writers and their time (“Narrative Space” 9). After all, it is one of the central premises of postmodern thinking that a true, faithful, and objective representation of historical people and events is impossible. But, as Lackey rightfully points out, we still need to differentiate between the “inadvertent misrepresentation” inherent to all retellings of past lives and developments,

and a “purposeful and strategic alteration of facts” as it happens in the genre of biofiction (“Narrative Space” 9). Thus, the distinguishing mark between biography and biographical fiction is not only one of authorial intention. It also manifests in the liberties taken with the life.

For Lackey, these deviations from the historical-biographical record, the conscious and strategic modifications or alteration of historical and biographical evidence that authors make regarding a chosen person’s story are a clear signal that biographical novels are not about the (representation of the) life itself but about “the novelist’s vision of life and the world” (“Locating and Defining” 7). He claims that authors of biofiction seek to present their readers with “a different type of truth from biographers” (“Narrative Space” 9). As he explains: “The biographical novelist’s goal is to give readers fictional truth, which is based on and rooted in the life of an actual historical figure but is then converted into a literary symbol that could be used to illuminate much more than just the individual subject’s life” (*American Biographical Novel* 67-68). For Lackey, the meaning of the story depicted in the biographical novel thus clearly goes beyond the individual life upon which it is based. He claims that biographical novelists do not seek to narrate the life for its own sake but seek to create a literary symbol from the life that suits their ideological and sociopolitical agendas, “a symbol that could expose and critique the culture” (“Narrative Space” 5, 6).

The artistic liberties of using real lives in fiction have ethical boundaries. While legally, authors of biofiction in emphasizing their role as novelists and clearly marking their narrative texts as such, should escape libel actions, there are, as Lackey argues, certain responsibilities to adhere to in this appropriation of and playing with historical lives (*American Biographical Novel* 229-254). Thus, biofictional stories are not only determined by the stylistic and aesthetic choices that authors make but also by the ethical responsibilities they have. Lackey remains vague, however, when he argues that while authors who make “responsible and illuminating changes [to] produce more truthful fiction” are welcome to do so, others who make “irresponsible and confusing” ones are to be condemned for “misappropriat[ing] a life” which for him is “a form of identity theft” (*American Biographical Novel* 229). Thus, according to Lackey, the artistic freedom of the biographical novelist ends where historical facts are violated. The strategic and conscious misrepresentation that authors do in biofiction to create their metaphors and symbols has ethical limits that each writer and reader appears to have to define for themselves. There seems to be no universal answer to the question raised by Lackey of “how many and what types of liberties are ethically justifiable” (*American Biographical Novel* 251). In this context, the paratext often becomes an important discursive space in which authors of biofiction emphasize the narrative privileges they possess as novelists and the readerly expectations they are obliged to meet as writers of fiction while at the same time discussing the ethical and moral responsibilities they nevertheless feel towards historical accuracy and the biographical record.

The Austrian literary scholar Julia Novak moves the discussion of biofiction from the author-centered point of view adopted by Lackey to a more reader-oriented perspec-

tive. She approaches the genre from the combined viewpoints of life writing and cultural memory studies, comparing it especially with the genre of biography. In doing so, Novak clearly and strongly questions Lackey's conviction that biographical fictions are not engaged in or concerned with the fictional *representation* of a factual life story. She sees the genre as "a medium of life-writing" ("Nell Gwen" 374), more precisely "as part of the overall practice of biography" ("Father and Daughter"). Contrasting the intention of the author with the possible, actual effect the literary text may have on the reader, she notes that "no matter whether biographical novels *should* be read as fiction (and, thus, as non-referential), their biographical content clearly interests readers and is recognised as contributing to the subject's afterlife" ("Experiments" 11-12, italics in original). Like Schabert, Novak refers to biographical novels also as fictional(ized) biographies – at least in her earlier works. She later prefers the notion of biographical fiction or biofiction. For Novak, the genre clearly differs from factual biography, for writers of biofiction have certain fictional privileges which allow them to disregard the conventions and expectations of proper biographies ("Father and Daughter"). While the genres are formally distinct, they "perform the same cultural work," Novak claims ("Experiments" 11). Like Schabert, she feels that factual and fictional biographies or biographical fictions can be seen as "complimentary cultural practices within the domain of life writing" ("Father and Daughter"). As Novak clarifies: "like factual biographies, biographical fictions enact the commemorative and exemplary functions of life writing, and contribute to a historical person's 'afterlife'" ("Notable Woman" 85). They are important "instruments of canonization, extending a person's 'afterlife' by adding their stories to a society's cultural memory" (Novak, "Nell Gwen" 387). Both, fictional and factual life stories, Novak claims, "feed into the same notional archive of collective remembrance on which societies draw when imagining their past and, through it, establish their cultural identity" ("Experiments" 11). Though authors of biofiction often insist that their novels should be read as fiction and not as biography or history, as Lackey has shown, when approaching the genre from the perspective of the reader, biographical fictions are still seen as a form of biography, which, like its factual counterpart, impacts the afterlife of the respective historical person in our cultural memory. Novak's line of argumentation follows that of John Keener who argues in his 2001 study *Biography and the Postmodern Historical Novel* that factual biography and biographical fiction or biofiction should be considered "collectively as a continuum rather than a dichotomy" (1, cf. Novak, "Experiments" 11). Using the umbrella term of biographical narrative, Keener notes that "any such narrative can be viewed as a biographical text since, in one way or another, it contributes to the cumulative cultural life story of that individual" (1). Thus, in view of their societal function, biographical novels can be seen as a form of life writing, a text of remembrance that, like factual biography, contributes to the afterlife of the person and their canonization and continuation in our cultural memory of the past.

Since biofiction impacts and shapes the afterlife of a historical person, the genre is regularly haunted by ethical questions and might even cause public and political scandal. Novak illustrates this by referencing two extreme cases, namely the 2008 firebombing

of the London headquarters of Gibson Square Books at the publication of Sherry Jones' *The Jewel of Medina* and the libel action that Faber and Faber faced by former soccer manager Johnny Giles upon the release of David Peace's *The Damned Utd* ("Experiments" 11-12). Thus, while the distinction between biographical fiction or biofiction and fictional biography may be accurate and appropriate in terms of authorial intent as well as the fictional privileges and ethical issues that accompany it, its validity must be questioned regarding the narrative purpose/cultural function that is performed by literary texts of this kind and the actual responses such narratives might evoke by the public. That being said, "complete emancipation of biofiction from the biographical may be neither possible or desirable," as Layne emphasizes (*Henry James* 6).

To conclude, it seems that a unanimous answer to the question of what biographical fiction is and does is difficult to find and perhaps also unnecessary. Biofiction is a hybrid genre that can be understood with biography and fiction and that changes its meaning depending on the perspective from which one approaches it. It must be valued for its hybridity. Biofictions, Novak explains, can "participate in biographical as well as in fictional subgenres and align their structure, narrative mode and character properties with the requirements of these subgenres" ("Feminist to Postfeminist" 224). Depending on the perspective from which one looks, the assignment of the texts to the more factual area of biography or the fictional area of the novel changes. I believe that precisely because of this hybridity, which is characteristic of the genre, it is difficult and even reductive to nail down the purpose of biographical fiction as either being engaged in biographical representation of a historical person's life, as Schabert and Novak claim, or the fictional creation of a good story which just happens to be grounded in the real-life story of an actual individual, as Lackey says. Authors might write biographical fiction because they have a desire to get to know their subjects but also to use their subjects for the possibilities that their life stories offer, for the meaning they unfold beyond the individual life. Regarding their likely audiences, as Novak points out, biofictions can attract both readers of biography and fiction: "Because of their hybrid nature, biographical novels can appeal to two very different reader interests and provoke reader responses on two different levels – as biography and fiction" ("Notable Woman" 101). "Such dual responses," she claims, "can be understood as symptomatic of the double life of fictional biographies as biographical texts *and* works of fiction – and the twofold evaluations they habitually provoke" ("Nell Gwen" 384, italics in original). I believe that both approaches to the genre offer interesting points of departure for the subsequent analyses of biographical novels about historical female scientists. Both perspectives can also be made useful to illuminate and understand the gender politics of biographical fictions, as Novak and Ní Dhúill have shown (3) and as I will explore further down in this chapter when discussing the relationship of biofiction and women's history or herstory.

### 2.1.6 From Minor Genre to Major Literary Form: The Present-Day Rise of Biofiction

While terms like biographical fiction or biofiction might be of recent origin, the biographical novel is not a new genre; the literary practice “of centering a work of fiction around a real person from the past” has a long tradition, as Kelly Gardiner and Catherine Padmore argue (1). Wallace, too, reminds us that “fictional life writing about real historical subjects [...] is not a new form” (“Virginia Woolf” 50). She explains that novels which feature actual historical figures as their protagonists can be traced back to the nineteenth century and the early stages of historical fiction to whose origins biofiction can be connected (“Virginia Woolf” 50). Jane Porter’s *The Scottish Chiefs* (1810), Mary Shelley’s *The Fortunes of Perkin Warbeck* (1830), Edward Bulwer-Lytton’s *Rienzi* (1835), *The Last of the Barons* (1843), and *Harold* (1844), Robert Folkstone Williams’ *Shakespeare and his Friends* (1838), *The Youth of Shakespeare* (1839), *The Secret Passion* (1844), and *Strawberry Hill* (1847), Harriet Martineau’s *The Hour and the Man* (1840), Herman Melville’s *Israel Potter: His Fifty Years of Exile* (1855), and Helen Waddell’s *Peter Abelard* (1933), to name but a couple of examples, are often cited by scholars in the field as precursors to this current trend of fictionalizing real lives (Schabert, *Fiction as Biography* 31, Lackey, *American Biographical Novel* 1, Wallace, “Virginia Woolf” 50). Nevertheless, the current presence of novels on real historical lives on the literary scene is clearly unprecedented. The genre of biofiction, Lackey and Avery observe, has experienced a veritable boom in the latter half of the twentieth century, especially since the 1990s, with many prominent writers with solid literary reputations like Margaret Atwood (*Alias Grace*, 1996), Michael Cunningham (*The Hours*, 1998), Joyce Carol Oates (*Blonde*, 1999), Russell Banks (*Cloudsplitter*, 1999), Peter Carey (*True History of the Kelly Gang*, 2000), Colm Tóibín (*The Master*, 2004), and Hilary Mantel (*Wolf Hall*, 2009), among others, producing critically acclaimed, prize-winning, and commercially successful biographical novels (1).

The genre’s journey to legitimization and popularity has been a long and complicated one, Lackey argues (“Locating and Defining” 3). He dates a first boom of biographical novels to the 1930s with “well-known authors like Robert Graves, Thomas and Heinrich Mann, Lion Feuchtwanger, Arna Bontemps, and Zora Neale Hurston [...] publish[ing] noteworthy biographical novels during the decade” (Lackey and Avery 1). Lackey claims that biofiction’s first boom was short-lived, however, in part because of Marxist literary critic Georg Lukács’ condemning approach to the genre in his now-famous and still highly influential study *The Historical Novel* (1937), which led many scholars, writers, and critics “to dismiss the biographical novel as a frivolous and/or inferior ‘literary’ form” (Lackey and Avery 1). It is only now, Lackey argues, that “we can [...] say with confidence that the biographical novel has officially arrived” (*American Biographical Novel* 33). It was, above all, the aesthetic and intellectual developments of postmodernism that made the literary establishment see the value of the biographical novel, he claims (*American Biographical Novel* 10). While biographical fiction had often been eyed suspiciously, even dismissed for a long time, the genre experienced a turning point in 1999 when two biographical novels, Michael Cunningham’s

*The Hours* (1998) and Russell Banks' *Cloudsplitter* (1998), were nominated for the Pulitzer Prize and one, Cunningham's *The Hours*, won the prestigious award (Lackey, *American Biographical Novel* 24-25). This was the moment when the literary establishment finally recognized biographical fiction as a legitimate aesthetic form, Lackey is convinced (*American Biographical Novel*, 24-25). By now, the genre of biographical fiction has gained a secure place in the contemporary literary landscape; it has become a "flourishing literary genre" (Latham 103), even "a dominant literary form" (Lackey, "Biofiction Studies" 343). Some describe it as a new "literary phenomenon" (Vicars, "Discarding"). Whether you would like to read about the lives of writers such as Leo Tolstoy (Jay Parini's *The Last Station*, 1990), artists like Artemisia Gentileschi (Susan Vreeland's *The Passion of Artemisia*, 2001), former presidents such as Ronald Reagan (Edmund Morris' *Dutch*, 1999), musicians like John Lennon (Kevin Barry's *Beatlebone*, 2015), or philosophers such as Friedrich Nietzsche (Lance Olsen's *Nietzsche's Kisses*, 2006), anyone interested in fictional reimaginations of the real-life stories of once-living persons will find countless examples on the current book market to satisfy their desires. Given the omnipresence of biofiction on the contemporary literary scene and its increasing popularity with readers and critics, it is not surprising that it has also developed into a flourishing field of scholarly research in recent times mainly so within the Anglo-American academic context. Indeed, the growing novelistic attention to the real-life stories of actual historical figures is in recent years supported with an increasing number of scholarly studies dedicated to this generic hybrid, as was outlined in the introduction.

That biofiction "has gained immense popularity" (Novak, "Notable Woman" 84) is often explained by experts with the general societal attraction to the lives of notable (historical) personalities, which also manifests itself in the continuing popularity of factual biography. "The telling of life-stories," Lee stresses, "has become the dominant narrative mode of our times" (17). In our contemporary culture, there seems to be a great interest in people's lives, especially the lives of well-known public figures, hence not only the success of biographical fictions but also of factual biographies, Guignery notes (168). "Other people's life stories fascinate us, and we seem to have an urgent need to record these stories," Novak points out ("Experiments" 1).

That fiction has become such an important "biographic space to explore the lives of real people," to use Vicars' words here ("Biographic Space" 107), might have to do with the narrative privileges of the genre which allow writers and readers to transcend the limiting boundaries that determine the writing of lives in traditional historiography and biography and to thus explore aspects that have so far been neglected. Undeniably, what makes the genre of biofiction so attractive and appealing to both writers and readers (and not seldomly highly problematic for literary critics) is that, due to its narrative privileges, its ability to draw on both historical fact and creative invention, it can "boldly go where no biography has gone before" (Novak and Ní Dhúill 1). Novak and Ní Dhúill are convinced that "it is exactly this narrative privilege that accounts for the fascination the genre exerts on its readers, and it is this privilege that critics periodically use as

grounds for invalidating biofiction” (2). What seems to fascinate us about biographical novels appears to be an interest in aspects that have so far been neglected by traditional historiography and factual biography, Bergmann assumes (“Historical Biofiction” 319). Since biofictions “mingle art and archive,” they can “compensat[e] for historical oversights” (Kohlke and Gutleben 1, 13). They can “speculatively [fill] in gaps in the record to construct feasible supplementary scenarios of what *might* have happened but went unrecorded” (Kohlke and Gutleben 13, italics in original). While authors of biofiction certainly rely upon the findings of biographers and historians, for this kind of fiction is rooted in facts, they are also able to use fiction to reinvent, to reimagine what has not been recorded; they are able to fill in the gaps, the silences in the historical and biographical record with their creative imagination and artistic invention and thus “shine a light into dark corners and make connections that a professional historian or biographer might be hesitant to make” (Parini 26). Since it combines historical facts with creative invention, the genre of biofiction offers “enhanced scope for recovering lives from the past,” Elizabeth Chappell explains (6). The ways in which this enhanced narrative scope plays out in contemporary biographical fiction seems to be closely intertwined with the kind of subject whose life story is at the center of attention.

### 2.1.7 ‘Appropriation’ or ‘Silencing’: Biofiction and Ethics

In the previous considerations I have already indicated that novels that make a historical person the protagonist of their stories are, despite their status as works of biographical fiction and not factual biography, often subject to ethical questions. For Boldrini, “[e]thical questions are at the core of the form, insofar as it contends with the ethics of assuming another’s voice, of narrating another’s story, and therefore with the ethical implications of literary practices of representation” (“Ethics of Speaking” 20). Boldrini notes that biofictional narratives, whether they are written in the first or in the third person, have “an ethical dilemma at its core” which ranges around the issues of “either appropriation or silencing – with each choice involving the opposite ethical risk” (“Ethics of Speaking” 20, 21). She explains:

On the one hand there is the potential to give voice to, or tell the story of, someone whose voice or story may have been forgotten, even erased from history, or whose perspective may need to be re-examined from a different angle. On the other hand, there is the appropriation of those subjects’ voices and stories, without their consent, and with the effect of substituting one’s own voice, one’s own narrative reconstruction, for theirs. (“Ethics of Speaking” 20-21)

According to Boldrini, writers of biofictional narratives need to make the choice to “either refuse the appropriation of another’s voice but leave them without any voice; or give them the possibility of having their history represented, but at the cost of substituting one’s voice for theirs, appropriating it, and with that, their identity” (“Ethics of Speaking” 21). For Boldrini, this ethical question and the answer that authors find to it are directly related to the subject whose story is to be told in the given narrative. She refines that

the ethical implications of appropriating the voice of an emperor, a tyrant, a nobleman, or even a famous writer – of figures that have had the historical opportunity to speak for themselves or of having their stories celebrated – can be very different from those raised by the appropriation of the story or voice of someone who has not had the same opportunity, whether due to subordinated political or social position, or to lack of access to writing or publishing, or to illiteracy. (“Ethics of Speaking” 21)

Ksenia Shmydkaya also draws a connection between ethics and the degree of public knowledge about the respective person. She writes that

[i]f the subject is a well-known historical figure, there is already a wider general knowledge about her [or him], and the writer of biofiction is less likely to cause ‘serious damage;’ in contrast, the fictionalisation of more obscure figures imposes a greater ethical obligation, because of the potential influence on their afterlives. (276)

Boldrini asks whether a writer ever has the right to speak as another, “to ‘usurp’ someone else’s voice and words – at best, to give voice to another, as if that voice (one’s own) were the other’s” (“Hypocriticism” 252). But then, she points out, “what if that subject would otherwise never have been represented? If they did not have the chance of self-representation of his or her own life in his or her own voice? What if it is only through the voice of the other that theirs can be heard, even if only as the reverberation of an echo?” (“Hypocriticism” 252-253). The creative handling of the chosen life, which is characteristic of the genre of biographical fiction, also raises ethical questions, as I have already alluded to on various occasions in the above remarks.

### **2.1.8 The Famous and the Marginalized: The Preferred Subjects of Biofiction**

Biographical fiction, like factual biography, is populated by well-known historical figures. A cursory look at some of the most prominent examples of biofictions recently published in the Anglo-American literary world suggests a strong focus on the lives of well-known people. Kohlke defines ‘celebrity biofiction’ as “possibly the most dominant mode” of (Neo-Victorian) biofiction (4). The focus on ‘notable’ historical figures is not surprising when considering that “a degree of well-knownness is the prerequisite for almost any biographical project,” as Mayer and Novak state (149). Indeed, as they note: “life writing and celebrity are closely related as cultural phenomena and practices, conditioning each other discursively as well as economically” (149). Writers’ preferences for prominent subjects can also be explained with pecuniary reasons, Novak suggests: “a famous name guarantees high sales figures” (“Notable Woman” 85). Most basically defined as “the story of a life told by somebody else” (Lee 12), biography, with its historical roots in hagiography, has a long tradition of depicting the lives of noteworthy people whose achievements are considered exemplary (Lee 19-38). Biography’s interest in exemplary lives, as Lee notes, stems from its educational and moral purpose. Biography’s goal is to represent a life worth living, “a model for good behavior or spiritual aspirations” (Lee 16). Even if biography also has the potential to provide exemplary lives which function as deterrence, historically, biography was defined by its didactic purpose of offering positive reference models whose lives are worth imitating (Klein,

“Analyse” 33). Noteworthiness is not only a criterion for selecting the subject of biography but also of biofiction. While biographical fiction is clearly interested in the lives of famous people, it does not necessarily engage in hagiography, Kohlke notes: “As much as springing from celebratory or commemorative impulses to produce a quasi homage, then, [...] biofiction may also serve irreverent or prurient purposes” (8).

The narrative privileges of biographical novelists, the possibility to (re-)create the chosen subjects’ lives by combining historical fact and creative imagination, allows writers of biofiction to fill in the blank spaces that exist in the respective historical figures’ stories. These blank spaces are often especially pronounced when it comes to their inner lives. Illuminating the private moments, hidden secrets, and personal thoughts of notable historical figures and thus providing access to their otherwise inaccessible inner worlds seems to be one of the prime motivations behind the writing and reading of biographical novels. Contemporary audiences, as Buisine notes, show “insatiable fervent to know the life of the other in all its details and all its failures, fervent to go into the intimate parts of another’s life, to become a *voyeur*” (162, italics in original). Novak and Ní Dhúill speak of “contemporary celebrity culture’s voyeuristic desire to pry into the privacy of prominent figures” (21). While biographers can only present a chosen subject’s interiority when it has been recorded, for instance, in personal correspondence, journals, or autobiographies, writers of biofiction are free to use creative invention to envision their chosen subject’s minds and hearts. Indeed, biographical fiction permits its author to use their narrative privileges to reveal “the inner lives, secret desires, traumas, and illicit pursuits of high-profile public figures [...] that may have been left out of surviving records, including [the] subjects’ own self-representations, for example in letters, diaries, or memoirs,” Kohlke explains (7). In presenting their subject’s undisclosed memories, personal opinions, intimate conversations, and unacted wishes, novelists may complicate or even outright challenge the dominant perception we have of the person (Kohlke 7). Novak and Ní Dhúill are convinced that, like other narrative choices made by novelists writing about real-people’s lives, this biofictional invasion of a historical subject’s privacy, the retrospective “filling certain gaps that historical persons may have very well left on purpose,” certainly raises ethical issues (21). This seems to be especially true when the motivation behind this gap filling exercise is more voyeuristic than political (Novak and Ní Dhúill 21). In biofiction, “empathetic commemoration and exploitative revelation” (Kohlke and Gutleben 3) often coincide.

While famous subjects dominate biofiction, biographical fiction is also seen as a prime way of writing the lives of little-known or forgotten people, as it can imagine where no historical record or only few biographical details exist. James Vicars defines fiction as “a biographic space in which ‘lost’ lives can be recovered and rediscovered” (“Biographic Space” 100), especially female lives which are often less well documented than men’s (“Biographic Space” 105). Indeed, the genre is also used to give voice and visibility to historically marginalized subjects, Kohlke notes, and doing so “commemorates not just the marginalised subjects, but the injustice of their historical disregard and silencing” (10). She defines this variant as follows: “Biofiction of marginalised subjects

recuperates untold stories of individuals relegated to bit parts, adjuncts, or appendixes in the life-stories of subjects that mattered, while deemed of comparatively little or no matter in and of themselves” (10). She clarifies that “[t]his strand of writing has a clear re-visionary and political purpose, underpinned with feminist and postcolonial tendencies of realigning the centre and margins of discourse, redefining who is accorded power of speech” (10). The reasons of marginalization, Kohlke explains, are not restricted to gender or race but also include other forms of discrimination as well as their intersections (10). One might suggest that the telling of the chosen life becomes indeed only likely because of the possibility to compensate with fictional imagination and artistic invention for a lack of biographical facts about the historical person who might be known but did not leave sufficient traces in the archives of history to be considered in fact-based historical-biographical writing. Biofiction’s great potential for recovering and rediscovering “lost lives” (Vicars, “Biographic Space” 100) and “restor[ing] voice to the historically voiceless” (Kohlke 9-10) might explain why the genre has become an important space for the exploration of historical women and their life stories, as I will discuss in more detail in the next main chapter.

## 2.2 (Re)Imagining HerStory: Female Lives in Biofiction

Having focused on some of the characteristic features of the biographical novel in this chapter, I will now take a closer look at what has seemingly become one of the genre’s favorite subjects in recent times: the historical female figure. Within this recent boom of literature that names its protagonist after an actual historical individual women take on an increasingly central position as protagonists. A quick search of some of the latest publications in the realm of biographical fiction or biofiction shows that novels centered on the life stories of female subjects who lived in previous centuries have entered the literary marketplace in ever growing numbers in the last couple of decades. The whole genre of historical fiction, under which the biographical novel is commonly subsumed, has of late taken a clearly noticeable interest in “the female figure in history,” as Katherine Cooper and Emma Short point out: “previously obscured – she is now palpable, multi-dimensional, and undeniably present” (1). It appears that in the late twentieth and early twenty-first century women’s life stories have become so “desirable” and “marketable” (Cooper and Short 1) to writers, publishers, and readers alike that one might speak of “a notable surge in female-centered biofictions” (Novak and Ní Dhúill 10). One might even announce the existence of a new (sub-)genre within the genre of the historical-biographical novel. Nünning and Wallace both describe and define the so-called ‘woman’s historical novel,’ which also encompasses fictional reimaginations of the lives of real women (Nünning, *Von historischer Fiktion zu historiographischer Metafiktion*, Wallace, *Woman’s Historical Novel*). Bergmann coins the notion of ‘herstorical biofiction’ to denote those novels that focus on previously neglected or marginalized historical women and their life stories (“Historical Biofiction” 311, *Nineteenth Century Revis(it)ed* 137, “Poe’s Shadow” 251). The recent prominence of (actual) historical

women as literary characters might be explained with the predominantly female readership of historical fiction. Irene Goodman suggests that

the majority of readers [of historical fiction] are women, and they like to read about other women. Much of history is written by men, which means you have to look for subjects that include women. The most common device is to take a woman who really lived and to let her tell her own story, free from the alleged ‘misrepresentations’ of history. (15)

Historical fiction has indeed, Diana Wallace is convinced, become “one of the most important forms of women’s reading and writing during the twentieth century” (*Woman’s Historical Novel* ix). It is thus not surprising that female figures flourish here.

### 2.2.1 The Female Figure in History: A New Literary Presence

Surely, women and their life stories have never been completely absent from the literary discourse of previous centuries. Scholars like Schabert, Wallace, and Lackey have pointed to examples like Ford Madox Ford’s *The Fifth Queen* trilogy (1906-1908) about queen consort of England Catherine Howard, Carola Oman Lenanton’s *Miss Barrett’s Elopement* (1930) on poet Elizabeth Barrett Browning, Robert Graves’ *Wife to Mr. Milton* (1944) about lyricist and intellectual John Milton’s first wife Mary Powell, Irving Stone’s *Immortal Wife* (1944) on writer and political activist Jessie Benton Frémont, Edith Sitwell’s *Fanfare for Elizabeth* (1946) about queen Elizabeth I, and Barbara Chase-Riboud’s *Sally Hemings* (1979) about an enslaved woman of the same name owned by and possibly mistress to American president Thomas Jefferson, to prove that biofictions about historical women can be found throughout literary history (Schabert *Fiction as Biography*, 31, Lackey, *American Biographical Novel* 1, Wallace, “Virginia Woolf” 50). However, for much of history, it were above all the lives of notable men that novelists (most of them men themselves) chose to fictionalize in the past.<sup>11</sup> The prominence of “eminent men” as the subjects of biofiction is, as Ina Bergmann points out, hardly surprising given the male-centered focus of much of history writing in the past (“Historical Biofiction” 310). This also manifested itself in the genre of biography, which had long been a “men’s club,” Sara Alpern et al. note (5). For this reason, it is perhaps understandable that biofiction as part of historical fiction and as closely interlinked with the genre of biography was also dominated by male subjects and male writers alike.

In recent years an increasing novelistic interest in the life stories of historical women becomes apparent on the contemporary literary scene. In the late twentieth and early twenty-first century, “fictions about ‘notable’ historical women abound,” Novak notes (“Notable Woman” 83). Already rather superficial research of recently published biographical novels confirms Novak’s observation that the historical female figure has

---

11 Ina Schabert and Michael Lackey provide many examples of male-dominated and male-authored biographical novels from the nineteenth and twentieth century that could be cited as evidence here (see, for instance, Schabert, *Fiction as Biography* 31, 42-44, Lackey, “Locating and Defining” 3, *American Biographical Novel* 1).

gained prominence within the generic hybrid of the biographical novel – as she has in the whole genre of historical fiction, scholars suggest (cf. Cooper and Short 1). Bergmann, too, points to “a large number of new historical novels that tell herstory” (“Historical Biofiction” 311). While it is only recently, as Bergmann explains, “that women have begun to step out of the shadow of these eminent men and into their own biofictions” (“Historical Biofiction” 319), (women) writers’ increasing literary curiosity about female lives in the past is clearly visible today – not least in the numerous biographical novels about historical women in science which are at the center of attention in this study. The emphasis I am putting on the interest given to the life stories of historical women shall not gloss over the fact that “eminent men [...] are still often at the center of biofiction,” as Bergmann observes (“Historical Biofiction” 320). However, given the authorial preference for and literary predominance of prominent male individuals as the subjects of historical-biographical fictions throughout history, current novelists’ fascination with historical women’s lives is noteworthy and has been met with much scholarly research in recent years, to which also this study contributes.

The current boom of fictional narratives about the lives of ‘notable’ women from previous centuries must, on the one hand, be situated in the context of a general explosion of biographical novels in the present day, Novak argues (“Feminist to Postfeminist” 223). As shown in the previous section, biofiction has become an enormously popular genre in the last couple of decades. Various scholars have shown that novels which name their protagonist after the actual historical person they represent, and which are in genre-typical way based upon both the documented evidence and creative invention, have experienced a veritable boom in the present day. Contemporary writers’ strong fascination with female life stories must, on the other hand, be connected to a new societal interest about the until recently often ignored or undervalued history of women that has emerged in the context of the feminist movement in the latter half of the twentieth century, Novak is convinced (“Feminist to Postfeminist” 223). She links the present-day trend of representing the lives of historical women and their lives within the genre of the contemporary biographical novel to the women’s history movement – which came to be also known as herstory – when she claims that the origins of these fictional returns to women’s lives are to be seen in “the mid-twentieth-century surge in biographies about ‘notable’ women from the past, as part of the so-called second wave of feminism” (“Feminist to Postfeminist” 223). Truly, historical fiction by and about women, and this also includes novels which are based upon the biography of an actual historical female figure, can generally be seen, Jeannette King argues, as “part of the wider project pioneered by second wave feminism of rewriting history from a female perspective, and recovering the lives of women who have been previously excluded or marginalised” (3-4). Novak and Ní Dhúill, too, argue that “fiction writers’ noticeable interest, particularly since the 1970s, in the lives of historical women can in part be understood as contributing to the feminist project of ‘reclaiming’ neglected figures through biographical narrative” (8). Bird describes biofictional narratives about historical women as engaged in the “project of giving historical figures a voice” (1). Narratives like these allow women

to emerge “as subjects in their own right” (Kohlke and Gutleben 13). It has been argued that biofiction about historical women not only stems from but shares many of the concerns of feminist biographies which sprang up in increasing numbers in the context of the second wave feminist movement. Bergmann makes female-centered biographical fiction and the feminist endeavor to revise the male-centered historical record from women’s points of view even linguistically visible when she proposes the term ‘herstory biofictions’ (“Historical Biofiction” 311, *Nineteenth Century Revis(it)ed* 137, “Poe’s Shadow” 251). She explains that such novels “criticize a silenced discourse of women” by giving voice to the previously disregarded perspectives of actual women in history (“Historical Biofiction” 310-311). By writing novels which privilege the traditionally sidelined or excluded experiences, concerns, and achievements of historical women, many present-day authors, Bergmann claims, “take up the concept of herstory, aiming, like historians, at a feminist revision of history, but doing so by writing historical biofiction centering on women” (“Historical Biofiction” 311). There are many ways in which current novelists’ engagement with the history of women – whether they choose fictional heroines or base their stories on the biographies of actual women from previous centuries – builds on and reflects the concerns of women’s historians who, from the late 1960s and early 1970s onwards, began to systematically redress the gender imbalance of the historical narrative through the recovery of women’s life stories and female historical accomplishments. To understand how current writers’ efforts at telling female life stories can be seen as originating from and participating in the feminist project of women’s history, let me outline what herstory is and does.

### 2.2.2 From History to Herstory: A Discursive Shift in Writing the Past

It is certainly not exaggerated to state “that past histories have generally been written by men about men, and that women have been rendered almost invisible, their roles, contributions, and achievements correspondingly minimised or ignored” (Southgate 94). Historiography’s traditional focus on public achievements and political events had for long functioned to exclude women’s lives and accomplishments as well as the private, domestic sphere, to which they were often relegated by traditional gender role expectations, from the historical record. Indeed, “until not so long ago, history was in every respect a ‘man’s business’,” Nünning emphasizes (“‘Herstory’ als ‘History’” 277, translation mine). For a long time, ‘great men’ were the ones believed to ‘make history’ and it were above all men who wrote about other men’s ‘heroic deeds’ in the public sphere, he explains (“‘Herstory’ als ‘History’” 277). While exceptions can be found for women, surely, never have been completely absent from prior historical narratives, neither as subjects nor authors thereof, “the male-oriented focus of most past historical writing is indisputable,” Southgate underlines (96). If women made it into the historical narratives of previous centuries it were usually only a couple of ‘women worthies,’ those who led men-like lives in the public sphere, as Susan Mann Trofimenkoff points out: “an occasional queen, saint or female ‘first’ might be allowed to slip through the net of exclusivity, but their presence among the Great Men merely accentuates their marginal-

ity and even more so that of the entire female population which they do not represent in any case” (2).

While the male-oriented focus of historiography led to a long-time neglect and consequent absence of women’s life stories and accomplishments from the historical narrative and thus our cultural memory about the past, this began to radically change in the latter half of the last century with the revival of the feminist movement and the emergence of women’s history or ‘herstory’ as part of the so called second wave of feminism. In the late 1960s and early 1970s, herstory became a central issue. Herstory can most basically be defined as the feminist revision, re-evaluation, and rewriting of the traditionally male-dominated and male-authored historical narrative from the long-time sidelined or omitted perspectives of women (OED). Bergmann describes herstory as “a trend that, since roughly the 1970s, has compensated for the absence of women in historiography” (“Historical Biofiction” 311). The notion of herstory is a pun used by some feminists in the field to raise awareness of the fact that history has usually been written quite literally as his and not her story, even though the word ‘history’ is etymologically unrelated to the possessive pronoun ‘his.’ As Casey Miller and Kate Swift explain: “[...] when women in the movement use the term herstory, their purpose is to emphasize that women’s lives, deeds, and participation in human affairs have been neglected or undervalued in standard histories” (135). Herstory redirects historiography’s traditional focus on ‘great men and their ideas,’ as famously defined by Thomas Carlyle in the mid-nineteenth century, to the so far often disregarded or undervalued activities, concerns, experiences, and perceptions of historical women. Since the neglect of women has been universal, the feminist project of herstory affected all areas of the past. The history of science, which is at the center of attention in this study, also became the object of a feminist revision, re-evaluation, and rewriting of the past.

The most fundamental concern of historians who engaged in the writing of women’s history, or herstory, was to correct the one-sidedness of much of history writing in the past and to thus counteract the common societal perception that women did not have a history, that they were somehow ahistorical beings, Nünning explains (*Von historischer Fiktion zu historiographischer Metafiktion* 95-96). Second wave feminist historians sought to redress the gender imbalance of the historical narrative by uncovering and recovering women hidden from history who had made important contributions or achievements; they wanted to rediscover and restore the lives and achievements of historical women and reveal the activities, contributions, and roles of women throughout the centuries to show that women did indeed have a history. Indeed, the writing of herstory was first and foremost about the recovery and reconstruction of historical women’s activities, concerns, experiences, and perspectives; it was motivated by the need to fill in the “enormous gaps” in contemporary society’s historical knowledge about women’s lives and accomplishments in previous centuries, Catherine Hall emphasizes (5). To compensate for the absence of women from the traditional historical narrative, historians (most of them women themselves) set about discovering what women’s daily lives had been like in the past and what achievements they had made in the male-dominated areas

of, for example, politics, culture, and science, despite all the barriers that patriarchal societies had frequently put in their ways. They sought to create a complete and more just version of history which could appreciate and honor the contributions of women as much as it did those of men. Reviewing and rewriting the traditionally male-dominated and male-authored historical record by adding the stories of women and exploring the past from a new, female viewpoint, historians not only expanded our knowledge and with that the boundaries of the traditional historical narrative, but, at the same time, drew attention to the conceptual limits of conventional historiography and genres like biography, which had led to women's exclusion and marginalization within the existing records of the past in the first place. Trofimenkoff notes that they were "primarily committed to discovering and revealing the forgotten and ignored women of the past in order to change the very conception of history which has rendered them insignificant" (1). Women's historians thus not only revised the historical record, but also rethought the ways in which history should be written. They also shed light on concepts like scientific or artistic genius which had throughout history functioned to render the (supportive, assistive, and domestic) work performed by women invisible (Stephan 13).

The recovery, revision, and rewriting of women's history was thereby always closely interlinked with feminist politics, it was in many cases obviously motivated by feminist ambitions. For their highly visible political agenda, their mingling of history writing and political ambitions, historians in the field of women's history were often suspected by those within their own professional ranks of "distorting evidence and twisting conclusions" to support the feminist cause (Bennett 14). However, as Bennett explains, the positivist assumption that the writing of history is apolitical which is at the heart of unfounded criticisms like these, has long been revealed as a rather naive understanding of the discipline and its practitioners:

History is not, of course, simply 'the past,' and historians are not, of course, unbiased reporters or god-like observers who simply reveal the past 'as it really was.' [...] All recovery of the past entails interpretation, so that no matter how assiduously a historian might seek to let the past speak, he or she unavoidably speaks alongside the historical record. [...] Some historians embrace the politics of history and others shun it, but whether we like it or not, history is always and already inflected by politics. (14-15)

Feminist historians, it seems, are just more open about their political ambitions than are other historians. In fact, as Southgate notes, in addition to the attention that feminist historians have drawn to long-forgotten figures and long-ignored concerns, it was the emphasis they placed on "the impossibility of any value-free account of history" with which they have most profoundly challenged traditional historiography (98).

### **2.2.3 Women's History and Feminist Biography**

Many historians' views into women's past were not only driven by a sense of justice and a wish to set the record straight to create a complete and more just version of history. They were motivated, above all, by the urgent need to change something about the problematic situation of women in the present, especially by the desire to find suitable

role models from the past, which could and would inspire contemporary women to move beyond patriarchal constraints, to free themselves from the prescriptive roles and limited opportunities that their patriarchal societies had envisioned for them. Indeed, historians of women not only sought to reveal the various ways in which women had been oppressed within patriarchal societies for long, but to commemorate and celebrate those women who had defied traditional gender roles in pursuit of their artistic, political, or scientific calling and who had made important contributions to humanity despite all the difficulties that were put in their ways.

To do so, biography proved a vital tool. While female biography, which dates to antiquity, was often ignored, or dismissed by traditional male-focused historiography, it became especially prominent in the context of the women's history movement, as Sara Alpern et al. note (4-5). To many feminist historians, biography was a prime way "to rescue from historical oblivion, the women who had been agents of change or articulate critics and leaders of their culture and society" (Alpern et al. 4); to reclaim their lost or untold stories and to restore their lives and their accomplishments to the historical records (Alpern et al. 4-5). It was its exemplary function of providing readers with lives worth living and depicting patterns of both success and failure which made biography a suitable medium for the women's movement, as Novak notes ("Notable Woman" 84). Biographies not only served as "instruments of commemoration and canonization, extending a woman's 'afterlife' by adding her to a society's cultural memory" (Novak, "Notable Woman" 84). They also allowed for the creation of positive female role models from the past which were believed and hoped to enable present-day women to move their lives beyond the constraints that patriarchy had put in their ways. Indeed, many feminists saw the genre of biography and its focus on the exemplary lives of women who had somehow broken through traditional patriarchal gender roles as a critical tool for empowerment and emancipation. After all, as Kathleen Barry explains: "[t]hrough biography we well come to know who woman is and what she can be – even by facing what she has been denied, not permitted, or forbidden to own of herself and the world" (34-35). Thus, from its very beginning, individual female life stories, as they are presented in the genre of biography, have been central to the feminist project of telling herstory; they might in fact be considered its most predominant and popular expression and certainly continue to be so today if we look at the large number of biographies about notable historical women that continue to be published in the twenty-first century. By consequence, the "men's club" of biography has been "seriously challenged by the flood of attention now being paid to women's lives," as Sara Alpern et al. have noted (5).

Certainly, some feminists have shown themselves rather critical towards the genre of biography as an adequate and appropriate tool for the (re-)writing of women's history. After all, the notion of exceptionality and greatness upon which it is based, had led to women's exclusion from the genre of biography and the gender imbalance of the historical narrative in the first place (Trofimenkoff 1-2, Novak, "Notable Woman" 84). Claire Hooker critically remarks, biographers' "singling out, which excludes many others of equal weight to those mentioned [...], replicates exactly the kind of 'linear succession

of great men/great ideas' history that women historians [...] – usually under a feminist banner – have leapt to critique" (512). Despite this not unfounded criticism of those within their own ranks, most feminists saw the genre as suitable for (re-)writing women's lives, Novak notes ("Notable Woman" 84).

#### 2.2.4 Similar Goals, Different Means: Female Lives in Herstorical Biofiction

Herstory, the feminist revision and rewriting of history from women's perspectives, is not only a topical trend within historiographical-biographical writing. It was from the very beginning paralleled and supported by the efforts of fiction writers. Like historians and biographers and often inspired and enabled by their research, contemporary writers of fiction seek to rediscover actual women from the past and to recover their lives and historical achievements – be they artistic, economic, political, or, as it is the case with the novelists chosen for this study, scientific. As Kennedy argues, "[m]any female authors of contemporary historical fiction engage in exactly this process looking back in time and reinserting women's stories into dominant historical narratives from which they are often excluded or marginalized" (42). Indeed, the revisionist tendency of historiography to rewrite the past from the point of view of women also finds expression within an increasing number of recently published female-centered historical fictions, so called woman's historical novels (Nünning, *Von historischer Fiktion zu historiographischer Metafiktion*, Wallace, *Woman's Historical Novel*), among which scholars usually also subsume novelizations of real lives, e.g., biographical fictions or biofictions.

Like exemplary feminist biographies, most women-centered biographical fictions or herstorical biofictions focus on "famous, 'exceptional' women," Novak observes ("Feminist to Postfeminist" 224), who are considered 'extraordinary' by means of the kind of "renown and prominence they attained as women in their days" ("Father and Daughter"). While these women were prominent in another time, they are generally not well-known in the present but have "suffered from some kind of historical neglect, marginalization, or misrepresentation in the past," were either forgotten or deliberately erased from the records and thus our cultural memory of the past (Alpern et al. 6). Biographical fictions about historical women are often seen as being written with the same kind of motivation with which biographers and historians set about producing their works. "It is not inappropriate to refer to novels like these as attempts to 'rehabilitate' historical women," Bird claims (1). Drawing a direct connection to herstory, she is convinced that authors who choose "a historically documented woman as their protagonist [...] are almost invariably interested in rectifying the injustice of women who, for whatever reasons, have not been accorded a historical voice" (1).

The wish to do herstory, 'to rehabilitate historical women' and 'to accord them a historical voice,' is not only visible on the level of the text itself and implied in the treatment that the historical woman receives within the narrative text itself, but is often also an explicitly stated narratological aim, as Bird notices (1). Many biographical novelists, those chosen for this study among them, use the paratextual elements of what is variously referred to as afterword, author's note, or acknowledgements not only to re-

veal to their readers the relationship between fictional imagination and biographical facts within their respective novels but to discuss the frequently decidedly feminist motivation behind the writing of the literary text at hand aligning themselves with herstory. In fact, it seems that the feminist movement of herstory did not only enable but inspire the writing of many of the novels referred to here, for the novels are not only shown to rely upon the research released in the context of the second wave of feminism, but the wish to rescue women from historical oblivion, to give them voice and visibility, is indeed important to many of the novelists, including those featuring in this study. According to Jenna Elizabeth Barlow, one can also assume a feminist inclination for those historical-biographical novels that deal with women and do not overtly express themselves in feminist terms: After all, “[e]ven novelists who are not self-consciously feminist in their motives are, in their choice to foreground historical women, inescapably predisposed to a feminist approach to historiography which privileges a gendered experience of a particular historical moment” (45). Thus, novelists who rewrite history from women’s perspectives are all, somehow engaged in the feminist project of telling herstory, as Barlow argues (45).

Herstorical biofictions, like so-called women’s historical novels, can thus be seen as joining in and building on academic efforts to rewrite and revise the traditional male-dominated and male-authored historical record from “a new, feminine viewpoint” (Johnson 6). Cooper and Short are convinced that fictional reimaginings of the lives of actual historical women can undoubtedly be seen as “central to the project of writing women back into the patriarchal discourses of history” (14). They argue that in “represent[ing] a fictionalized account of the life of a real woman (or women),” such novels often “provide [...] counter-narrative[s] to the male-authored histories which precede them” (3). Placing women at the center of their narratives, writers “re-appraise and re-assert the role of women in history,” they “not only reintroduce the female figure into contemporary historical discourse, but they also carefully and knowingly reconstruct her as a subject in her own right” (Cooper and Short 3, 16). By giving women’s stories the same importance as men’s traditionally had, they “challenge and subvert the way we read and understand history and women’s place within it” (Cooper and Short 13).

Women-centered biographical fictions, Novak argues, can fulfil the same function as female biography for they add a woman’s life story to our cultural memory and offer glimpses into “what it means to be female” (“Notable Woman” 85, “Feminist to Post-feminist” 223). As discussed in the previous chapter, in view of their societal function, biographical novels are often seen as a form of life writing and thus as a text of memory that, like factual biography, contributes to the afterlife of the historical person and, from a society-wide perspective, to their canonization and survival in the spirit of society (Novak, “Notable Woman” 84).

While the motivations and functions might be similar to those of feminist biographies, the narrative means that writers of herstorical biofiction have at their disposal differ greatly from those of historians and biographers. Like in biography, the image of the historical person emerging from biofiction depends very much on the narrative

choices that authors make in recounting the chosen subject's life (Novak, "Feminist to Postfeminist" 224). As has been shown in the previous chapter, both biographies and biofictions are narrative constructs in which writers create the life story of a person by carefully choosing from and arranging the available facts that the historical record provides. In contrast to biographers and historians, writers of historical-biographical fiction possess certain narrative privileges which allow them to fill in with creative invention the existing gaps in the factual knowledge about the chosen person's life. Indeed, while authors of biographical fiction certainly use and rely upon the findings of biographers and historians, for this kind of fiction is always rooted in facts, they are also able to use fiction to reinvent, to reimagine what has not been recorded, what is not documented; they are able to fill in the gaps, the silences in the historical and biographical record with their creative imagination and artistic invention and thus have "a vital role to play in rendering visible those subjects and experiences that have fallen through the grid of traditional androcentric history" (Novak and Ní Dhúill 21). According to Novak and Ní Dhúill, "biofiction helps redress a lack of representation that is manifest on various discursive levels – in biography and historiography but also on the primary level of archival material" (20). Because it can use imagination where no historical record or just a few biographical details exist, fiction is often seen as a prime, sometimes also the only way of writing the lives of little-known or forgotten people, the lives of those who have left behind few or no traces in the archives of history, which is also often true of historical women. Indeed, fiction plays a vital, in fact, essential role when it comes to narrating "the stories of the many women who have remained invisible because there are no records," Susanna Scarparo claims (90). After all, "in the absence of historical records, their stories – if they are to be told – have to be invented. The stories of the invisible, then, can only exist through fiction" (Scarparo 90). Drawing on Scarparo's arguments, Vicars defines fiction as "a biographic space in which 'lost' lives can be recovered and rediscovered" ("Biographic Space" 100). This is especially true in the case of female lives which are often less well-recorded and documented than men's (Vicars, "Biographic Space" 105). "Where factual biography finds itself impoverished by the gender bias of archives or works around the gaps by meticulously pointing them out to the reader, biofiction, powered by imagination, can venture right into the void," Novak and Ní Dhúill explain (20). Thus, historical-biographical fiction can be seen as a productive space that enables female stories to be told and thus heard at all. Thanks to the narrative privileges they have, authors of biofiction expand the possibilities of herstory.

Making historical women central to their stories and thus rectifying their exclusion or marginalization in the past is certainly the most obvious way in which contemporary herstorical biofictions revise and rewrite the androcentric historical narrative. By centralizing historical women, novels like these engage in social commentary about the historiographical absence of women, they acknowledge that women and their stories are missing from the records of the past. In herstorical biofiction, women's marginalization in or at times even complete exclusion from traditional male-centered historiography is not only redressed by their centralization as protagonists of the presented stories and

their subsequent move from the margins and footnotes of the historical narrative into the center of literary attention. The feminist goal of rewriting androcentric history from the neglected and omitted perspectives of historical women is frequently supported by the employment of the chosen female protagonists as the narrators of their own stories. It is one of the privileges of writing within the conventions of fiction as opposed to biography, Chappell notes, that the narrator can assume a separate voice to the author. She explains that “[t]he creative flexibility to recover (where traces of the subject’s voice can be heard through their own writing or testimony) or imagine lost voices as if they are telling their own stories is perhaps the greatest strength of fictions based on lives from the past” (7). Fiction might prove especially powerful when it comes to recovering “the voices of women either overlooked in archival records, lost through the passage of time, or diminished by gender-biased recording of history,” Chappell is convinced (2). Given their narrative privileges, novelists cannot only use their fictional imagination and creative invention to close the historiographical gaps in the chosen woman’s life story, to fill in the silences left in the historical records, but they can literally “restore voice to the historically voiceless” and hence “[redefine] who is accorded power of speech” (Kohlke 10). Truly, recovering not only the stories but the voices of women formerly relegated to the sidelines of history and thus “redistribute narrative power” (Cooper and Short 13, 14) seems to be one of the prime motivations for writers of herstorical biofictions, those chosen for this study among them. Bird describes biofictional narratives about historical women as engaged in the “project of giving historical figures a voice” (1). Bergmann explains that in herstorical biofiction the idea of ‘giving voice’ is meant quite literally as providing the chosen female subject with “the potential to articulate [her]self” (“Poe’s Shadow” 251). She notes that writers of herstorical biofiction enable the female protagonist to narrate her own story from her purported first-person point of view and thus provide her with an opportunity to reclaim agency through self-representation and in doing so emancipate herself from patriarchal discourse (“Poe’s Shadow” 251). Making women not only the protagonists but also the narrators, writers of herstorical biofiction can address both their physical absence from the official records and their historical silencing; they make women agents of their own stories in two ways, as main characters and storytellers. Like the strategic placing of previously sidelined historical women at the center of the narrative, the act of allowing them to narrate their own stories from their supposed first-person viewpoints and in their supposed own words certainly works to counteract the problematic tendency of traditional, male-oriented historiography to omit and obscure female experiences, concerns, and perspectives. According to Bergmann, “constructing a voice for historically silenced figures can be understood as a form of cross-temporal empowerment in the service of a more gender-conscious cultural memory” (“Poe’s Shadow” 251).

Like historical fiction, biofiction moves between at least two temporal spaces, the historical setting of the story, in this case the life story that is being narrated which is the past, and the moment of writing and reading the respective narrative which is in the present (Novak, “Father and Daughter”). The retrospective view into the past is thereby

frequently motivated by present-day concerns. One of the central premises of research on the historical and biographical novel is that it often reveals more about the moment of writing than about the time it portrays (Novak, “Feminist to Postfeminist” 224). This double temporality, Novak claims, can be seen best regarding how women in biofiction are often placed from a present-day perspective within the sex-gender-systems of their times which results in an implicit or explicit critique of traditional gender roles, which is a central concern of feminist writing (“Father and Daughter”). Novak observes that, at times, they “foreground gender aspects and make use of the narrative privileges of the genre to project contemporary feminist ideas onto historical characters and events” (“Father and Daughter”). While these “imaginative additions [...] [can] work towards articulating a feminist critique of patriarchal societies in history from a distinctly twenty-first-century point of view” (Novak, “Father and Daughter”), they sometimes also serve voyeuristic purposes and the reinstatement of a male-controlled agenda, as I will discuss in the next chapter.

### **2.2.5 Of Myths and Stereotypes: Herstorical Biofiction’s Ambivalent Gender Politics**

Biographical novels which centralize the hitherto often marginalized or neglected life stories and achievements of actual women from the past can, as Cooper and Short suggest, be understood as a “feminist intervention into traditional [male-dominated and male-authored] historical discourses,” “a way of restoring female figures to their [rightful] place in history,” and thus as “central to the project of writing women back into the patriarchal discourses of history” (3, 13, 14). However, a growing number of scholarly studies dedicated to female-centered biographical fictions shows that a more differentiated analysis of the gender politics of herstorical biofictions is necessary, for despite the obviously and sometimes avowedly feminist motivations that guide the writing of novels like these, some of these stories reinstate rather conservative ideas about women’s lives and the female past. In recent years, a growing number of literary scholars have begun to reveal that writers of herstorical biofictions are not free from (re-)creating images and ideas of women and their life stories that seem to support rather than challenge certain cultural myth, patriarchal stereotypes, and conservative plot patterns surrounding the female figure in history. Building on and echoing some of the concerns and criticisms that feminist scholars dealing with the depiction of actual (historical) female life stories within the genre of factual biography have brought forward, academics engaged in the study of biofiction about women have shown themselves rather troubled by the kind of gendered images and ideas they generate and the subsequent messages they send to their predominantly female readers. Veritably, “for all their potential and visible disruptions of patriarchal ideology,” Victoria Kennedy writes, “many of these popular novels make use of literary archetypes, tropes, and narrative patterns that reinstate hegemonic ideologies about individual identity and social structure” (42). Writers of historical fiction have the potential to write self-reflexive narratives that subvert hegemonic ideologies but they can just as well confirm conservative schemes and keep historical

figures in superficial stereotypes, she explains (49). Cooper and Short note that novelistic re-imaginings of historical women's lives can intervene in existing misrepresentations of their chosen female subjects – for women were often misrepresented or misunderstood based on their gender – and thus “provide a counter-narrative to the male-authored histories which precede them” (4). However, they can also, and sometimes even do so simultaneously, “reinforce certain popular myths surrounding the female figure in history” (Cooper and Short 4) and thus remain faithful to the oftentimes patriarchal agenda of the historical records that precede them. Bergmann points out that the genre of historical biofiction is not only driven by a desire for “revisionism and recovery” but “also tends to nostalgia, sentimentalism, and escapism” (“Historical Biofiction” 319). On a similar note, James Fitzmaurice, Naomi J. Miller, and Sara Jayne Steen argue that writers of female-centered biographical novels face cultural challenges in exploding popular stereotypes while celebrating women's lives and achievements (19). Thus, although novels about historical women can be classified as feminist in so far as that they draw attention to hitherto forgotten and neglected female lives, a focus on women's experiences, concerns, and perspectives does not automatically go hand in hand with a feminist portrayal. Against this background, one must be careful when “too liberally applauding [them] [...] as examples of feminist historiography,” Kennedy cautions (48).

Scholars have, for instance, problematized female-centered biographical novels' reliance on the narrative patterns and tropes of the romance mode. This is something troubling Kennedy in her study of Philippa Gregory's biographical novel *The Other Boleyn Girl* (2001) about Anne Boleyn's lesser-known sister Mary (1499-1543). While the author herself sees her novel as feminist historiography, Kennedy points out, it is her choice to write Mary Boleyn's life in the mode of the historical romance that makes it difficult to really see it as such, for “emplotting history in accordance with the narrative tropes and characterizations that define the romance genre involves the adoption of ideologies about gender and sexuality that undermine the potential for subversive historiography” (49). In Kennedy's assessment, Gregory's novel is highly conflicted in its gender politics. While there are “moments of feminist protest and resistance” within the novel, overall, it “represents a largely patriarchal and conservative reflection on women and their social positions” (Kennedy 70). Tying in with the use of romance in the representation of female lives, scholars have also noted that many contemporary novelists continue to remember historical women “in relation to powerful men – as lovers, mistresses, wives, or daughters – ‘legitimizing’ attention to these women by positioning them in direct relation to already canonical or culturally powerful men” rather than for their own achievements and abilities (Fitzmaurice, Miller, and Steen 15, cf. Bird; Novak, “Father and Daughter,” “Nell Gwen”; Bergmann, “Historical Biofiction,” “Poe's Shadow”). Biographical fictions which “breath[e] life into historical women previously relegated to the shadows of the famous men they loved” (Johnsen 6) experience a veritable boom in recent years (cf. Bergmann, “Historical Biofiction” 310, 320, “Poe's Shadow” 249). Even a rather cursory search reveals numerous examples that could be cited as evidence here, among them Anchee Min's *Becoming Madame Mao* (2000), Jen-

nifer Kaufman and Karen Mack's *Freud's Mistress* (2013), Anne Girard's *Madame Picasso* (2014), Naomi Wood's *Mrs. Hemingway* (2014), or Betty Bolté's *Becoming Lady Washington* (2020), to name but a few.<sup>12</sup> Women who were 'only' companions of men's careers are considered just as much as women that had their own scientific, artistic, or political ambitions but who have not infrequently been lost or forgotten. By consequence of this relational approach to women's lives, these men then come to dominate the historical narrative of the respective women's stories and their afterlives in our cultural memory. It has been pointed out that instead of "according the female subject a story of her own," novels about historical women that "have entered public consciousness chiefly for their association with famous men" often misuse them "merely as a new lens through which to view an already famous man" (Novak and Ní Dhúill 9). Bergmann points to a whole range of novels which, though featuring a historical woman as their protagonist, are not really engaged in telling her story at all but rather seek to narrate *his* life from *her* perspective ("Historical Biofiction" 320). Ann Pearson speaks in this context of the literary possibility to use a female figure as a "privileged insider."

Others have pointed out that fictional retellings of historical women's lives often still emphasize the private drama of their stories at the expense of their abilities and achievements. Emma Short, for instance, observes that writers of both factual and fictional life stories of historical women often still prefer to commemorate their chosen female subject as a "tragic victim" (47), stressing the personal tragedy of her life rather than celebrating the respective woman's genius. In her paper "Making Up, or Making Over: Reconstructing the Modern Female Author" (2012), in which she focuses on Lilian Pizzichini's recently released literary biography *The Blue Hour: A Life of Jean Rhys* (2009) on British novelist Jean Rhys (1890-1979) as well as on four contemporary biographical novels about the British and American writers Virginia Woolf (1881-1924) and Sylvia Plath (1932-1963) (Stephanie Barron's *The White Garden: A Novel of Virginia Woolf* (2009) and Susan Sellers' *Vanessa and Virginia* (2009) as well as Emma Tennant's *Sylvia and Ted: A Novel* (2001) and Kate Moses' *Wintering: A Novel of Sylvia Plath* (2003), respectively), Short shows that also present-day female authors who seek to rewrite these modern and modernist women writers' lives for a contemporary audience "do not escape misrepresentations, and are often victims of a cultural tendency to demarcate female genius as both exceptional and unsustainable" (Cooper and Short 4). Short notes that current narrative reconstructions of female literary figures, whether in factual biography or biographical fiction, tend to portray them "as tragic victims of their

---

12 The similarity of the chosen titles is striking. It seems that identifying the woman protagonist by means of her association with the famous man is almost generic. The definition in terms of her relationship to the respective man is understandable from a marketing standpoint, as his name might still raise more immediate attention than hers and thus promises higher sales rates of the respective book. Yet, this economically driven choice that is presumably pushed by publishers is not unproblematic from a feminist viewpoint as it positions the historical woman as 'other' and suggests that her life (only) matters because of her relationship to her partner, that she is an interesting subject only because she was his wife, sister, mother, girlfriend, or lover.

own mental instability” rather than to depict and celebrate their great literary achievements, something that, in her view, might be explained with a certain “fear towards female authorship and creativity within contemporary culture” (41-42). Short is especially critical of Pizzichini’s approach towards Rhys, for instead of “appreciating her as one of the most skilled and intriguing of modernist writers,” the female biographer, she deplores, “[focuses] almost solely on the negative aspects of the author’s life [...] (such as childhood abuse at the hands of a family friend, miscarriages, and a short spell in prison),” representing the author, best known perhaps for her novel *Wide Sargasso Sea* (1966), “as first a helpless victim, then a self-pitying old woman, and above all a tragic victim” (48, 47). Short seems to be particularly concerned about this problematic representation of Rhys’ personality and life for she suspects that being written in the style of the highly popular genre of the misery memoir and marketed as such, Pizzichini’s biography will continue to be widely read and thus have “a significant effect on cultural perceptions and understandings of Rhys” (48). While a biography can “bring a partially forgotten author back into the cultural imagination,” in the case of Pizzichini’s account of Rhys’ life, Short is convinced, the biographer not only raises her profile, but “simultaneously damages – perhaps irreversibly – that profile” (48). Biographical novels based on the lives of female literary figures like Virginia Woolf and Sylvia Plath, too, reiterate this cultural myth of the tragic woman writer, at least in some cases, Short notices. In her subsequent comparative reading of Barron’s and Sellers’ as well as Moses’ and Tennant’s fictional approaches to Woolf and Plath, she shows that Barron and Tennant similarly emphasize the tragedy of these female authors’ lives by foregrounding, above all, their mental instability, and untimely deaths rather than their literary geniuses (48). In Moses’ and Sellers’ novels, however, the fragile mental state and deaths are alluded to but do not function as the focus of the novels (52). Instead, the two novels focus on the women’s creative work, “[building] their narratives around the understanding of these women as *writers*, as artists who were constantly engaged in a creative process, and who were permanently occupied with finding new ways to write and produce the work that was so vital to them” (Short 54-55, emphasis in original). This does not mean, Short notes, that the authors do not include these facts of their lives – the depression and suicide – in their narratives, but that they refuse to make them the central point of concern within their stories and thus to continue the same kind of narrative that has been told about them for decades (54-55).

With their studies, these scholars confirm a most fundamental insight of feminist literary scholarship: “It is just not possible to say that women-centered writings have any necessary relationship to feminism,” as Rosalind Coward points out (57), that “[...] we cannot take ‘women’s writing’ to be a synonym for ‘feminist writing’,” as Mary Eagleton argues (191). Certainly, the very act of writing about women and thus about views and issues that have consistently been silenced and obscured by male-dominated historical discourse certainly is “an important anti-patriarchal strategy” (Moi 121), even “a kind of feminist resistance” (Kennedy 42). Yet, women’s stories can be represented in ways that are “alienating, deluded or degrading” which supports rather than chal-

lenges patriarchal and sexist assumptions (Moi 121). As I have shown, various scholars have raised awareness for the fact that even when biographical novels show a surface commitment to feminism in their centralization of previously marginalized historical women and their life stories, it should be interrogated closely by what representations of women and their lives they achieve their goal to ‘save’ women from historiographical neglect, to rewrite history from their perspectives, and/or how they reiterate or even reinforce the patriarchal agenda of the traditional historical narrative of her story. After all, it does not only matter that she is being represented and thus remembered: how she is being represented and remembered is just as politically important, as Kennedy claims (71). Thus, while it is a positive sign that women are gaining more presence in narratives of this kind, mere representation is not enough. While it is good that representations are increasing, they also need to improve since women often continue to be represented in problematic ways. The growing body of scholarship on herstorical biofiction shows that not every novel that deals with the life of a historical woman necessarily does so in the best interest of women, even if the respective writer clearly seems to be, or even overtly claims to be, motivated by the feminist ambition to reclaim the chosen subject from the marginality and/or misrepresentation she had to endure in traditional male-focused history. Thus, although female-oriented biographical novels can be called feminist in that they draw attention to hitherto often forgotten and neglected women and hopefully prioritize *her* story over *his* story, a woman-centered focus does not automatically go hand in hand with a progressive and positive portrayal of the chosen person and her life but at times is rooted very much in the patriarchal narrative it appears to critique. Against this background, shedding a critical feminist perspective on the stories that biographical novels create of women and their lives, as I intend to do in this study, seems to be a necessary and justified endeavor.

## 2.3 Approaching (Herstorical) Biofiction

### 2.3.1 Providing Gender-Sensitive Readings

Taking my cue from the central premise of feminist literary theory, namely that not every novel written by and about as well as for women is automatically feminist, this study seeks to shed a critical feminist perspective on the images novels like those mentioned above create of the historical female scientists and their life stories. According to Lois Tyson, feminist criticism is concerned with “the ways in which literature (and other cultural productions) reinforce or undermine the economic, political, social, and psychological oppression of women” (283). Feminist critics thus read literary or media texts seeking to analyze when and how patriarchal ideology operates in the text at hand. The study of how literary and other kinds of texts perpetuate or challenge gendered stereotypes on the levels of both story (what is being represented) and discourse (how it is being represented) are among the earliest approaches to literature that were developed by feminist literary critics, Marion Gymnich explains (159). While the field has surely

diversified in the last couple of decades, such approaches to literary texts continue to be a vital part of the discussion in the arena of feminist literary criticism until today.

Within the broad field of feminist (literary) criticism, the last few decades have also seen the emergence of approaches that critically examine questions of the gendered representation of life stories in narrative. These approaches, which refer to the factual genre of biography, can also be made fruitful for the genre of biographical fiction, as the explanations in the previous chapters and the various gender-oriented studies referenced therein have made clear. As I have shown, gender-sensitive approaches have been used to shed light on the gendered images and ideas present in biofictional writings and thus the gender-political messages sent by narratives of this kind to readers. Scholars in the field of feminist literary theory have long raised our awareness for the fact that all kinds of narrative are always closely interlinked with questions of gender. This certainly includes the narration of real lives as it happens in the genres of factual biography and biographical fiction. Caitríona Ní Dhúill emphasizes that gender questions always influence the writing and telling of life stories. She explains that “[e]very description of life is also the description of a life determined by gender, which is led within a changing cultural and social sex-gender system through the adoption, rejection or internalization of behavioral patterns determined by gender criteria” (“Brontës” 126, translation mine).

Considering the ways in which historical women and their lives and scientific achievements are treated in contemporary herstorical biofictions, I adopt a gender-sensitive approach to biographical fiction. According to Ní Dhúill,

gender-theoretical approaches [to life writing more generally and biography in particular] are concerned not just with the gender of biographers and biographical subjects, but with how biographers present their subjects as gendered, and what understandings of gender identity and difference underlie their portrayals. More fundamentally, a gender-aware approach to the genre raises the question of how human experience is lived and gendered through culturally available plots, and how these are reproduced in, and reinforced by, biographical narratives. (*Metabiography* 172)

Adopting what Ní Dhúill writes about the intersections of biography/life writing and gender theory for the genre of herstorical biofiction, I seek to study the ways in which the chosen novels depict their chosen female subjects not only as determined by the gender conventions of their place and time but how gender influences the ways in which their stories have been and continue to be told in the present day. This also includes questions of how gender impacts the narrative choices that authors make regarding various textual elements on the levels of both story and discourse and what gendered messages the narrative choices made by the authors send to the reader about (these) women in the history of science and their life stories.

### **2.3.2 Considering the Chosen Subject’s Biography and Reception History**

To showcase the ways in which the novelists selected for this study reconstruct and recreate their chosen female subjects’ life stories by means of both historical fact and creative invention and imagination, I will rely upon biographical studies as well as

scholarly papers on the respective women by reading them alongside the novels. Each chapter will feature a longer passage that precedes the literary analysis in which I will consider the woman's biography and her reception history. Here, I will relate her basic story as it is commonly known and will noticeably concentrate on those aspects that will become relevant in the context of my analysis. These passages, which come in the form of two or three subchapters preceding those parts dedicated to the study of the novel, are thus also highly selective and certainly make no claims to reflect the completeness and complexity of the individual woman's life and her scientific legacy.

Similar to other scholars working on the genre of biographical fiction or biofiction, above all Julia Novak in her numerous publications, I am convinced that knowing the historical facts about the given individual as far as they exist and/or are obtainable and reliable and being aware of the dominant cultural narrative of her story is important even imperative to analyze and assess the kind of (gendered) images and messages the literary texts at hand sent to their readers about (these) historical women in science. Writers of biographical fiction, as discussed in the previous sections, have certain fictional privileges when recreating the chosen life story in their novels. What I am especially curious about in this study are the narrative choices made possible by the fictional nature of the literary text at hand and the ways in which they impact the images created of the historical women, their life stories as well as their scientific accomplishments and abilities in the chosen biographical novels. All authors included here take quite a few artistic liberties when recounting the lives of historical female scientists within their biographical novels. The extent and way in which they fictionally supplement or even freely change the available historical facts about their protagonists' lives differ, though. While some closely follow the existing biographical records using their narrative privileges only occasionally to provide some detail which have been lost in the historical records or to imagine their subjects' interiority, others take more liberties with the material at hand making use of their poetic licenses not only for the invention of their protagonists' often otherwise unavailable thoughts, feelings, and perceptions or to creatively imagine unrecorded private moments and personal conversations but to fictionally explore speculative but unprovable 'truths', and even to alter some of the established facts about their figures' lives and times for their narrative purposes. To be able to recognize the ways in which authors of biofiction play with the record, one must have a certain degree of familiarity with the known facts about the woman's life.

Reading the biographical novel against the background of the chosen subject's biography, I do not seek to compare the fictional representation with factual portrayals to evaluate the respective novel's faithfulness to historical fact and/or biographical truth (if such a thing does even exist). To do so would be to clearly misunderstand and misinterpret the genre under discussion here. As Michael Lackey notes, the discourse of accuracy or fidelity is misleading because the intention of many biographical novelists is not to represent a historical life but to create a fictional story ("Locating and Defining" 7). He sees discussion surrounding the genre's correctness or reliability as "a profoundly flawed view of biofiction," indeed, "a faulty conception of the literary form" (*Biofiction*:

*An Introduction* 5). For Lackey, as well as for other scholars in the field of biofiction studies, fidelity to facts or historical-biographical accuracy is not a criterion for measuring the quality and/or the success of biographical fiction. He explains that “a biographical novel can be successful even if it fails to accurately represent the historical figure on whom the work is based” (*Biofiction: An Introduction* 5). I am familiarizing myself with the details of the women’s life and times to be able to see where the novelists chosen for this study use their poetic license in the biofictional retelling of her story. My goal here is to better understand and value the liberties taken, and to decode and evaluate their meaning against the background of the female subject’s biography. Fictional deviations from factual accounts, Martin Middeke argues, are “relevant, that is, symbolic” (3). It is precisely in these deviations from historical discourse, the additions, omissions, and/or changes made by the biographical novelists in the story of the life they represent in their literary works, that the authors’ ideological agenda becomes visible. The strategic modifications of historical-biographical facts “most disclose the writers’ objectives,” Lackey explains (“Uncanny Impact” 442). To see the deviations from the record and to be able to assess their function, perhaps also their necessity, and their meaning and value from a critical feminist perspective and in the context of the respective story and biography, one must have a certain degree of familiarity with the known, the lost, and the controversial facts of the subjects’ lives. Thus, when focusing on the changes, omissions, and emphases to the historical-biographical record, I am doing so to understand the gender-political positioning of the respective novel.

In the scope of this study a particular focus will be placed upon the ways in which the novels interact with previous portrayals of these women in male-dominated discourse, which is why I am considering not only the chosen figure’s biography but her reception history as well. In addition to the question of how contemporary biographical fictions or biofictions represent historical women in science, their life stories, and their scientific abilities and achievements, I am asking myself in this study how these often avowedly feminist-motivated and so far solely female-authored novels engage with previous portrayals of the chosen women, their life stories, and their scientific aptitudes and accomplishments in male-centered historical-biographical discourse: Do they challenge and contradict the (often problematic) images and ideas that have dominated their stories so far? Or do they reproduce and repeat perhaps even reinforce these very images and ideas of her and her story? And how do they do it, that is by means of what narrative choices and decisions on the levels of both story and discourse? Not least the long lists of sources provided at the end of the novels clearly show that writers of biographical fiction or biofiction always interact with previous (usually factual) portrayals of their chosen subject. In doing so, they sometimes conform to, sometimes contest the dominant cultural narrative of her story (Cooper and Short 4). To see how the authors chosen for this study reproduce or repeat perhaps even reinforce certain stereotypes and myths, or where they challenge and perhaps even contradict them, it is necessary to be aware of the kind of ideas and images that have been created about the female subject, her life, and her scientific legacy in previous times and other narratives. To be able to determine

how the novels relate to previous portrayals, a familiarity with the dominant cultural narrative of the respective woman and her story is imperative. Therefore, in addition to the novel itself, biographies and other historical or metabiographical (if available) studies on the respective character will be included in the discussions of the novels.

### 2.3.3 Studying the Literary Texts and Its Paratexts

In my study, I analyze the different levels of the literary text. This means that in addition to the level of action (*histoire*) and the level of narrative mediation (*discourse*), the contextual framework will also be considered in my analyses of the selected biographical novels about women in the history of science. Thus, apart from the biofictional text itself, in this case, the historical female scientist's life story as presented in the book, this study will also consider the paratexts surrounding the respective literary narrative, for instance, the author's notes or acknowledgments sections included in the novels, but also interviews with the individual writers, reviews by professional critics and sometimes amateur readers, and other accompanying materials that might be of interest in the context of the respective case study.

That paratexts are important when seeking to understand a (literary) text is beyond dispute. Jonathan Gray, for instance, argues that paratexts are "part of the text" (230) and thus central, even imperative, to any study of a given text:

[T]o ignore them and yet still feel comfortable about making a declaration regarding a text's meaning, impact, power, effects, or value would be an act akin to reading only the third and fourth chapters of a book and feeling that this suffices for a full analysis. [...] paratexts are as valuable a source of information about a text, and as important a site for the generation of text, as is the work itself. (230)

In his work *Paratexts: Thresholds of Interpretation* (1997), which is an English translation of the original French publication entitled *Seuils* from 1987, literary theorist Gérard Genette introduces the notion of the paratext defining it as the materials supplied by authors, editors, and/or publishers, which frame, surround, and accompany the main text, e.g., the story itself of a (literary) work for the public.<sup>13</sup> He writes that (literary) texts are

rarely presented in an unadorned state, unreinforced and unaccompanied by a certain number of verbal or other productions, such as an author's name, a title, a preface, illustrations. And although we do not always know whether these productions are to be regarded as belonging to the text, in any case they surround it and extend it, precisely in order to *present* it, in the usual sense of this verb but also in the strongest sense: to *make present*, to ensure the text's presence in the world, its 'reception' and consumption in the form ... of a book. (1, italics and omissions in original)

---

13 In *Paratexts: Thresholds of Interpretations*, Genette is mainly talking about literature in a narrow sense of the word. Other scholars have adopted his ideas for a broader understanding of literature, including media of all kinds.

According to Genette, paratexts are “those liminal devices and conventions both within the book (*peritext*) and outside it (*epitext*), that mediate the book to the reader” (xi, italics in original). He claims that “more than a boundary or a sealed border, the paratext is, rather, a *threshold* [...]” (1-2, italics in original). Quoting French essayist Philippe Lejeune, he continues by saying that a paratext “is an ‘undefined zone’ between the inside and outside, a zone without any hard or fast boundary on either the inward side (turned toward the text) or the outward side (turned toward the world’s discourse about the text), an edge, or, as Philippe Lejeune put it, ‘a fringe of the printed text which in reality controls one’s whole reading of the text’” (2). Genette differentiates between two kinds of paratexts: the ‘epitext’ and the ‘peritext’ (2). Peritexts are the elements which are placed “within the same volume” (Genette 4) and which are thus materially connected to the main text. Peritexts include, for instance, book covers, book jackets, promotional blurbs, book titles, author’s names, chapter headings, prefaces, introductions, legal disclaimers, dedications, footnotes, endnotes, images, illustrations, author’s profiles, bibliographies, table of contents, indexes, and what is variously referred to as acknowledgements, author’s notes, or afterwords. Epitexts are situated “at a more respectful (or more prudent) distance” of the volume (Genette 4). As epitexts Genette defines “all those messages, that, at least originally, are located outside the book, generally with the help of the media (interviews, conversations) or under cover of private communications (letters, diaries, and others)” (5). Among epitexts, which he also refers to as “distanced elements” (5), one might include not only interviews and conversations with the author, but, for instance, also reviews by critics or commercial texts written by publishers to promote the work, book readings and other promotional events, bestseller lists, and certainly also literary criticism. Paratexts then are the sum of epitexts and peritexts. Both kinds of paratext can be from the authors themselves or someone other than the author of the book. Situated on the brink between text and the reader, the function of the paratext is to mediate the respective text to the reader (Genette 5); they influence how texts are read and interpreted. Paratexts shape the messages sent and influence the meanings created by the main text; they have a strong impact on the reception of the story and its interpretation by the reader.

Paratexts also play an important role in biographical fiction. While the number of studies which deal exclusively or even intensively with the paratextual elements of biographical novels is still very limited,<sup>14</sup> scholars of biographical fiction or biofiction seem to agree that paratexts are essential when studying works of this kind for they all refer to it and use it in their analyses even if they do not make it the central focus point. There are different reasons why studying the paratexts in addition to the narrative text itself is important to my approach to the chosen biographical fictions. As I have pointed out earlier in this study, in biofiction the paratexts reveal the hybrid nature of the genre under discus-

---

14 Bethany Layne’s 2018 paper “Biofiction and the Paratext: Troubling Claims to Truth” is the only example I came across in my research. Her focus is placed merely on authorial statements in appendices to biographical novels such as author’s notes, acknowledgements sections, or afterwords.

sion, its status as products of both historical-biographical fact and creative invention and imagination. Authorial paratexts such as author's notes, afterwords, or acknowledgements sections are often used by writers of the genre under discussion to comment on "the marriage of fact and fiction" (Layne, "Biofiction and the Paratext" 20) in their respective works. They become an important discursive space in which authors discuss the relationship between the biographical record of the chosen person's life and the historical events and people surrounding their story as well as the artistic liberties the author took in recounting the respective life story in the novel. For reasons that might range from a mere wish of transparency and honesty towards readers to a strong desire of the reduction of accountability even a prevention of legal consequences such as libel action, authors of biographical novels oftentimes use the discursive space of the paratext to reveal the poetic license they have taken with the known facts of the chosen subject's life story. At times they also use this space to justify and legitimize the artistic liberties taken. They give detailed explanations, for instance, regarding the availability of historical evidence and their authorial intentions. In their respective discussion of the relationship between novelistic freedom and historical-biographical facts as well as in the revelation of the liberties they have taken with the life at hand, one can also often see the author's self-understanding as writers of fiction.

The paratexts of biographical novels are not only of interest because they provide space for negotiations of historical, verifiable, accepted fact and creative invention and imagination and thus help the reader see what is true and what is made up by the author. There is another aspect, namely that of authorial or novelistic intent, which is also often expressed within paratexts, especially author's notes or acknowledgements, sometimes also interviews or conversations with the writer that at times feature in the book itself. It is here that authors reveal their interest in the respective subject, the reasons why they chose to write about that person in the first place, and sometimes also what drives the biofictional account. Indeed, oftentimes, the paratext is an important site for novelists to discuss the motivation behind the writing of the respective biographical novel and "to clarify the nature of the relationship between the author and the subject" (Layne, "Biofiction and the Paratext" 19). In herstorical biofiction, paratexts function as vital spaces in which the authors express their "revisionist and often avowedly feminist aims" (Padmore and Gardiner 3). Many biographical novelists, those chosen for this study among them, use the paratextual elements to reveal to their readers the frequently decidedly feminist motivation behind the writing of the literary text at hand. It is here that they align themselves with previous research and the reception history of the person, where they disclose which literature they have read, whom they follow in their line of argumentation or whom they reject and thus where they situate themselves within the existing scholarly discourse surrounding women's history in general and her life story in particular. The paratext is thus also an important discursive space for revealing the feminist aims of the novels. Given my focus on the ways in which the author's motivations and intentions transfer into the story, paying close attention to the various paratextual elements surrounding the respective narrative, especially those written by the author herself, is central in the context of my study.

### 3 The Lives of Historical Female Scientists in Biographical Novels

#### 3.1 Fossils, Friendship, and a Fictional Love Story: Excavating Mary Anning, “The Greatest Fossilist the World Ever Knew,”<sup>15</sup> in Tracy Chevalier’s *Remarkable Creatures* (2009)<sup>16</sup>

“I have to beg your pardon for doubting your friendship [...] the world has used me so unkindly; I fear it has made me suspicious of all mankind.” Mary Anning in a letter to a friend written in 1833 (qtd. in Sharpe 74)

In previous centuries, women interested in participating in the male-dominated world of science often had to overcome great challenges to receive the necessary education and obtain the respective positions. Rarely have they done so all by themselves. Research into the lives of historical female scientists has shown that many women were only able to defeat the gendered restrictions, sexist prejudices, and discriminations they encountered because of the support, guidance, and encouragement they had received from others. Studies reveal that oftentimes women gained access to and acceptance in the sciences thanks to the assistance of more experienced, better-connected, and generally older male teachers, mentors, and colleagues. Many found these among male family members and friends. However, throughout history, women could also rely on each other in navigating their way into and operating within the male-oriented world of science. Looking at the history of geology and paleontology, which are the emerging scientific disciplines at the center of attention in this chapter, Aude Vincent defines “sorority” as an important strategy for women’s achievement in view of male opposition, patriarchal oppression, and gender-based restrictions (143-144). She discloses how female geologists and paleontologists had educated and mentored one another throughout the past, how they had cooperated with each other enabling one another to enter and participate in these male-only fields that sought to exclude women because of their sex (143-144). She also unveils how for many women these professional connections to other women had resulted in close and lifelong personal friendships with each other (143-144).

Mary Anning (1799-1847) of Lyme Regis would certainly not have become “the greatest fossilist the world ever knew” (Torrens 275) without the collaborative scientific partnerships as well as close personal friendships she was able to form and maintain with like-minded people throughout her life. Anning had made several momentous fossil discoveries of spectacular nature as well as enormous scientific value and historical significance, among them previously undiscovered pre-historic (marine) reptiles like ich-

---

15 Torrens 275.

16 I have published another paper on this novel: MÜLLER, CHRISTINE, “Women and Science in Tracy Chevalier’s Historical Novel *Remarkable Creatures* (2009),” published in *Contradiction Studies – Exploring the Field*, edited by Gisela Febel, Kerstin Knopf, and Martin Nonhoff, Springer VS, 2023, pp. 259-276. While a few overlaps with this chapter exist, the paper has a different focus.

thyosaurus, plesiosaurus, and pterosaurs (Davis 96, 115-120). As a provincial, impoverished working-class woman and by necessity largely self-taught amateur from a family of religious dissenters, Anning was severely disadvantaged in the world of early nineteenth-century science in which she attempted to partake. Not only her female gender but also her low social position, rural origins, lack of proper schooling as well as church affiliation made it highly unlikely for her ever to become a leading expert in the developing scientific disciplines of geology and paleontology. These were largely composed of educated, wealthy Anglican gentlemen living and working in the world's scientific capitals. Historians and biographers agree that it was especially in her fellow fossilist and friend Elizabeth Philpot (1780-1857), an upper-middle-class woman from a respectable London solicitor's family who was her senior by almost twenty years, that Anning had found an unlikely partner and champion who helped her tackle some of the obstacles that would otherwise have prevented her rise in science. While little is known about both women's lives, separate and together, the existing evidence indicates that despite severe differences in age, class, and education Anning and Philpot had upheld a "close and affectionate relationship" (Pierce 69) for much of their lives. According to the available sources, Philpot had been Anning's constant companion on her daily fossil finding forays along the beaches of Southern England's now famous Jurassic Coast (Emling 17). She had cooperated with her on dissecting, identifying, and describing the various specimens they found (Sharpe 50). Philpot's sex, too, had clearly limited the degree of her access to and involvement in the scientific circles of her day. Even so, surviving documents suggest that she had used her privileged social position, advanced educational level as well as her age-related experience to support her friend and colleague in every possible way. Historians and biographers often credit Philpot with having motivated and enabled Anning to study more seriously the scientific meaning of the fossils they unearthed (Emling 40, 65-66). Given her family background, societal influence as well as her own reputation as a well-regarded fossilist, it is also likely that she had provided Anning, who, unlike her, was dependent on the sale of specimens for her living, with contacts to scholars and fossil collectors and thus opportunities for business. Some have referred to Philpot as having been Anning's patron, after all (Turner, Burek, and Moody 116). Philpot appears to have given Anning financial assistance in moments of crisis, too (Sharpe 128-129). In view of the male dominance in the world of science at the time, as a fellow female fossilist, Philpot might also have offered Anning moral encouragement and guidance. Perhaps she had even functioned as a role model for the much younger Anning, though no one, surely not even Philpot herself, would deny that Anning was the more talented and successful fossilist.

Anning's life and achievements have become the subject of numerous biographical and historical studies in the last couple of decades. Unfortunately, the lack of reliable information about both their stories seems to have prevented a detailed examination of the connection between Anning and Philpot until now. The two women had lived in the same place and saw each other almost daily. Consequently, there is little written record of their relationship in the form of letters or the like. We know of their friendship and

collaboration mainly from their respective correspondence with other men and women in science; they would often mention each other in their letters to others, explains Anning biographer Tom Sharpe (50). In her biographical novel *Remarkable Creatures* (2009), American-born British novelist Tracy Chevalier supplements the little-known facts about Anning's story with creative invention to imaginatively explore precisely this aspect of her chosen heroine's biography that scholars have so far (necessarily) neglected and that can possibly otherwise not be reconstructed due to missing information and sources. At the center of attention in this herstorical biofiction is Anning's association with Philpot and the role their alliance might have played in Anning's maturation as a woman and a fossilist. Without doubt, Chevalier is the most prominent of the four novelists I am discussing in this study. She has made a name for herself as a writer of (female-centered) historical fiction with the international bestseller *Girl with a Pearl Earring* (1999), which was critically acclaimed and popularly successful, and which has been translated into several languages, and adapted for both the screen and the stage.<sup>17</sup> To date, it is still her most famous novel having sold over five million copies.<sup>18</sup> In *Remarkable Creatures*, Chevalier uses her fictional privileges as a novelist to envision some of the professional barriers and personal challenges Anning most likely faced as a young working-class girl and later woman venturing into the deeply stratified and highly sexist world of science in Georgian England. In doing so, the author proposes that her relationship to Philpot had not only facilitated but also permitted Anning's move from a small-scale local fossil hunter and dealer to a world-renowned geologist and paleontologist. In the novel, Elizabeth helps Mary realize her full potential as a fossilist by making her understand the economic value of her work and her findings and introducing her to scientific literature and methods. She also teaches her about the intellectual debates and existential questions raised by her fossil discoveries. Thus, she provides Mary (as well as the reader) with an idea of the various religious and (pseudo-)scientific theories circulating at the time about the (pre-)history of the Earth and the origins of life. Furthermore, by repeatedly speaking up on her friend and colleague's behalf, Elizabeth also saves Mary from exploitation at the hands of the male-dominated scientific establishment. For instance, Chevalier imagines Elizabeth to make sure that her protégée receives adequate payment and professional recognition for her work. Elizabeth also preserves Mary's reputation as a reliable and trustworthy fossil expert when, in a narrative dramatization of an actual historical event, she is accused of fraud by renowned French anatomist and zoologist Baron Georges de Cuvier (1769-1832), as Norbert Schaffeld points out ("Historical Science Novel" 181, for the actual historical event see for exam-

---

17 Both the film (2003) directed by Peter Webber and starring Scarlett Johansson and Colin Firth and the play (2008) written by David Joss Buckley bear the same title as the novel, that is *Girl with a Pearl Earring*.

18 Other novels written by Chevalier which focus on (women's) history include *The Virgin Blue* (1997), *Falling Angels* (2001), *The Lady and the Unicorn* (2003), *Burning Bright* (2007), *The Last Runaway* (2013), *At the Edge of the Orchard* (2016), and *A Single Thread* (2019).

ple Cadbury 103-105). Moreover, giving the traditional, hetero-normative trope of the 'damsel-in-distress-who-is-being-saved-by-prince-charming' a feminist spin, it is Elizabeth and not any of the male scientists occasionally appearing in the story who comes to Mary's rescue when she is buried in a landslide that nearly kills her. It seems almost ironic that in matters of the heart even Elizabeth is presented as powerless. She is unable to protect Mary from the pain and sorrow caused by an ill-fated and totally invented romantic interlude with a significantly older, rich philanthropist. In the story, both protagonists long for the experience of marriage and even become competitors for the attention and affection of the same man. The undocumented romance Chevalier envisions here threatens not only Mary's emotional well-being and her family's livelihood but also jeopardizes her friendship and collaboration with Elizabeth. It causes serious feelings of jealousy and even a decade-long falling out between the two fossilists. Nevertheless, they reconcile with each other and renew their friendship in the end, giving the novel a happy conclusion.

The goal of this chapter is to investigate Chevalier's fictionalized version of Anning's story from a gender-sensitive perspective while also considering the historical figure's biography and reception history. Unlike the other herstorical biofictions discussed in this volume, Chevalier's *Remarkable Creatures* has already received quite a substantial amount of academic attention throughout the last couple of years. The papers by John Glendening, Ann Heilmann, Norbert Schaffeld, Alexandra Cheira, Catherine Lanone, and myself can be taken as evidence here. The international renown that Chevalier has achieved due to her literary successes, especially *Girl with a Pearl Earring*, might go some way in explaining the noteworthy scholarly interest in *Remarkable Creatures* as well as its enormous press coverage. While research on the novel is wide-ranging, none of the existing studies has closely analyzed the ways in which Chevalier has chosen to reimagine Anning's life and achievements through the lens of biographical fiction. As in the chapters to follow, the central question guiding my examination of the literary text at hand is what image the present novel creates of the historical woman, her life story as well as her scientific abilities and accomplishments. I will pay special attention to the relational approach that Chevalier has adopted in her retelling of Anning's life, the focus that she places on her relationship with Elizabeth Philpot. The centrality of the friendship and collaboration between two scientifically inclined Englishwomen of different age, even generations, and diverging social, educational, and religious backgrounds has been highlighted by almost every reviewer of the novel (see for example the reviews by Ruth Padel for *The Guardian*, Katherine Bouton for *The New York Times*, or Kathleen Byrne for *The Globe and Mail*). However, so far, neither critics nor scholars have addressed the implications of this relational approach for the image created of Anning in the novel as well as the overall gender politics of this fact-based yet clearly fictional account of her life. As I will show in the upcoming pages, in retelling Anning's story by means of her relationship with Philpot, Chevalier addresses and appreciates an aspect of her chosen heroine's biography which has been rarely discussed by scholarly research so far, namely the kind of sisterly support and solidarity Anning had received

from like-minded women in science throughout her life. Additionally, the pairing of Mary with Elizabeth allows Chevalier also to highlight the remarkability and exceptionality of Anning's story in the context of the history of (women in) science. I mean the double odds of gender *and class* because of which she had suffered and despite which she had succeeded in the male-dominated world of early nineteenth-century geology and paleontology and eventually entered the annals of the scientific past in the present day. However, by means of this relational approach *Remarkable Creatures* also perpetuates, even reinforces, a rather problematic, if still dominant and highly stereotypical image of Anning, namely that of a "mere child making great discoveries" (Pierce 192). Furthermore, Chevalier's reliance on gendered clichés about female lives and women's relationships with each other as playing out in the fictional romantic subplot undermines the revisionist potential of this herstorical biofiction.

### 3.1.1 "I Am Well-Known Throughout the Whole of Europe"<sup>19</sup>: Mary Anning of Lyme Regis, an Unlikely and Unique Heroine in the History of Science

Like much of science history, the history of geology and paleontology, two now distinct disciplines which have been closely intertwined in their beginnings, has usually been told as a story of men-only. Recently conducted feminist research has revealed that several pioneering women have been actively involved in and made significant contributions to geological and paleontological research in previous centuries. Of the various women known today to have contributed to the emergence and development of the scientific discipline of geology and paleontology in early nineteenth-century Great Britain, Mary Anning has surely become the most celebrated example, as Larry Davis notes (101). Due to her gender and social class, Anning "belongs to the margins of scientific history" (Lanone 68). Nonetheless, in recent years, she has gained iconic status within both the scientific community and the wider cultural imagination as well as our collective memory about science in the past. For many, she has come to personify female engagement in geological and paleontological research (Kölbl-Ebert and Turner 207). In the last couple of decades, Anning's life and achievements have become the subject of numerous academic papers and discussions. In 1999, scholars and writers celebrated the bicentenary of her birth with an international conference entitled *Mary Anning and Her Times: The Discovery of British Paleontology, 1820–1850* (Tickell 321, Pascoe 144-145, Davis 96). Several biographical as well as fictional narratives have now told her story. There are at least five full-length biographies written about her: Rachel Lowton's *Mary Anning. Family and Friends* (1997), Thomas Goodhue's *Fossil Hunter: The Life and Times of Mary Anning (1799-1847)* (2004), Patricia Pierce's *Jurassic Mary: Mary Anning and the Primeval Monster* (2006), Shelley Emling's *The Fossil Hunter: Dinosaurs, Evolution, and the Woman Whose Discoveries Changed the World* (2009), and most recently Tom Sharpe's *The Fossil Woman: A Life of Mary Anning* (2020). In addition to Chevalier's *Remarkable Creatures*, fictionalized versions of Anning's life

---

19 Anning qtd. in Pascoe 162.

include Joan Thomas' biographical novel *Curiosity: A Love Story* (2010), and Karen Joy Fowler's short story "The Science of Herself" (2013). She is portrayed in Francis Lee's feature film *Ammonite* (2020), Sharon Sheehan's independent movie *Mary Anning and the Dinosaur Hunters* (2021) as well as Ian August's stage production *The Excavation of Mary Anning* (2017) (see Sharpe 160-161 for more examples). Perhaps because she made her first major discovery when she was only twelve years old, Anning has become an inspiring female role model especially for the young. She features in countless books for children and teenagers. Examples include Catherine Brighton's *The Fossil Girl* (2000), Don Brown's *Rare Treasure: Mary Anning and Her Remarkable Discoveries* (1999), Thomas Goodhue's *Curious Bones: Mary Anning and the Birth of Paleontology* (2002), Laurence Anholt's *Stone Girl, Bone Girl: The Story of Mary Anning* (2006), or Cheryl Blackford's *Fossil Hunter: How Mary Anning Changed the Science of Prehistoric Life* (2022) (for more examples see Davis 101 and Sharpe 159). In 2010, Anning had been elected among the ten "most influential women in British science history" (*The Royal Society*) by the world's oldest independent scientific academy, the Royal Society in London. Google commemorated her 215<sup>th</sup> birthday with a special doodle ("Mary Anning's 215<sup>th</sup> Birthday"). More recently, she had been shortlisted for the new fifty-pound note (*Bank of England*). Currently, she is in the media again for receiving a crowd-funded bronze statue (*Mary Anning Rocks*). All this clearly highlights her place among "the most important and popular figures in the history of geology" (*The Geological Society*) and her status as a modern-day feminist icon for women and especially girls in science. Thus, while "until recently it could be safely assumed that Mary Anning was the most famous person many of us had never heard of" (Sharpe 7), the chances of knowing of her have increased substantially due to the various ways in which she is commemorated.

Anning had impressed the scientific community of her time with her expert knowledge of fossils. Fossils are "the remains or traces of animals and plants preserved by natural processes" (Pierce xi). Anning was "a 'fossilist,' a finder and seller of fossils" which certainly was "an unusual occupation, especially for a woman," Sharpe explains (7). That her fossil expertise outclassed that of all her contemporaries seems to have been a fact beyond dispute. After visiting Lyme Regis in 1824, Lady Harriet Silvester wrote in her diary that Anning "had made herself so thoroughly acquainted with the science that the moment she finds any bones she knows to what tribe they belong" (qtd. in Sharpe 70). She continues by saying that "by reading and application she has arrived at that degree of knowledge as to be in the habit of writing and talking with professors and other clever men... and they all acknowledge she understands more of the science than anyone else in this kingdom" (qtd. in Sharpe 70, omission in original). Scottish mineralogist Thomas Allen also wrote about Anning. He points to the significance of her labors when he notes that "Mary Anning the Geologist of this Place is a very interesting persona, and the scientific are entirely indebted to her for the preservation of some of the finest remains of a former world that are known in Europe" (qtd. in Sharpe 70). He is astonished by her knowledge about fossils and her boldness in disagreeing with

one of the leading scientists of her day: “Mary Anning’s knowledge of the subject is quite surprising – she is perfectly acquainted with the anatomy of her subjects and her disputes of Buckland, whose anatomical science she holds in great contempt, was quite amusing” (qtd. in Sharpe 70). In addition to common ‘curiosities’ like ammonites, belemnites, and cephalopods, among others, Anning had unearthed some “marvelously exotic creatures” (Pascoe 140) from the cliffs of the Blue Lias. The Blue Lias is a fossil-rich area she was fortunate to be living in. Her most noteworthy findings are surely the first British ichthyosaurus (which she had spotted together with her brother Joseph), the first plesiosaurus (which Cuvier had accused her of having fabricated), and the first pterosaurs found outside of Germany (Davis 114-121).<sup>20</sup> Likewise significant but far less known are her discovery of the fish *dapedius*, the shark *hybodus*, and the primitive chimaera fish *squaloraja polyspondyla* as well as her revelation of the true nature of coprolites (which are fossil feces) and ink sacs in belemnites (Davis 114).

Anning’s fossil discoveries were not only of a spectacular and in the eyes of her contemporaries also strange nature – many of the specimens unearthed by her were several feet long and unlike anything that people had ever seen before. They were also of enormous scientific value and historical significance. When Anning was unearthing these ancient (marine) reptiles, most people still believed that the earth had been created in six days and that it was merely a couple of thousands of years old; they were convinced that species never changed or died out, Shelley Emling points out (xi-xii). Not having any living counterparts or descendants, Anning’s findings questioned the biblical story of the creation of the world and humankind by an almighty deity and thus the whole foundation of the Christian faith “turning our knowledge of life on earth on its head” (Sharpe 9). Her findings also laid the groundwork for the concepts of extinction and evolution which Charles Darwin (1809-1882) would later explain in his famous work *On the Origin of Species* (1859) (Emling 209). Anning’s fossils “served as the building blocks of the nascent geological sciences” (Pascoe 140-141). Her discoveries, Mary Creese and Thomas Creese note, “formed an extremely important contribution to the emerging fossil record on which Buckland, Conybeare, Henry de la Beche and other great figures of the ‘golden age’ of British geology based their new theories” (28). Stephen Jay Gould is convinced that the beginnings of British paleontology owe more to Anning than to any of the men of science who had studied and written about the specimens that she had found (16). Davis says that “although she did not provide paleontology with great manuscripts to which later workers could refer, she did reveal, to the learned men of the time, important fossils, which played a key role in the growth of paleontology as a scientific endeavor” (121-122). Many of Anning’s most spectacular findings are on display in the British Museum of Natural History today. Sharpe points to the specimens’ ongoing significance when he notes that current researchers still use

---

20 Many credit only Mary Anning with having discovered the first British ichthyosaurus. That it was her brother Joseph Anning who had spotted the skull first and shown where the rest of the body lay is a fact that has all too often been omitted from the historical narrative, as Davis explains (105-106, 115).

them (7). Despite the importance of her discoveries, it was not until the late twentieth century that her contributions were officially recognized, Davis explains (96).

The iconic status Anning has gained within both the academic world and the wider cultural imagination is not only due to her impressive and original scientific accomplishments and the pivotal role she had played as “a fossil collector extraordinaire” (Pascoe 140) in the early days of nineteenth-century British geology and paleontology. Even more than her groundbreaking fossil discoveries, it seems to be the inspirational nature of her remarkable personal journey, her overcoming of the double odds of gender and class, which holds the contemporary fascination of scholars and laypersons alike. That she began hunting fossils at a very young age and discovered her first major specimen when she was still a child and that she is said to have survived a lightning strike as a baby further adds to the literary, almost mythical quality of her story. Anning certainly stands out among her (female) contemporaries – not only because of her exceptional expertise but even more so because of her working-class background. “Her achievements were remarkable by any standards,” writes Patricia Pierce in her biography of Anning, “but especially so because she was born and bred in lowly circumstances from which there was little chance of escape” (xii). Emling notes in her Anning biography that “it wasn’t so much Mary’s fossil finds that intrigued me, but rather it was how this low-ranking woman had managed to make an incredible mark in such a male-dominated field” (xiii). During the early nineteenth century, geology and paleontology were not yet professional scientific disciplines but largely “a private interest for people with sufficient money, time and leisure to study, travel and publish,” Martina Kölbl-Ebert explains (“British and German” 157). The number of women involved remained relatively small compared to men, yet, “in these informal, non-professional surroundings, women were welcomed – within the restrictions of the social order – as fellow enthusiasts, often working alongside husbands or brothers, and also for non-relatives” (Kölbl-Ebert, “British and German” 157-158). Though it was believed that women lacked not only the physical constitution but also the intellectual capabilities to partake in serious scientific study, male geologists and paleontologists welcomed them, above all, as assistants (Burek and Higgs 2) or “amanuenses” (Kölbl-Ebert, “Ladies with Hammers” 55). Indeed, one of the most common ways in which women participated in the male-dominated world of nineteenth-century geology and paleontology was by assisting the gentlemen scientists who had often encouraged and employed the female members of their respective families, usually their wives, to support them in their scientific endeavors (Kölbl-Ebert, “Ladies with Hammers” 55, Creese and Creese 25-26). Mary Buckland (née Morland) (1797-1857), Mary Ann Mantell (née Woodhouse) (1795-1869), Mary Elizabeth Lyell (née Horner) (1808-1873), and Charlotte Murchison (née Hugonin) (1788-1869) are some of the most famous “wife-assistants” (Creese and Creese 25) known to have contributed to their husband’s work (Creese and Creese 25-26, Davis 98-99). They had accompanied them on their fieldtrips and assisted them in the collecting of specimens, often taking over tasks like sketching, illustrating, writing, cataloguing, preparing publications, and sometimes making central observations of their own (Creese and Creese

25-26, Davis 98-99). Davis highlights the importance of these women's achievements when he states, "Sir Roderick Murchison, one of the best-known of early British geologists, would likely never have reached his position of prominence in geology without the introduction to rocks, minerals, and fossils by Charlotte" (99). The silent and invisible amateur work of women thus often formed the basis for the public work of men (McEwan 216). There were also women like Etheldred Benett of Wilshire (1776-1845), Elizabeth Philpot (1780-1857) and her two sisters Mary (1777-1838) and Margaret (1786-1845), Maria Graham (1785-1842), and Barbara Rawdon-Hastings, the Marchioness of Hastings (née Yelverton) (1810-1858) who had worked independently of men (Creese and Creese 26-31, Davis 99-100). Though barred from membership in the scientific societies of the day, they had presented their findings to the learned men and sometimes even published their own research (Creese and Creese 26-31, Davis 99-100). However, women's forays into the world of science were only tolerated as long as their pursuits remained amateurish and domestic as the "public display of female creativity was beyond the invisible boundary of social conduct" (Kölbl-Ebert, "British and German" 162). While there were a few women engaged in geology and paleontology at the time who might have been accepted and appreciated by their fellow male scientists, Cynthia Burek and Bettie Higgs remind us that "society as a whole did not support the ambitions of women to follow their geological interests until the late 20<sup>th</sup> century" (2).

Like the various men who engaged in geological and paleontological study at the time, women known to have participated in these endeavors usually came from influential and important families of the higher ranks of society, the landed gentry or aristocracy (Davis 98). Within such families "an interest in geology and the collection of specimens was considered a fashionable enterprise as well as an acceptable topic for discussions at dinner parties and other social events" (Davis 99, cf. Kölbl-Ebert, "British and German" 157-158). Anning, by contrast, could not rely on the asset of a privileged birth or an intellectually nurturing environment to ease her way into the male-dominated world of science. She was born and bred in very different socio-economic circumstances. Anning had been a poor working-class woman with little formal education who came from a family of religious non-conformists; they were Congregationalists, dissenters of the established Church of England. Thus, she had been socially handicapped in every possible way, Crispin Tickell suggests (321). Nevertheless, she enjoyed one major advantage, Emling is convinced: "the very good fortune of having been born in exactly the right place at the right time, in 1799 in an unassuming English town called Lyme Regis alongside some of the most geologically unstable coastline in the world" (xii). Anning had learned to find, obtain, and prepare fossils from her father, a carpenter and cabinetmaker by trade with a serious passion for these long-extinct creatures. Richard Anning (1766-1810) had often taken his daughter as well as his son, Joseph (1796-1849), Anning's only surviving sibling, along when he went to the shore mining the beaches and cliffs of the popular seaside resort for curiosities (Torrens 257-258). To increase the impoverished family's income, he sold these to tourists visiting town in the summer months (Torrens 257-258). After his sudden death, which left the family in debt and caused great

financial difficulties for them, Mary Anning, who was eleven years old at the time, continued the lonely and dangerous as well as unpredictable work of hunting for fossils on her own (Goodhue 28). She became very successful. Creese and Creese refer to her “as one of the most notable collectors of the early nineteenth century” (28). According to them, “for more than thirty years she functioned as one of the most skillful and expert field workers in the country” (28). For Anning, finding fossils was not a welcome pastime, as it was for most other people who engaged in such endeavors. It was the basis of her life, a means of survival for her family. Because hunting and selling fossils had been a source of income for her, many refer to Anning today as the first *professional* woman (vertebrate) paleontologist in history (Berta and Turner 18).

Anning noted about herself once: “I am well known throughout the whole of Europe” (qtd. in Pascoe 162). She was not exaggerating. Locally, Anning had been famous since lightning had struck her as an infant which she had survived (Torrens 258). Her spectacular discoveries of ichthyosaurus, plesiosaurus, and pterosaurs made her an international celebrity. Not only curious tourists and wealthy amateur collectors but many of the prominent geologists of the day and founding fathers of paleontology such as William Buckland (1784-1856), Henry Thomas de la Beche (1796-1855), and William Conybeare (1787-1857) found their way to Lyme Regis (Emling 193). They sought to purchase her specimens or to accompany her upon the beach to learn how to find, unearth, and prepare fossils themselves (Emling 193). Despite her gender, social class, and limited education, “she confidently corresponded with some of the leading scientists in Europe” (Sharpe 7). Anning was evidently well-respected and well-trusted by the learned men of her time, many of whom she counted among her friends, for her talent in finding, excavating, and preparing these ‘remarkable creatures’ hidden in the Blue Lias formation of the English coast (Pierce 181, Davis 108). The endearing names they gave her show the admiration they had for her abilities and achievements: Ludwig Leichhardt (1813-1848) called her the ‘Princess of Paleontology’; Gideon Mantell (1790-1852) referred to her as ‘Geological Lioness’ (Davis 96). The high regard in which she was held becomes also perceptible in the funds they raised for her when, due to her worsening sickness (breast cancer), she was no longer able to hunt fossils (Torrens 269). It is likewise visible in the unprecedented obituary notice spoken by her friend and colleague, Anning’s “preeminent supporter” (Davis 110), de la Beche at the Geological Society upon her death:

I cannot close this notice of our losses by death without adverting to that of one, who though not placed among even the easier classes of society, but who had to earn her daily bread by her labour, yet contributed by her talents and untiring researches in no small degree to our knowledge of the great *Enalio-saurians*, and other forms of organic life entombed in the vicinity of Lyme Regis. Mary Anning was the daughter of Richard Anning, a cabinet-maker of that town, and was born in May, 1799. ... From her father, who appears to have been the first to collect and sell fossils in that neighbourhood, she learnt to search for and obtain them. Her future life was dedicated to this pursuit, by which she gained her livelihood; and there are those among us in this room who know well how to appreciate the skill she employed (from her knowledge of the various works as they appeared on the subject), in developing the remains of the many fine skeletons of *Ichthyo-*

*sauri* and *Plesiosaurs*, which without her care would never have presented to comparative anatomists in the uninjured form so desirable for their examinations. The talents and good conduct of Mary Anning made her many friends [...]. (Qtd. in Davis 113, omission and italics in original)

Though her fellow scientists had greatly admired her, there were some clear limitations to Anning's involvement in the world of nineteenth-century science. As a woman and someone from the working classes, she faced double marginalization because of her gender *and class*. Anning was not only denied a formal (scientific) education; she could not attend university – neither could women from the higher classes for that matter. Devoid of any formal training, the official institutions of science of her time excluded her (Lanone 69). She was not eligible to become a member of the prestigious Geological Society of London (Berta and Turner 20), not to mention participate in their academic discussions or even attend their meetings (Sharpe 160). While upper-class women could join lectures, this was not possible for someone from the lower ranks of society like Anning (Davis 98). Men of science would sometimes acknowledge women from the higher classes like Bennet in their publications (Davis 99). Anning, however, rarely obtained credit for the discoveries she made (Davis 101, Pascoe 141). As it was common at the time, her fossil discoveries were usually named after and presented to the world by the geologists or private collectors who had bought the specimens from her (Torrens 280-281). While “these men made their scientific names, in part, by buying, naming, and displaying Anning's finds” (Sheffield 74), she would come away empty-handed. Only Swiss naturalist Louis Agassiz (1807-1873) named two different species of fossil fish after her (Torrens 281-282). “Such acts of respect for women were unheard of among Mary's British colleagues. Every one of her own finds had been named after men,” writes Emling (169). Formal recognition of her contributions remained non-existent until a couple of decades ago (Davis 96). According to her friend and fellow fossilist Anna Maria Pinney (1812-1861), the lack of proper acknowledgement and her exclusion from the scientific community as well as the fact that she would never have financial stability like her male counterparts increasingly embittered Anning later in life. “She says the world has used her ill... These men of learning have sucked her brains, and made a great deal of publishing works, of which she furnished the contents, while she derived none of the advantages” (qtd. in Emling 150, omission in original).

The gender and class bias that led to Anning never receiving the recognition she deserved throughout her life also influenced her posthumous memory. While Anning is today considered “a figure of enormous historical significance” (Torrens 279) and while her life and achievements are celebrated and commemorated in the various ways outlined above, she had long been pushed to the margins of the traditional narrative of the scientific past despite the originality and importance of her discoveries. All too often, writers of history have omitted her name from the discussions of her findings and have pushed her to the appendices and footnotes, Creese and Creese note (28). Gould describes Anning as “probably the most important unsung (or inadequately sung) collecting force in the history of paleontology” (100). He is certainly right in pointing out that Anning, like most women in (science) history, had never achieved the professional

recognition nor the historiographical consideration she would have deserved for her outstanding achievements. Pascoe underlines the unfair treatment Anning had experienced at the hands of the scientific community of her day, the lack of credit she received from her male peers, and her neglect by those in charge of writing the scientific past when she refers to her as “the Rosalind Franklin of paleontology” (141). She explains this comparison as follows:

[j]ust as Franklin's crystallographic portraits enabled James Watson and Francis Crick to deduce the double helical structure of DNA, so Anning's fossil finds advanced the work of male scientists like Louis Agassiz and Gideon Mantell. And as Franklin's work went uncelebrated when her male colleagues went on to win the Nobel Prize, so Anning's contributions were, if not completely overlooked, only glancingly acknowledged. (141)

Though late in coming, with the amount of academic and public attention that Anning's life and accomplishments are receiving in the last couple of decades, not least thanks to a biographical novel like Chevalier's *Remarkable Creatures*, she is finally getting the kind of appreciation and acknowledgement she would have merited and had longed for during her lifetime.

### 3.1.2 “A Mere Child Making Great Discoveries”<sup>21</sup>? Mythologizing Her Story and Downplaying Her Abilities and Achievements

While the narrative of science in the past might not have completely ignored her, Anning has “been strangely served both by history and by those writing about her,” Torrens points out (279). The image of Anning many of us have today is a highly mythologized one. This has to do with the fact that Anning had been so famous in her own lifetime that she had been subject to much mythmaking. Her contemporaries saw her as much as a curiosity as the creatures she unearthed, Torrens explains (277). Thanks to the enormous press-coverage that her fossil discoveries received, “Anning was literally a legend in her own lifetime,” Sharpe notes (156). The mythmaking about Anning also has to do with the lack of information about her life, as Pierce suggests: “[w]hen there are gaps in knowledge, the vacuum can be filled with myth, especially in reference to a woman, and an unusual woman at that” (191). While present-day scholars do their best to separate legends from reality, even today some mystery still surrounds her story, Sharpe says (9).

A prominent strand of the Anning myth is the lightning strike which has served many writers as “the ur-story” (Pascoe 147) of Anning, the epiphany-like moment in which her extraordinary and, in the eyes of her contemporaries, unusual abilities were born. Anning's contemporaries saw her strange understanding of fossils, her outstanding skills in finding, unearthing, and preparing the remains of these prehistoric (marine) reptiles, as God-given. For them, there was apparently no other way to explain the existence of a young, impoverished, and largely unschooled working-class woman more competent in the field of fossils than most of the learned men in the country. Silvester had written in her diary in 1824, “[i]t is certainly a wonderful instance of divine favour

---

21 Pierce 190.

– that this poor, ignorant girl should be so blessed” (qtd. in Sharpe 70). That Anning had miraculously survived a lightning strike as a baby came in very handy for those looking for a supernatural explanation of her intelligence and capabilities. The lightning strike to a tree had killed the woman holding her (a woman from her town, not her mother) and two girls standing next to her, but it had left Anning miraculously unharmed (Torrens 285). She apparently only needed a bath of warm water to revive (Torrens 285). The legend says that the lightning strike had transformed her from a sickly and rather dull baby to a bright and lively child, Torrens points out (285). The explanation of her aptitudes and achievements by means of “a seemingly miraculous intervention in the guise of a natural phenomenon,” one “comparable to the popular scientific version of the catalyzing lightning strike that sparks life on the planet,” as Cynthia Sugars suggests (212-213), is not favorable to the image of Anning. It neglects and ignores the hard work that Anning herself as well as those around her, including many of her fellow men and women in geology and paleontology, had given to her training. Her father had taught Anning the craft of finding and selling fossils, Davis explains (103, 114). The myth constructed around her “preternatural intelligence and perception” (Sugars 206) would prove difficult to deconstruct over the centuries, however. Until today, the myth of the lightning strike as the supposed origin of her extraordinary talent in locating and excavating fossils is still “a staple of her legend” (Heilmann 105). It is especially popular and prominent in the many juvenile biographies written about her, Pascoe notes (147).

Another element of the Anning myth is the (over-)emphasis of the first ichthyosaurus she found when still a child. Studying the images historians, biographers, and writers of fiction have created of Anning throughout the last century and a half, Torrens notices “a strange, and to [him] sad, obsession with [her] earliest and infantile discoveries [...] which ignores her much more significant later discoveries” (270). Resulting from the strong focus placed on her early, infantile discoveries then is a problematic “*child-centred* view of Mary Anning that [still] comes down to us today” (Torrens 276, italics in original). Torrens is convinced that the origins of this puerile image of Anning lie with Anning’s first biographer, her contemporary and fellow Lyme resident George Roberts (1803-1860). In his *History of Lyme Regis* published in 1834, Roberts had dealt extensively with Anning’s first major fossil finding, the ichthyosaurus discovered in 1811 and 1812 respectively, but had failed to notice the many subsequent specimens she unearthed from the cliffs of the Jurassic Coast in the years to come (Torrens 270). Later writers, relying (too much) on Roberts, have continued this emphasis on the fossil she detected in her preteen years and the omission of her more significant later findings, Torrens laments (270). Even today, the first ichthyosaurus she discovered “holds a key place in the Anning legend,” Pascoe observes (164). Pierce agrees when she notes, “Anning’s childhood discovery of the *Ichthyosaurus* probably outshone almost everything else she accomplished, although there was much more to come of geological and paleontological value” (190-191, italics in original). The representation of Anning as “a mere child making great discoveries” (Pierce 190) continues to live on especially in the various books about Anning published for children and young adults. That the last cou-

ple of decades saw the publication of many such books (Sharpe counts over thirty, 159) has certainly contributed to the fact that Anning's cultural afterlife is still determined in significant ways by the image of her as "the ichthyosaur-discovering-twelve-year-old-girl" (Pascoe 147).

In the context of feminist efforts to provide girls with positive female role models, many women in the history of science have advanced to heroines for children and young adults. Studies testify to the need and the impact of endeavors like these (see for example Owens). Anning seems to be particularly suitable here, for she began to work as a fossilist and surely made some of her most spectacular discoveries when she was still a child. She might thus be a very relatable character for a young target group. Her strong presence in literature for the youngest members of society is certainly welcoming from the perspective of popularizing her story not only among children but also their parents who might in many cases be the ones purchasing and, depending on the child's age, the ones reading the stories to them. The "Anning child tale" (Sharpe 159) also raises a couple of issues, however. Within such narratives, her story is often presented in "oversimplified and romanticized" ways, Richard Ellis notes, the "uplifting Victorian tale of a young girl who discovered a 'crocodile' in the cliffs of Lyme Regis and sold it to an understanding gentleman just in time to save her family from the poorhouse" (69). While it does make sense to focus on Anning's early life in books aimed at a young audience, this child-centered view is problematic in representations of Anning for an adult reader- or viewership. Infantilizing women in science in the sense of treating and thus perceiving grown women as if they were "persons in need of protection, who need to be taken care of" is a still popular strategy used in depictions of female scientists, as Kerstin Bergman has shown in her study on representations of women in science (324). While in Bergman's sample of crime fiction with fictional characters, this gender-stereotypical infantilization of women does not necessarily serve the purpose of downplaying female expertise and experience in the male world of science, this problem clearly emerges in depictions of Anning, both past and sometimes present. Quoting a comical rhyme written by J.W. Preston in 1884, Pierce notes how the child-centered image of Anning often went hand in hand with a trivialization and downplaying of her abilities and achievements:

Miss Anning, as a child, ne'er passed  
A pin upon the ground  
But picked it up and so at last  
An Ichthyosaurus found. (Qtd. in Pierce 192)

The strong focus placed on Anning's juvenile achievements risks overshadowing her later achievements, and the importance and significance of her in science history, Sharpe says (159). This is especially problematic when considering that scholars are still disputing Anning's scientific legacy. Though historical evidence shows that Anning had been more than a mere hunter and seller of fossils, many still reduce her to these roles. What is sometimes still overlooked is that she was also a careful scientist who studied the fossils she unearthed and who made important observations about them which many

of the learned men of her time relied upon in their studies. She might thus be considered a scientist like any of the gentlemen she interacted with. Nevertheless, oftentimes we still find problematic presentations of her. In his work on the history of geology *Bursting the Limits of Time* (2005), paleontologist and historian of science Martin Rudwick gives the following assessment of Anning's achievements and abilities:

[A] woman of low social class and little education could become famous for her own collecting activities and make a modest living from such work: Mary Anning of Lyme Regis in southern England was celebrated among a later generation of savants for her skill in discovering the finest specimens of fossil reptiles, though she did not have the expertise to interpret them scientifically. (*Limits of Time* 35)

In his 2016 publication *Earth's Deep History*, he repeats this claim. He acknowledges that Anning had "an exceptionally sharp 'eye' or flair for finding fine fossils" (*Deep History* 138). However, he denies her any aptitudes that would go beyond that when he states that "modern heroic myth-making about her has obscured the fact that this enviable gift was, and is, rarely combined with the skills and knowledge needed to interpret the fossils scientifically once they were found" (*Deep History* 138). Anning scholars do not agree with such narrow and reductive evaluations of her competencies and contributions. It is true to say that Anning's contributions to the history of geology and paleontology were mainly those of a "collector and seller" of fossils (Davis 101). While seeking and vending fossils was her primary occupation and she eventually opened her own fossil shop at the age of twenty-seven (Davis 106), she was more than a diligent and able fossil hunter and dealer. Glendening points out that Anning's skills went far beyond "excavating, cleaning, assembling, mounting, and drawing" fossils: she also made "interferences about the character and lives of the creatures they represented" (32). According to Torrens, she was "both discoverer and creator" (270). Anning did not write and publish scientific papers on her own (Pierce 192, Davis 121-122). As a woman, a member of the working classes, and someone without any formal education, the scientific community of her time would also not have seen her as qualified to do so, Pierce reminds us (190). Her exclusion from official, written scientific discourse did not mean that she did not show any intellectual interest in her discoveries, however. According to Creese and Creese, Anning "was quite aware of the significance and importance of the specimens she was discovering" (29). She had worked hard to understand the meaning of her findings. Over the years and with the help of the men and women in science she knew, she developed a scientific understanding of the fossils she unearthed. According to Sharpe, her knowledge of fossils was "at least the equal of her academic male colleagues at Oxford and Cambridge" (42). Davis points out that she was familiar with the scientific literature of her day having transcribed many papers for her own private library (105). She even taught herself French to be able to read the works of Cuvier (Davis 105). While some still refer to her as having been illiterate, her surviving correspondence and journals clearly prove that she was "highly articulate and more than capable of expressing her thoughts and opinions in writing" (Noè et al. 369). Davis even attests her a "clear and direct style, which is relatively free of spelling and grammatical errors" (105). Pre-

sent-day scholars have suggested that Anning had entertained the wish to partake in scholarly thought herself. As evidence of her academic ambitions, they have referred to a comment she had apparently once made at the bottom of a paper transcribed from William Conybeare: annoyed by his many long prefaces, she wrote down that “when I write a paper there shall be but one preface” (qtd. in Sharpe 123). With her own scientific paper beyond reach, what Anning did contribute, however, are careful anatomical sketches and illustrations as well as important observations that many of the famous scientific men of the day relied upon in their own works and publications (Berta and Turner 18). Her drawings show “a sure grasp of scientific method” (Lanone 70). Sharpe credits Anning with an “expertise in preparing her specimens” that was matched by “her knowledge and understanding of their [the fossils] anatomy” (7). Such assessments are also made by others (see for example Pierce 195, Pascoe 152; Turner, Burek, and Moody 116). Thus, it is certainly correct to say that Anning, not least due to her class- and gender-related limited access to formal education, had pursued “a practical, hands-on kind of learning and research” (Pierce 18). Her approach to fossils was more intuitive and instinctual than book-learned. However, it was no less valuable for that, and it was greatly cherished by the scientific men and women of her time.

### 3.1.3 “How Can a Twenty-Five-Year-Old Middle-Class Lady Think of Friendship with a Young Working Girl?”<sup>22</sup> Chevalier's Relational Approach to Her Story

Retelling a period of about twenty years in Anning's sparsely-recorded life and revealing some of her long-neglected accomplishments, Chevalier's *Remarkable Creatures* forms part of the various attempts undertaken in recent years to save Anning from the “historical near-extinction” (Glendening 56) she had been victim to for much of the past. Unlike the other authors selected for this study, Chevalier abstains from stating the feminist motivation underlying her fictional account of Anning's story in form of a comment in the afterword or author's note, here postscript. Nevertheless, her revisionist agenda becomes perceptible in her critique of the lack of proper acknowledgement that Anning experienced during her lifetime as well as the consequent erasure from the scientific records and historiographical discourse she would continue to face long beyond that. In the novel, Chevalier dramatizes this critique in a fictitious scene. Mary's friend Elizabeth secretly attends a meeting of the Geological Society at which some of the leading scientists of the day discuss one of Mary's findings, the plesiosaurus. Elizabeth hides on the landing of the stairs, so that the members attending the meeting will not see her, as her gender does not permit her to sit in the room with the male geologists and paleontologists. From there, she overhears the following words spoken about her companion and colleague by the institution's incoming president, William Buckland:

‘I should just like to express my thanks to Miss Anning,’ he said, ‘who discovered and extracted this magnificent specimen. It is a shame it did not arrive in time for this illustrious and enlightening talk by Reverend Conybeare, but once it is installed here, Mem-

---

22 Chevalier 31.

bers and friends are welcome to inspect it. You will be amazed and delighted by this ground-breaking discovery.’ (Chevalier 307)

Elizabeth resignedly realizes that Mary’s female sex and her low social position will never allow her to receive the credit nor the place in cultural memory she deserves for her outstanding achievements and abilities: “That is all she will get, I thought: a scrap of thanks crowded out by far more talk of glory for beast and man. Her name will never be recorded in scientific journals and books but will be forgotten. So be it. A woman’s life is always a compromise” (Chevalier 307-308). In this moment of critical reflection about the gendered conditions of writing the past, the novel voices its subtle critique about the inequality of the sexes. Mary will remain an eternally obscure figure whereas the male scientists will become renowned because of her work and by consequence also written into the records of history. This secures their place in our cultural memory. Elizabeth’s utterance might be understood as a call for a changing idea of historical noteworthiness. Through Elizabeth’s comment, the author here addresses the wider issues of women’s historical dilution, of the erasure of women’s achievements by the traditional historical narrative (of science). With her novel, Chevalier participates in recent feminist-oriented endeavors of setting the record straight. Even though Anning has become the subject of numerous books and papers in the last couple of decades, many people remain unaware of her contributions to science and the important role she had played in the history of nineteenth-century geology and paleontology. With *Remarkable Creatures*, Chevalier brings long-overdue attention to her story and thus saves her from historical oblivion. Like a fossilist herself, she excavates Anning from underneath the rocks of male-focused science and history writing, bringing her from darkness to light and thus allowing her twenty-first-century readers to see Mary Anning as a ‘remarkable creature’ in her own right.

Set mainly in the small town of Lyme Regis on the South Coast of England at the beginning of the nineteenth century, between 1804 and 1824 to be precise, the literary text at hand is in essence a carefully researched and in many regards historically accurate biographical novel about the early life and times of Anning. It is a coming-of-age narrative which chronicles her growth from pre-teenage years to early adulthood illuminating a crucial if, as I will show in this chapter, overemphasized part of her still little-known story. However, while *Remarkable Creatures* is clearly marked and commonly discussed as a biographical novel about Anning, she is not the only protagonist in the presented story. As was discussed earlier in this study, her historical biofictions often employ a relational approach to the given subject’s life. In her novelistic account of Anning’s biography, Chevalier also decided to portray her chosen female figure in relation to another historical person, but there is a crucial difference to other biographical fictions of this kind. Frequently, the (love) relationship to a famous man is at the center of attention in female-focused relational biofictions (cf. Bird 5, Bergmann, “Historical Biofiction” 310-311, 320 and “Poe’s Shadow” 249). Here, the friendly and clearly non-sexual association with another scientific woman is at the heart of the given narrative. The novel foreshadows its female-centered focus on the book cover. This features a

beautiful image of two women in period dress on the beaches looking for something on the ground: fossils. For reasons I will outline in a moment, Chevalier decided to pair Anning's story with that of Elizabeth Philpot, her friend and a less well-known fossilist who had also been living in Lyme Regis at the time. While historians and biographers know almost nothing about the relationships that Anning upheld with people from her own class, for instance, people from her neighborhood or church community, existing correspondence shows that she had developed scientific partnerships and close personal friendships with many of the middle-class geologists and paleontologists with whom she had interacted on a regular basis (see for example Sharpe 42-53). Of the various relationships she is known to have built throughout her life, the one with Elizabeth Philpot is often understood as the most intimate and influential one (Sharpe 49-50). Though she had been significantly older and of higher social class, Philpot had been Anning's "'lifetime companion' and main collaborator" (Turner, Burek, and Moody 116). Together with her two sisters, Mary and Margaret, Elizabeth Philpot had taken up the hobby of fossil hunting and collecting sometime after their move to Lyme Regis in 1805 where they relocated to from London upon the death of their parents and would continue to live until their deaths (Sharpe 49). All three sisters had remained single for all their lives. With a subtle critique of the sexism inherent in the marriage market in pre-Victorian England, Chevalier speculates that the three sisters did neither have the pecuniary means nor the outer appearances and personalities to attract suitors (Chevalier 14). Other interpretations of their unmarried status are certainly possible. Bridget Hill notes that some women simply "had no inclinations and remained spinsters from choice" (5). This is especially true for those who sought to follow their own intellectual pursuits, she explains (81-93). I will return to the topic of marriage in the novel in the last subchapter. In any case, without the obligations and restrictions faced by married women (with children to care for, a family life to organize, and a household to run), the Philpot sisters had plenty of time to pursue the pastime of fossilizing. Over the years, the 'Misses Philpot,' as they were often referred to by their contemporaries, had put together a large and important fossil collection made up of hundreds of precisely labelled specimens, predominantly fossil fish (Creese and Creese 27, Davis 100). The private museum they had built up in their home was visited by many learned men at the time (Ogilvie and Harvey, "Philpot, Elizabeth" 1018, cf. also "Philpot, Mary" 1080 and "Philpot, Margaret" 1080). The Oxford University Museum of Natural History now houses their collection (Davis 100). The sisters were not only generously providing access to their fossil collection but also freely lending their specimens to scholars for research and publication (Sharpe 50). Of the Philpot sisters, Elizabeth is said to have been the one who had regularly corresponded with many of the leading male scientists of her day (Ogilvie and Harvey, "Philpot, Elizabeth" 1080). Though all three sisters had contributed to the extensive fossil collection they called their own, Elizabeth is the only one who has received some official credit by the male-dominated scientific establishment. In recognition of her notable services to science, Agassiz, having made considerable use of the Philpot Collection while preparing his five-volume work *Recherches sur les Poissons Fossiles* (1833-44), named

a species of fossil fish after her, the *Eugnathus philpotia* (Creese and Creese 27, Davis 100). Buckland often referred to Elizabeth in his work (Creese and Creese 27). While all three sisters had befriended Anning and cooperated with and supported her in her fossilizing activities, Elizabeth apparently upheld the closest relationship to her (Sharpe 49-50). In *Remarkable Creatures*, only Elizabeth develops an interest in fossils and joins Mary on her fossil hunts along the beach. Her sisters Mary (who is called Louise in the novel, possibly to distinguish her from the other Mary in the story) and Margaret opt for the in the eyes of their society more appropriately feminine hobbies of gardening and dancing at balls as well as card playing thus leaving the “unladylike pursuit” (Chevalier 26) of fossil hunting and collecting to Elizabeth. Of Philpot’s life, there are even fewer records than of Anning’s. While Anning biographies and other studies dealing with the history of women in nineteenth-century geology and paleontology often mention her, she and her fossilist sisters have so far not received their own comprehensive study.<sup>23</sup> The scarcity of information about Philpot’s life felt extremely liberating to Chevalier as she could use her story in ways that she believed she could not use Anning’s:

I wanted Anning to have been present at the big Linnean Society meeting in London where her fossils were presented to the scientists. But she could not have been: we know she only went to London once, and that was later. So I decided to sneak her friend Elizabeth Philpot into that meeting instead. We have no idea whether or not Philpot was there in real life, so I felt I could make her do what Mary could not. (Qtd. in Rohn 172)

Hence, Chevalier’s novel intertwines the story of Mary’s coming-of-age with the intriguing tale of her friendship and scientific partnership with Elizabeth who becomes a second protagonist in the story taking over the genre-typical and historically verifiable role of a mentor and advocate. Indeed, she functions as a kind of motherly orientation figure who accompanies and advises the young working-class girl in her personal development and professional growth and who assures her of her abilities and professional worth. Female mentors and orientation figures are quite common in the genre of the feminist bildungsroman, as Andrea Gutenberg points out (177-178). With *Remarkable Creatures*, Chevalier thus sheds light on the story of not one but two long-lost women in the history of science. The novel is what Ina Bergmann refers to as ‘double historical biofiction,’ e.g., biofictional narratives that feature two or multiple protagonists not privileging one over the other (*New Historical Fiction* 158). In pairing her chosen protagonist with another woman and not with a man, as other Anning biofictions have done,<sup>24</sup>

---

23 The only exception is J.M. Edmonds’ longer piece “The Fossil Collection of the Misses Philpot of Lyme Regis” which appeared in *Proceedings of the Dorset Natural Historical and Archeological Society* (1978).

24 Chevalier’s *Remarkable Creatures* is not the only fictional reimagining of Anning’s life that focuses on her relationship with another woman. Francis Lee’s feature film *Ammonite* (2020) adopts a similar approach to Chevalier’s, even though the biopic concentrates on Anning’s friendship and collaboration with another female fossilist and on a later period of Anning’s life story. The movie is set in the 1840s and shows Anning in the role of a mentor rather than a mentee thus carefully avoiding the child-centered view that scholars like Torrens have criticized. A more traditional, heterosexual approach is undertaken by

Chevalier neatly circumvents the often-criticized “spotlight approach” of biography (Stanley 214). She also evades the danger of a potential re-marginalization inherent to depictions of male-female-relationships (cf. Ní Dhúill, *Metabiography* 193-194). However, Chevalier, too, does not abstain from using her fictional privileges to include a heteronormative romance in her narrative of female friendship and collaboration, as I will discuss later.

*Remarkable Creatures*' gynocentric approach to the male-oriented history of early nineteenth-century geology and paleontology manifests in the focus it places on the strong bond among two long-neglected women fossilists and its subsequent marginalization if not outright exclusion of the various well-known gentlemen scientists who had dominated the traditional historical narrative of science for much of the past. Several ‘great men’ in the history of early nineteenth-century geology and paleontology feature as fictional characters in this herstorical biofiction – Buckland, de la Beche, Birch, and Lyell, among others. Chevalier pushes these eminent men of science to the periphery of the presented story allowing them to make only an occasional and mostly brief appearance. They also generally leave a not too good impression on the protagonists and thus on the reader. Moreover, everything we learn about them, we know through the women's perspectives. They do not get the chance to speak for themselves, and it is only in dialogue that we hear their voices – if at all. This biofictional treatment of the distinguished men of science, their relative obscurity in favor of the chosen women's centralization and clear visibility, underlines the historical revisionism the novel aims for.

The novel's feminist agenda becomes also perceptible in the choice the author makes regarding narrative situation. *Remarkable Creatures* features not only two protagonists but it is also told from two different viewpoints and with two distinct voices. In fact, the biographical novel's duality, its relationality, is visible not only on the level of characters (story) but also of narration (discours). In *Remarkable Creatures*, Chevalier uses her artistic privileges as a novelist to “redistribute narrative power” (Cooper and Short 14) and fictionally “restore voice to the historically voiceless” (Kohlke 10), allowing her female protagonists to tell their own stories from their supposedly own first-person point of views in alternating chapters. Scientific drawings representing each woman's specialty at the beginning of each chapter give a clear hint as to who is speaking, as Lanone observes (72). An ammonite drawing marks the chapters told by Mary, whereas chapters narrated by Elizabeth start with the drawing of a fossil fish (Lanone 72). The reader comes to realize the respective auto-diegetic narrator also by means of the language used. In imaginatively reconstructing their respective perspectives and individual voices, Chevalier pays close attention to the unlike “social, educational, and linguistic positioning of the protagonists,” Schaffeld notes (“Historical Science Novel” 179-180). As a rural and little-educated working-class woman, Mary is very bright and quick-witted yet clearly limited and rather intuitive and instinctive in her knowledge.

---

Joan Thomas in her biographical novel *Curiosity: A Love Story* (2010), which also employs a dual narrative focus and fictionally explores Anning's often-debated yet historically non-verifiable love relationship with her friend and colleague Henry de la Beche.

The language she uses is colloquial and tinted with a clear working-class accent. She is also presented as rather naïve and immature due to her young age and little experience in the world. The socially elevated, better educated, and due to her older age more experienced and wiser Londoner Elizabeth, by contrast, is very intellectual, rational, and self-reflective. She speaks eloquently and in proper and polished English. Occasionally, she acts rather patronizing and overprotective, however, sometimes also presumptuous, especially towards Mary and her lower-class family. This is problematic as it reiterates the child-like image of Mary, as I will show in a moment. Problematic is also the way in which the author justifies her dual narrative focus in the novel. Chevalier is convinced that given Anning's background and resulting level of education she needed a more informed second point of view to capture adequately the different reactions the discovery of (Anning's) fossils triggered in the pre-Darwinian society of early nineteenth-century England. Philpot came in handy in this regard. In an interview, the author explains the pairing of Anning and Philpot's stories with the social restrictions which had determined her chosen heroine's life and the impact they had on her perception of what happened around her, especially regarding the intellectual debates and existential questions raised by the remarkable creatures she unearthed. Chevalier says:

[m]y latest book, *Remarkable Creatures*, is particularly about a woman named Mary Anning, the fossil hunter, but I knew I wanted there to be a different perspective. Mary was not educated, she didn't travel, and I felt like we as twenty-first-century readers need a broader view. Also, in religious terms, there were people who saw fossils as a challenge to their ideas about religion, and I wanted to be able to present both sides: people who felt, God created fossils and it didn't affect their religious beliefs; and those whom fossils did challenge. [...] I found out that Mary had this friend who was a middle-class woman twenty years her senior, named Elizabeth Philpot. It made perfect sense to have the two of them tell the story and get a more complete picture. (Qtd. in Librie)

The ostensible need to add a more informed second voice and perspective to the story is Chevalier's motivation for the use of a relational approach in *Remarkable Creatures*. That the very restrictions Anning faced in her time and place due to her gender, social class, and lack of proper education do not make her qualify (for Chevalier) as the sole protagonist of her own story in this fictional account of her life is certainly ironic. Thus, Elizabeth functions not only as a kind of maternal orientation figure for Mary. Chevalier has also intended her as a figure of sympathy for the contemporary readership, someone whose thoughts and feelings might resonate more with modern-day (and middle-class) audiences than Mary's could have due to the limiting circumstances of her existence. That Elizabeth is meant to be an identification figure for the reader becomes also clear in the ways in which she guides our sympathies with the various characters appearing. Elizabeth classifies people according to which of their features they lead with: "Mary Anning leads with her eyes. That was clear even the first time we met, when she was but a girl" (Chevalier 13). The author uses the leitmotif to direct the reader's sympathy towards certain characters and create suspicion of others, above all, the various male scientist figures in the story, like Birch: "I have never trusted a man who leads with his hair. Only a vain and overconfident man does that" (Chevalier 183).

By means of the women-centered relational approach Chevalier illuminates an aspect of her chosen subject's biography that scholarship has rarely discussed so far: the important role that friendship and collaboration with like-minded and generally older, more experienced, and better-connected women in science had played in Anning's life and for the development of her scientific abilities and achievements. Ann Heilmann suggests that Elizabeth is representative of the various women that had supported, encouraged, and guided Anning in her scientific pursuits (106).<sup>25</sup> The main drama of the novel revolves around Mary's journey into the male-dominated world of science, her struggle for scientific participation as well as for acceptance and acknowledgement by her chauvinistic male peers and the official institutions and societies they stand for. That at a very young age Mary meets the older middle-class woman Elizabeth, who takes her under her wing, is central to her eventual progression from a minor local fossil hunter and dealer to an internationally renowned fossilist. Like in historical-biographical scholarship, Mary's father is credited in the novel with having inspired her love of fossils and with having trained her carefully and diligently in the art of finding, excavating, and preparing them. Elizabeth then is the one who helps Mary succeed in science; she enables and encourages her to become a learned geologist and paleontologist. The novel begins with the Philpot sisters' relocation to Lyme Regis and Elizabeth's soon-to-follow first encounter with Mary, then still a child. Mary immediately fascinates Elizabeth:

How can a twenty-five-year-old middle-class lady think of friendship with a young working girl? Yet, even then, there was something about her that drew me in. We shared an interest in fossils, of course, but it was more than that. Even when she was just a girl, Mary led with her eyes, and I wanted to learn how to do so myself. (Chevalier 31)

Despite their different ages as well as social, educational, and religious backgrounds and the unseemliness of such a connection in the eyes of their contemporaries, the two female protagonists quickly form a close friendship and scientific partnership with each other. Their association is based not only on their mutual passion for fossils but also on their shared experience of being perceived as outsiders in the respective societies they live in. With their fossil hunting and collecting activities, the two protagonists embrace a rather unconventional lifestyle, especially for women. They are excluded from the scientific community of their day because of their gender and in Mary's case also her social class and eyed suspiciously by their respective communities for their interest in "the remains of creatures" (Chevalier 26). A passion for fossils it not reconcilable with patriarchal concepts of femininity – regardless of class. Elizabeth challenges the societal conventions of her time with the "peculiar pleasure" (Chevalier 26) of fossils she chooses to fill her days with in the little seaside resort of Lyme Regis with its restricted social life – something that she is aware of: "at the time few women took an interest in fossils. It was seen as an *unladylike* pursuit, dirty and mysterious. I didn't mind. There

---

25 Other women known to have supported Anning are Charlotte Murchison and Mary Buckland, among others. In his biography, Sharpe provides a detailed list of Anning's contacts and relationships, among them the various scientific women Anning had been acquainted or even befriended with (42-53).

was no one I wanted to impress with my *femininity*” (Chevalier 26, italics mine). By means of the featured discussions between Elizabeth and Lord Henley, the novel shows that fossils were indeed “an acceptable topic for discussions at dinner parties and other social events” (Davis 99) of polite society. However, most non-scientific characters in the novel, including her own sisters, are rather disinterested if not outright disgusted with Elizabeth’s increasing obsession with fossils, which clearly emphasizes the particularity of her chosen pastime in terms of traditional gender role expectations. For members of the working classes hunting and selling fossils was an unusual occupation, too, and Mary is clearly presented as an outcast. The novel highlights the unusualness of her interest in fossils when comparing Mary with her working-class friend Fanny Miller, who is afraid of fossils though she too has the ‘eye’ for locating them. While being “the lightning girl” (Chevalier 33) makes Mary exceptional in the eyes of her society, not only the family’s religious orientation, but the father’s side income of fossil hunting further marginalizes the already socially disadvantaged family, which lives tellingly “at the bottom of the town” (Chevalier 27). Mary knows that “[o]ur family weren’t popular in Lyme, for people thought Pa’s interest in fossils odd. Even Mam did, though she would defend him if she heard talk about him at the Shambles or outside Chapel” (Chevalier 64). That her father goes hunting fossils on Sundays during Church services further scandalizes the family in the eyes of their community.

Mary and Elizabeth pursue the activity of fossil hunting and collecting on the beaches of Lyme Regis empowered by their uncommon friendship. Elizabeth’s interest in the friendship and collaboration with Mary is not altruistic in nature. Since the beach “was not considered a place for a lady to be out on her own, not even by independent Lyme standards” (Chevalier 38), she greatly values the company of a “kindred spirit” (Woods). In the lonely occupation of fossil hunting, Mary’s “presence near by, bent over the ground, scrabbling in the mud or splitting open rocks, [is] a familiar comfort” to her (Chevalier 266). She also appreciates her familiarity with the local surroundings and the feeling of security that she provides her with:

[...] though I didn’t tell her, I was more at ease when she was with me, for I worried about the tide cutting me off. Mary had no fear of that, for she had a natural feel for the tides that I never really learned. [...] While I consulted tide tables in our almanac before going out on the beach, Mary always knew what the tide was doing, coming in or going out, any given time. (Chevalier 37-38)

In a way, Mary is also a teacher for Elizabeth as Elizabeth learns valuable lessons from Mary. For instance, “how the sea sorts stones of similar sizes into bands along the shore, and which band you might find what fossils in; how to spot vertical cracks in the cliff face that warn of a possible landslip; where to access the cliff walks we could use if the tide did cut us off” (Chevalier 38). Though she has some initial reservations about “the idea of a child teaching [her] how to do something” (Chevalier 37), she comes to appreciate her young companion’s expertise in finding fossils. While for Elizabeth, their relationship means companionship and the securing of appropriateness, for Mary the relationship to Elizabeth opens the world of science to her. When Elizabeth meets her,

Mary is a curious, illiterate child with a 'sharp eye' and self-taught, experience-based knowledge of fossils. Elizabeth encourages her companion to learn how to read and write at Sunday school. She also introduces her to scientific knowledge, and it is through her that Mary gains access to academic literature for the first time, any literature at all for that matter, apart from the Bible. Elizabeth also teaches her the methods of a scholar: "Don't forget to write down where you found it, which layer of rock and the date. It is important to record it," she reminds Mary (Chevalier 68). It is through Elizabeth that Mary comes to know the scientific theories surrounding the fossils they unearth. When Mary finds her first ichthyosaurus, Elizabeth lends the family money so they can hire local quarrymen to extract the fossil, as Mary and her brother are not able to do so on their own given the enormous size of the specimen. She reassures her to continue the fossil business on her own after her father's death when her brother Joseph chooses the more stable indoor life of an upholsterer ensuring her that she is more than capable of hunting on her own. For Mary, Elizabeth also facilitates her encounters with the leading geologists and paleontologists and wealthy fossil collectors who, shortly after her first major discovery, the ichthyosaurus, come to Lyme Regis a-flocking and clamor to meet her in person: "I had never been in the company of educated gentlemen. Sometimes Miss Elizabeth come with us, and that made it easier for me, for she was older and of their class, and could go between as needed" (Chevalier 139). Both Mary and Elizabeth try to find their place in science and society, a place in between society's expectations of women and their personal liberation, and Chevalier suggests that their friendship helps them carve out a space for themselves in this male-dominated world of early nineteenth-century science. Their relationship functions as a kind of sanctuary for both women, a safe space that offers them a possibility for intellectual exchange, emotional and moral support, and guidance. With *Remarkable Creatures*, Chevalier does not only challenge the still prevailing popular perception that female scientists, if they existed at all in earlier centuries, were unique exceptions to the rule, "lonely heroines," to borrow Eva Flicker's term here (315-316), who were surrounded only by men and who had to 'make it on their own.' By portraying another woman as the one guiding the heroine through the various challenges she faces venturing into the male-dominated world of early nineteenth-century science, Chevalier also emphasizes a vital part of the female experience in science history. I mean the kind of sisterly support and solidarity that scientifically inclined women had provided for each other in view of male opposition and gender-based restrictions, the networks, and communities they had built to support one another intellectually, emotionally, and morally, which is a long-hidden aspect in the history of women in science only coming to light in recent years. Studies like Helena M. Pycior, Nancy G. Slack, and Pnina G. Abir-Am's *Creative Couples in the Sciences* (1996) or Annette Lykknes, Donald L. Opitz, and Brigitte Van Tiggelen's *For Better or For Worse? Collaborative Couples in the Sciences* (2012) have closely analyzed the ways in which relationships to men, especially marital research collaborations, have offered women avenues into the sciences. However, so far, scholars have not explored in any detailed manner the alliances that scientifically inclined women had provided for

each other throughout the past. One possible explanation for this is that patriarchal culture has long devalued and trivialized female relationships; it was a long-dominant belief that women did simply not possess the ability to form rich and meaningful connections with each other. Throughout history, “friendship has been a male preserve,” Joan Chittister notes (xiv). By consequence, scholarly attention had long concentrated on relationships among men. In recent years, spurred on by a new feminist-motivated interest in women’s lives and the female experience of the past as well as an emphasis on the concept of sisterhood, academics have begun to reveal the close and powerful bonds that women had formed with each other. With studies like *Female Alliances: Gender, Identity, and Friendship in Early Modern Britain* (2014) by Amanda E. Herbert or *The Social Sex: A History of Female Friendship* (2015) by Marilyn Yalom and Theresa Donovan Brown, they have begun to reestablish the significance and vitality of women’s friendships and communities at various points throughout history. Focusing on the bond between two women, *Remarkable Creatures* emphasizes female friendship and the kind of support women provided for each other to subsist and succeed in the male(-connoted) world of science in previous centuries. In doing so, the author revalues women’s relationships as an important aspect of the female experience of the scientific past.

Furthermore, the pairing of the two women’s stories allows Chevalier to highlight the remarkability and exceptionality of Anning’s story in the context of the history of (women in) nineteenth-century geology and paleontology. Elizabeth might be seen as a contrasting figure through which the novel emphasizes Mary’s incredible personal journey, the ways in which she struggled and succeeded against the double odds of gender *and class* and the educational and economic limitations and disadvantages these entailed. Chevalier’s narrative text traces the two historic women’s contributions to the developing fields of geology and paleontology without omitting the obstacles and barriers they encountered in a society based upon patriarchal ideology and a scientific community that understood itself as “a world without women” (Noble). Through the novel’s focus on Elizabeth’s association with and support of her, it becomes clear that Mary was doubly disadvantaged in the world of early nineteenth-century science: by her gender and her social status. While both women suffer under the oppression of patriarchy, the novel is keen to portray the class-related differences that mark the women’s gendered experiences in Regency England. These become apparent for instance in the very different motivations and prerequisites they have for engaging with fossils. In the absence of a husband and children, upper-middle class lady Elizabeth hunts and collects fossils as a pastime to fill her days in the small town of Lyme Regis with its restricted social life: “it is so tedious being a lady sometimes,” she notes (Chevalier 26). While Mary shares Elizabeth’s interest in fossils, to her fossil hunting and collecting is not “a peculiar pleasure” (Chevalier 26) but a means of survival. Mary’s lower-class family depends on her fossil findings for their living. Unlike Elizabeth, she does not keep them but must sell them to tourists and scientists to supplement the family’s income and, after the sudden death of her father, save them from the workhouse. Over time, Elizabeth develops an academic interest in the fossils, much to the dismay of her sisters, her family, and

wider society. She has access to research literature and a lot of time to devote to the study of specimens. Mary, by contrast, because of her social standing, has a purely economic motivation to hunt fossils. To her, "a good specimen [...] meant a good price" (Chevalier 36). She does not have the time to study them; nor would she have access to literature and scientific knowledge without Elizabeth. The class-specific differences between the protagonists also manifest in the unlike experiences they make with the male- and middle-class-dominated science system. Elizabeth is clearly constrained by gender limitations. However, compared to Mary, she enjoys certain privileges due to her social class and educational background. She grows up in an intellectually nurturing environment, she has access to a cultural life. Chevalier shows that Elizabeth's upper middle-class background gained her more acceptance and respect by the scientific men of the day. In a conversation with Elizabeth's brother, Buckland openly admires and acknowledges her abilities: "'Did you know, sir, that your sister knows more about fossil fish than just about anyone? What a clever creature she is. Even Cuvier could learn from her!'" (Chevalier 226). As long as her ambitions remain amateurish, she is welcomed as a fellow enthusiast. While her knowledge of fossils is substantial and often exceeding that of the men, as a woman she also faces belittlement: "What a clever little lady you are," notes Henley dismissively in a conversation with her about fossils (Chevalier 44). Her participation has clear limitations. As a woman she does not really belong, but is confined to her home and to the role of passive observer of men's scientific explorations:

We label the specimens, recording where and when we found them, and display them in cases with glass tops. We study them and compare specimens, and we draw conclusions. The men write up their theories and publish them in journals, which I read but may not contribute to myself. (Chevalier 116)

Elizabeth realizes the territorial discrimination of women in the male-dominated world of science when she tries to enter the building of the Geological Society in London and is denied access by the doorman: "'Women are not allowed in the Society,' he replied, not even glancing at me" (Chevalier 295). It becomes clear that Mary, although she is the clearly more talented fossil hunter, has a much harder time gaining a foothold in the world of science. While Elizabeth enjoys some kind of acknowledgement and is easier going with the various men of science who are of her own class and who seemingly accept her, Mary is prohibited from partaking in any scholarly discussion even though her knowledge of fossils outclasses that of all. "Learned men were discussing it at meetings and writing about it, and Mary was excluded from their activity. She was relied upon to find the specimens, but not to take part in studying them," Elizabeth notes (Chevalier 181). Mary soon finds herself in the rather odd situation of leading male geologists and paleontologists along the beach teaching them how to look for and excavate fossils. While scientists come to her to learn from her and join her in searching for fossils, she is clearly an outcast because of her working-class background and her lack of formal education: "They treated me as little more than a knowledgeable servant" (Chevalier 181). Mary does not seem unhappy about this, however, but rather welcomes it, as it "was a part [she] could play easily enough" (Chevalier 139) which hints at her

working-class background. The class-related differences in the treatment and perception of the two women also emerges in the behavior that the scientists show them, for instance in the recognition they give for their scientific achievements. Elizabeth's fossil which she donates to the museum is correctly referred to as found by Philpot, even if the question of her sex is neatly sidestepped through the omission of her first name as a marker of her female identity. By contrast, Mary's fossil is credited to the man who bought it from her. Linking the life stories of Mary and Elizabeth allows the author to point to both the sexism and the classism of the social and scientific system of the time. Through its focus on women from different socio-economic backgrounds, *Remarkable Creatures* illuminates how multiple forms of oppression intersect with one another. Thus, by means of its relational approach, *Remarkable Creatures* sheds light on a little-known aspect of Anning's biography and emphasizes her remarkability and exceptionality in the context of the history of women in science. However, the image the novel creates of Anning by means of this female-centered relational approach is familiar and corresponds to the stereotypical representation of her life in other accounts, as I will show now.

### 3.1.4 “[Are] You the Lightning Girl?”<sup>26</sup> Perpetuating the ‘Anning Child Tale’

As I have pointed out earlier in this chapter, writers past and present have often attached a mythic quality to Anning's story, one strand deriving from the lightning strike Anning had survived as an infant and the other from her first major discovery, the ichthyosaurus she had found when still a child. *Remarkable Creatures* features the event of the lightning strike or rather Mary's supposed memory thereof in what appears to be a kind of prologue for the story:

Lightning has struck me all my life. Just once was it real. I shouldn't remember it, for I was little more than a baby. But I do remember it. [...] The lightning killed the woman next to me and two others, but I survived [...] They say I was a quiet, sickly child before the storm, but after it grew up lively and alert. I cannot say if they are right, but the memory of that lightning still runs through me like a shiver. It marks powerful moments in my life. (Chevalier 9-10)

Analogous to Elizabeth's leitmotif mentioned earlier, the lightning functions as a leitmotif for Mary. Each time she finds a key fossil, she remembers the lightning, turning back to the beginning of her life and this story (she also feels it in other powerful moments, for instance, when she falls in love or when she reunites with Elizabeth after their falling-out). Mary believes that she owes her singular gift, her ‘eye’ for finding fossils, to the lightning strike that she survived as a baby – so does her mother: “My Mary always finds things. She's special like that – always has been, since she was struck by lightning” (Chevalier 104). While especially the lower-class people in the novel believe in the connection between the lightning strike and Mary's talent, Chevalier's Mary does not rely on divine providence for her scientific abilities and unique knowledge of fossils

---

26 Chevalier 33.

though. The novel suggests that in addition to a natural intelligence and curiosity she possess, it had been the careful training by her father, which had enabled her to become “the greatest fossilist the world ever knew” (Torrens 257). As Mary points out:

I don't remember there ever being a time when I weren't out upon beach. [...] I was always looking for curies, for as long as I can recall. Pa took me out and showed me where to look, said what they were – verteberries, Devil's toe nails, St Hilda's snakes, bezoars, thunderbolts, sea lilies. Before long I could hunt on my own. (Chevalier 59-60)

Given its focus on Mary's coming-of-age, her move from childhood to adulthood, Chevalier's *Remarkable Creatures* contributes to the perpetuation of the child-centered view of Anning noted earlier. *Remarkable Creatures* is directed to an adult (female) readership, something that might be guessed from the novel's make-up and marketing. However, it, too, focuses merely on Anning's early life and her juvenile discoveries. Like other Anning stories, for instance, Thomas' biographical novel or the many children's and young adults' books written about her, it excludes everything that came thereafter. Anning's interesting and tragic later years are relegated to a couple of concluding sentences in the postscript. The important fossil discoveries she made later, most significantly perhaps her detection of the true nature of coprolites and ink sacs in belemnites (Davis 114), are not even mentioned here. Chevalier hints at the different roles that Mary performed, that she was not only a hunter of fossils but also grew into a buyer and dealer of fossils. The postscript alludes to the Fossil Depot she opened. However, due its narrow timeframe, Chevalier does not show her as the “consummate business woman,” the “ultimate professional” (Torrens 279, 283) she eventually became and thus prevents her readership from gaining a complete picture of her life, her scientific acumen, and her many achievements.

Though Chevalier lets her readers see only part of her scientific legacy, she leaves no doubt about her competencies as a fossilist and the importance of her contributions. The novel has several characters express their admiration of Mary's aptitudes and achievements. Elizabeth says the following words about her friend and colleague, words that while acknowledging her skills are also pointing to the limited recognition she received:

Mary had been so generous for so long, to so little gain [...] while others took what she found and made their names from it as natural philosophers. William Buckland lectured on the creatures at Oxford, Charles Konig brought them into the British Museum to acclaim, Reverend Conybeare and even our dear Henry de la Beche addressed the Geological Society and published papers about them. Konig had had the privilege of naming the ichthyosaurus, and Conybeare the plesiosaurus. Neither would have had anything to name without Mary. [...] she outstripped them all in her abilities. (Chevalier 285)

Colonel Birch is another figure in the novel who voices his respect of Mary's talents:

I met many people who professed to know a great deal about fossils: what they are, how they came to be here, what they mean. But none of them knows even half of what you understand. [...] Your knowledge may be self-taught and come from experience rather than from books, but it is no less valuable for that. You have spent a great deal of time with specimens; you have studied their anatomies and seen their variations and subtleties.

You recognise the uniqueness of the ichthyosaurus, for example, that it is not like anything we have ever imagined. (Chevalier 257-258)

The novel highlights the superiority of Anning's self-taught and experience-based knowledge of fossils when it shows Mary teaching the educated gentlemen scientists who come to Lyme Regis in flocks once news spreads of her first ichthyosaurus find (which is then still believed to be a crocodile). The men come to her for help in finding and identifying fossils on the beaches of Lyme Regis. Soon, Mary finds herself "in the company of the geologists and other interested gentlemen" (Chevalier 139) leading them on fossil hunts along the beaches of Lyme Regis: "All day they come up with would-be curies for me to judge. Soon others caught on, and I was called here and there to tell the men what they had or hadn't found. Then they would ask me where they should look, and before long I was leading them on fossil hunts along the beach" (Chevalier 139). The men's scientific methods, all their "measuring, peering through magnifying glasses, taking notes, and making sketches" (Chevalier 138) are not only highly amusing for Mary but also shown as ineffective and unsuccessful: "For all the fuss made, not one found a complete croc. A cry would go up from someone, and others would hurry over to look, and it would be nothing, or just a tooth or a bit of jaw or a verteberry – if they were lucky" (Chevalier 138). Even if not asked, Mary speaks up to the men of science, correcting their mistakes and explaining the fossils' different shapes and textures and her methods for locating them. Here, it becomes evident how she rises from a mere hunter and seller to an expert sought out by many. The novel clearly acknowledges her experience and expertise as a fossil hunter, that despite the lack of any formal scientific education she developed a high proficiency in her field, which distinguishes her from the male geologists and paleontologists she engages with.

By consequence of the narrow focus of her novel, Chevalier, however, excludes other aspects of her achievements and abilities. While the novel shows that with the help of Elizabeth, she learns to read and write at Sunday school, the fact that she taught herself French to read the works of Cuvier does not feature in the novel. Mary is curious about her findings and eager to learn more about them asking Elizabeth and sometimes the male scientists whom she encounters what they make of the creatures she unearths. However, the ways in which Anning had copied out scientific and religious texts and tried hard to follow the constantly shifting theories of pre-Darwinian society about fossils and their meaning, how she tried to keep up with the debates and questions triggered by her fossils, receive little attention in the novel. The only hint we have is when Elizabeth stumbles upon "a sheaf of papers in Mary's hand" and discovers "there were twenty-nine pages of text, as well as eight pages of illustrations, all of which Mary had painstakingly copied out" (Chevalier 276). She reports to the reader:

I flipped to the end to read the conclusion, and there discovered a note in small writing at the bottom of the last page. It read: 'When I write a paper there shall not be but one preface.' It appeared Mary felt confident enough to criticise Reverend Conybeare's wordiness. Moreover, she had plans to write her own scientific paper. Her boldness made me smile. (Chevalier 276)

The reader never sees Mary working on these papers, however. We never witness her intellect at work, how she developed her own ideas about the remarkable creatures she unearthed or what she thought about the scientific literature she was reading, and the role she played in the men's world of science. However, we see her growing love of fossils, which goes well beyond them being a source of income for her and her family: "fossils were more than money to me now – they had become a kind of life, a whole stone world that I were a part of. Sometimes I even thought about my own body after my death, and it turning to stone thousands of years later. What would someone make of me if they dug me up?" (Chevalier 333).

The child-like image of Anning emerging from Chevalier's *Remarkable Creatures* is further reinforced by the ways in which Mary is presented as being in constant need of protection by Elizabeth. One scene is particularly striking here and that is when Mary is buried in a landslide and Elizabeth is the one who comes to her rescue digging her up with her own hands (Chevalier 172). While a landslide had buried Anning once, that Philpot had saved her is not born out of the historical evidence but Chevalier's own making here (for the actual historical event see, for instance, Emling 162-163). The rescue from the physical danger inherent to the fossil business comes along with a couple of professional rescues, which include the securing of adequate payment, the reclaiming of her achievements and abilities from male appropriation, and the safeguarding of her reputation. The first fossil that is unearthed by Mary raises the interest of Lord Henley who purchases the specimen from the family. The fossil impresses him, yet he is not willing to acknowledge the role of a young working-class girl in its discovery. Elizabeth notes that "Lord Henley cared nothing about what Mary thought. Indeed, he hardly noticed her, instead making a show of examining the skull with a magnifying glass he brought with him" (Chevalier 100). His disregard for Mary's work culminates in his omission of her name in the museum in London to which he sells the specimen for considerable profit. When visiting the city and the museum with her family, Elizabeth comes across the fossil and sees the label which names Lord Henley as the finder. Shocked not only by the appearance of the crocodile (the fact that the specimen is an extinct dinosaur had yet to be discovered), but also by Lord Henley's appropriation of Mary's creature, Elizabeth, in her role as Mary's advocate and mentor, confronts him with her puzzlement over the named finder of the fossil. In the explanation Henley provides, Mary's double disadvantages emerge once again: "Mary Anning is a worker. She found the crocodile on my land [...]. Besides which, Mary Anning is a female. She is a spare part. I have to represent her" (Chevalier 125). By means of Lord Henley's appropriation of Mary's first major finding, the novel thematizes the ways in which men have often not recognized and sometimes even plagiarized female contributions, how women's contributions have been erased from the scientific and historical records through acts of appropriation by men. Colonel Birch, another male scientist we encounter in the story, does not only rob Mary of her findings, including an ichthyosaurus, by seducing her into working for him without pay, but also denies her any power of observation. Condescendingly, he says to a female friend of his, "Ladies are not equipped to

look at such things [fossils] as carefully as men” (Chevalier 215). The comment reiterates essentialist discourses that intend to rationalize the exclusion of women from the study and practice of science with their different biology, their inferior female nature, something we sometimes still encounter when it comes to explaining the underrepresentation of women in STEM. Again, Elizabeth takes decisive action and intervenes unasked by speaking up on Mary’s behalf and demanding payment for Mary and her family, which she eventually obtains. The final finding portrayed in the novel constitutes a professional crisis for Mary. The French naturalist George Cuvier questions her scientific competence and doubts her integrity by wrongly accusing her of fraud, of combining two different specimens in one, in a patronizing letter in which his assistant writes: “Baron Cuvier [...] is of the opinion that you have joined together two separate individuals [...]. In future, Mademoiselle, perhaps your family might take more care when collecting and presenting specimens” (Chevalier 281). Cuvier’s criticism of Mary’s work shows not only the workings of patriarchy, how male ideas were the only legitimate ones: “Baron Cuvier holds the view that the structure of the reported plesiosaurus deviates from some of the anatomical laws he has established” (Chevalier 281). It also makes clear once more how the scholarly world of her time and place is not taking Mary seriously as a fellow scientist despite her expertise and experience. The letter leads to Elizabeth’s already mentioned journey to London where she persuades the incoming president of the Geological Society, to acknowledge publicly Mary’s contributions to science. However, not only Elizabeth’s interventions, but also Mary’s reactions create the image of a child-like figure here. In the case of Lord Henley’s appropriation of her fossil, she is unaware of, even indifferent to the problem. While Elizabeth is furious about what she perceives is an act of male betrayal and the patronizing ways in which Lord Henley explains his behavior, Mary does not respond accordingly. She does not feel betrayed at all; in fact, she appears not really to care about Lord Henley’s appropriation of her finding. Rather, she is excited that so many people saw her ‘croc’ in the museum in London (Chevalier 128-129). Likewise, she does not feel wronged by Birch but even allows him to take her virginity, something I will discuss in more detail in the next subchapter. When Cuvier accuses her of fraud, Mary behaves like a moping teenager (she is already twenty-one years old at the time), a very emotional girl rather than a competent scientific professional who is confident about her own skills and stands up for herself. “The silly girl’s taken it as an insult to her,” her mother, Molly Anning, reports to Elizabeth. ““Says the Frenchman has ruined her reputation as a hunter. She’s gone to bed over it, says there’s no reason to get up and hunt curies now, as no one’ll buy them”” (Chevalier 281). I do principally agree with Schaffeld that these fictional episodes allow Chevalier to highlight “female agency and resistance in the early days of paleontology” (“Historical Science Novel” 181), the ways in which women had supported each other in view of male opposition and patriarchal oppression. These scenes are also valuable for the ways in which they reveal the strategies used by men to keep their dominance over women. Nevertheless, assessing them from the perspective of Anning’s biography and her reception history, I find these moments also problematic because they undercut her

own agency and resistance, the ways in which she managed to stand up to the male-dominated community by herself. While their friendship is empowering to them, it is very one-sided. The inequality between the women is expected given their different classes and ages. Yet Chevalier presents it in a way that I find unfortunate for Mary. While it is true that Anning relied upon people of the higher classes for support, the degree to which Elizabeth constantly intervenes each time Mary finds a key fossil takes away from her own agency and resistance. The strong focus on Mary's childhood and youth as well as the patronizing way in which Elizabeth treats and sees her and is constantly rescuing her undermines the image of a strong woman who made her own way also because of her own actions.

The novel reinforces the impression of Mary as a child-like figure by her pairing with the much older, socially elevated, and better accomplished Elizabeth. In contrast to Elizabeth's well-informed and reflective perspective, Mary's point of view feels, at times, extremely immature and narrow-minded. She adheres to folkloric language in the names that she gives the fossils she finds while Elizabeth provides the reader with the official Latin designations, the proper scientific names of the creatures, a language that Mary does not know and that excludes her from the scientific establishment. As Elizabeth explains:

It was a relief to me to accept the ichthyosaurus as what it was – an ancient, marine reptile with its own name. Mary found it harder and often still called it a crocodile, [...] though she eventually settled on ichie. To her the new scientific name took her creature away from her even more effectively than its physical removal. (Chevalier 181)

The difference in their point of view, the limited, simple, and naïve perspective of Mary and Elizabeth's sophisticated and educated viewpoint, also clearly emerge in the discussion of the fossil findings they make. Heilmann notes that the meaning of the novel's title is twofold: while it designates the female protagonists, whose talent for discovering fossils lets numerous male scientist characters in the story declare what remarkable creatures they are, it also refers to the fossils unearthed from the cliffs of Lyme Regis (105). The confusions and eventual changes the discoveries of prehistoric reptiles brought to the predominant Bible-centered understanding of the origins of life and the history of the Earth in pre-Darwinian society of early nineteenth-century England are one of the main themes of the present narrative. In *Remarkable Creatures*, Chevalier recreates a world in which the precursors of the soon emerging scientific theories of extinction and evolution were starting to shake the established Biblical version of Creation. Mary begins to doubt the popular ideas held by many of her contemporaries that the fossils she finds are "crocodiles with huge eyes and snakes with no heads and thunderbolts God threw down that turned to stone" (Chevalier 72). While she is clearly irritated and confused, even unsettled, she does not seriously question Holy Scripture, as Schaffeld observes ("Historical Science Novel" 180). In keeping with the historical evidence, the novel makes clear that religion gave her a feeling of comfort and security in view of the bizarre creatures she unearths. "It made me feel odd looking at that eye, like there was a world of curiosities I didn't know about [...] it was as if the world was too strange for

me ever to understand it. Then I would have to go and sit in Chapel until I felt I could let God take care of all the mysteries and the worry went away” (Chevalier 72). She does eventually come to accept the reality of extinction, however. Elizabeth becomes the more reflective instance here. She is more radical in her thinking and never misses an opportunity to ask uneasy questions and to point out the gaps and contradictions in established knowledge: “If He [God] was willing to sit back and let creatures die out, what did that mean for us? Were we going to die out too?” (Chevalier 98). Her ideas have clear limits though as “her authentic historical embedding still prevents any kind of emergent thought that would deny the chance of a harmonious co-existence between science and religion,” Schaffeld explains (“Historical Science Novel” 180-181). After all, “a profound, if anachronistic, critique of religious tenets lies beyond the scope of the historical novel’s agenda” (Schaffeld, “Historical Science Novel” 181). Elizabeth is also more insightful when it comes to the gender bias of the time and place that she and Mary live in. The novel’s focus on fossils and the emerging scientific disciplines of geology and paleontology allows for an examination of the tensions between science and religion in the early nineteenth century, while its use of female scientist protagonists permits an investigation of the historical circumstances for women in science and society at the time. Again, it is especially through the educated perspective of Elizabeth, who though not represented as a modern-day feminist, is certainly aware of the inequality of the sexes and the political and economic consequences thereof, that Chevalier addresses the social restrictions and expectations of historical women at the time. While Mary also realizes her discrimination and her exclusion, it is Elizabeth’s sharp comments that make Chevalier’s critic of gender roles and the constraints and limitations they placed on women’s lives clearly perceptible. While this narrative decision fits the overall child image created in the novel, it does not acknowledge historical reality. According to Davis, Anning had been “a true feminist” (108), someone who was “not afraid to break through the gender, as well as social, barriers of the day” (122). To make his point, Davis references the following words by Anning:

And what is a woman? Was she not made of the same flesh and blood as lordly Man? Yes, and was destined doubtless, to become his friend, his helpmate on his pilgrimage but surely not his slave, for is not reason hers? Are not her claims “To share redeeming love” as great? ... Woman seems throughout the sacred scripture ... more than even man the object of this pure benevolence. (Qtd. in Davis 108, omissions in original)

A nascent feminist consciousness is surely perceptible in these words ascribed to Anning which stem from an excerpt of an unpublished journal in her hand. In the novel, however, the reader looks in vain for such words – whether thought or spoken – from its female protagonist.

### 3.1.5 “A Little in Love with Him Myself”<sup>27</sup>: On the (Un-)Necessity of Romance

Despite the incredible amount of research that scholars have conducted about Anning's life and times in recent years, there is still much that remains unknown about her story. The documentation of both Anning's professional accomplishments and her private activities is not particularly well. The reason for that, Torrens suggests, lies as much with the fact that Anning had been female, unmarried, solitary, a provincial member of society, and a religious dissenter – the history of such people is much less recorded – as with the fact that she had been “a doer not a writer” (277-278). In contrast to many of the distinguished male geologists and paleontologists of her time, Anning did not leave any written records or published scientific papers of her fossil discoveries apart from some notes and drawings in her letters (Creese and Creese 28, Davis 101). The closest she came to a scientific publication of her own is a short piece she wrote to the editor of the *Magazine of Natural History* in 1839 in which she challenged a claim made about the fossil shark *hybodus* (Davis 101). The lack of publications in her own name also explains why the historical record has all too often neglected or ignored her, Creese and Creese suggest (28). Adding to that is the fact that Anning did not keep track of her fossil discoveries. Moreover, as it was common at the time, her specimens have often been credited to and named after the collectors, museum curators, and scientists who had bought them from her. Torrens explains how in the history of British geology and paleontology, it was usually the collectors and donors or gatherers not the discoverers or hunters that have been honored and remembered (280-281). Davis points to scholars who have now begun to reconstruct the purchases of some of Anning's specimens through letters written between Anning and the various buyers (107, 116). That many of Anning's findings remain misattributed until today makes it difficult to ascertain the extent of her work according to Emling (208-209). The gender and class bias of the historical record becomes also noticeable in the treatment of Anning's private writings. While Anning did send and receive many personal letters, especially to the men and women of science that she worked for and with (Creese and Creese 28), and while she had kept various journals, all of which “slay the additional mythic dragon that she ‘was barely literate,’” as Torrens underlines (279), only few of her writings have survived. Much of it has been lost and mishandled, sometimes also destroyed, as those who found or possessed them did not consider them important enough for preservation (Torrens 278, Pascoe 141-143, 150). The remaining documents, items, and materials testifying to her life and achievements are widely dispersed: “no concentrated long-term effort was made to retain [the Anning collection and archive] as a whole” (Pierce 188). By consequence, there is no single repository those interested in her story can draw on for information, Sharpe laments (8). All this certainly diminished her scientific legacy and might explain why the achievements of her well-published and well-remembered male contemporaries have long overshadowed those of Anning. To complicate the matter further, the little facts available about her life and work are not always to be trusted. Torrens

---

27 Chevalier 190.

cautions against taking everything that has been said about her at face value for Anning's contemporaries have seen her as much a curiosity as the creatures she had unearthed and there has been much myth-making about her story already during her lifetime (277).

In view of the shortage of available facts and reliable sources, the Anning biographer experiences real difficulties "to weave [her story] into a [consistent] narrative" (Sharpe 8). Not so the novelist who can use the "illuminating force" of fiction to put together the "fragmentary remains" of her life while shining light on the "missing parts, the pieces of [her] story that may never be entirely recuperable even by Anning completists" (Pascoe 166-167). As a writer of biographical fiction, and not factual biography, Chevalier enjoys the narrative privilege of being able to compensate the lack of dependable traces in the archives of history about her chosen protagonist with creative invention and imagination. With the included bibliography as well as the acknowledgments she gives in the postscript to scholars like historian of science Hugh Torrens, Chevalier emphasizes that the literary text at hand is firmly rooted in the existing documentary evidence about her subject's life and times (Chevalier 350-352). She also assures her readers that she "[tried] to be as accurate as [she] can" (qtd. in Rohn 172) in recounting Anning's story. While the present novel closely follows, in condensed form, some of the major events in Anning's biography, Chevalier also admits to having "made up plenty" in telling her story in *Remarkable Creatures*, especially where "there was no proof" of what had occurred (Chevalier 349, 350). In an interview, Chevalier discusses her self-understanding as a novelist: "I put the story first, and the characters. The history always has to be secondary. I don't want to be a teacher, I want to be a storyteller" (qtd. in Librie). As other biographical novelists in this study, Chevalier uses the postscript not only to emphasize the status of the present narrative as "a work of fiction" (Chevalier 349). She also employs it to point out "what's true and what's not" (Chevalier qtd. in Rohn 172), to reveal transparently, as the ethical responsibility to her subject's life might demand of her, some of changes she made to the biographical record when recounting her story (Chevalier 349-350).

"One of the more outrageous fictions in the novel," as Philip Strange claims in his *LabLit* review of *Remarkable Creatures*, is the romantic episode Chevalier included. While the personal friendship and scientific partnership between Mary and Elizabeth clearly is the main relationship in this herstorical biofiction, Chevalier uses her narrative privileges to speculate about a possible (impossible) romance for her fictional heroine(s). In view of the chosen genre, the inclusion of a romantic episode might seem little surprising.<sup>28</sup> "[A] prominent romantic subplot in which the main character sorts out re-

28 I am deliberately using the notion of the romantic episode here, as the novel is by no means a historical romance. As Victoria Kennedy points out "not all stories about love are 'love stories'" (52). Hence, "historical romances and historical novels containing romances are not the same thing" (Kennedy 50). While the love story is important, it is not the central relationship in Chevalier's *Remarkable Creatures*. The novel does also not feature a positive resolution for the love story, as the romance formula would dictate (cf. Wherry 53-69). Thomas' biofictional account of Anning's life in *Curiosity*, which is telling subtitled *A Love Story*, might be more readily classified as a historical romance novel

relationships with the man (or men) in her life” is a typical feature in female-centered historical-biographical fiction, as Sarah Johnson notes (7). According to Gutenberg, it is also a key component in the female-centered bildungsroman or coming-of-age story (184-185), which is the kind of plot in which Chevalier frames Mary’s story. Torrens suggests a connection between Anning’s female gender and the noticeable societal interest in her unrecorded sex life (279). While surviving correspondence shows that Anning had enjoyed quite a few close and long-lasting personal friendships and cooperative scientific partnerships with men and women alike, neither in her own letters and journals nor in those of her contemporaries is there any reliable evidence to suggest that she had experienced a serious love relationship or a brief sexual encounter. According to the official historical records, she had been romantically unattached and never married. She did also not have any children of her own. A bit too dismissively for my taste, Sharpe characterizes her as “a spinster doomed never to find someone to share her life with” (9). The only hint of a possible illicit affair that those writing about her repeatedly refer to is a letter in which a friend of hers, Anna Maria Pinney, refers to a great disappointment, a “blasted hope” of social upheaval (qtd. in Thomas 402), that Anning had apparently once experienced in her life. This has been used as conceivable clue that she had fallen in love with someone above her own social class, most likely one of the various gentlemen she had worked for and with during her life (Thomas 402-403). His (or her?) identity is unknown, however, as Glendening explains (225). A lack of known facts is certainly a barrier to exploring a lost love life within the discourse of evidence-based historical-biographical writing. However, it is not so in fiction as demonstrated by the various romantic versions of Anning’s story appearing in recent years, all of which imagine “what *might* have happened but went unrecorded” (Kohlke and Gutleben 13, italics in original). Indeed, among creative artists there is a noticeable fascination with Anning’s unknown affairs, even though ideas about who the most likely candidate for this unconfirmed lover was differ. For instance, in her biographical novel *Curiosity: A Love Story* (2010) Thomas casts geologist de la Beche in the role of Anning’s suitor. De la Beche had been “a true friend to [her] for several decades” (Thomas 403). He is, according to Torrens, “her favoured mythic partner” (279). Francis Lee’s feature film *Ammunite* (2020) imagines a romance between Anning and geologist Charlotte Murchison. Contemporary culture’s apparent need to romanticize and by consequence sexualize Anning’s life is problematic when keeping in mind that we often still remember historical women more readily for their romantic attachments than for their aptitudes and achievements (cf. Trofimenkoff 3). It is also critical when considering how literature and the media continue to portray women as someone’s love interest. This perceptible artistic desire to explore Anning’s unknown love affairs through the lens of fiction upholds the unfortunately often still prevalent sexist expectation that any woman must have been romantically and sexually involved with someone. Anning scholars, unwilling to see her long-delayed scientific reputation being overshadowed by unfounded romantic specula-

---

as the love story is central to the story. The historical facts about Anning’s life prevent the ‘happily ever after’ typical of the genre though.

tions, have generally dismissed any hints that pointed to a possible love relationship in her life, Thomas points out (402).

Chevalier is aware that Anning never married (347). She also knows that only speculation exists regarding her love life: “while there was gossip about Mary and Buckland and Mary and Birch, there was no proof. That is where only a novelist can step in” (349-350). Like Thomas, Chevalier opts for a more conventional, heteronormative storyline when retelling Anning’s lost love life through the lens of fiction. In *Remarkable Creatures*, it is Lieutenant Colonel Thomas James Birch (1768-1829), a retired officer in the Life Guards and rich fossil collector and philanthropist, who is presented as Mary’s (and in a way also Elizabeth’s) love interest. Even though he was twice her age and clearly above her social class, the actual Birch had indeed been a candidate for some romantic speculations at the time. In 1820, Birch had sold his complete fossil collection, which the Annings had mostly compiled for him, to raise funds and support the impoverished family. He was apparently very fond of them. Emling notes that he was an “important admirer” of the Annings, especially Mary (70). Birch described his “act of generosity” (Emling 72) to his friend and colleague, the physician, geologist, and paleontologist Gideon Mantell (1790-1852), in a letter dated March 1820 as follows:

I have not forgotten my promise to select for you some fine things from the Blue Lias – I cannot however perform it yet as I have great occasion for every individual specimen I can muster. The fact is I am going to sell my collection for the benefit of the poor woman [Molly] and her son [Joseph] and daughter [Mary] at Lyme who have in truth found almost all the fine things, which have been submitted to scientific investigation: When I went to Charmouth and Lyme last summer [1819] I found these people in considerable difficulty – on the act of selling their furniture to pay their rent – in consequence of their not having found one good fossil for near a twelvemonth. I may never again possess what I am about to part with; yet in doing it I shall have the satisfaction of knowing that the money will be well applied. (Qtd. in Torrens 261)

Taking place in 1820, Birch’s sale of his fossil collection, an auction attended by a record number of buyers from all over Europe (Torrens 261), raised about 400 pounds, which there is no reason to doubt he handed over entirely to the family (Sharpe 55). In addition to the much-needed money, it brought the Annings much attention in the fossil world and thus many new potential buyers (Emling 72). Even Cuvier bought some specimens from the Annings on that occasion, although he did not appear in person (Pierce 25-26). Birch’s concern for the Annings as well as the “philanthropic gesture” (Torrens 261) also led to “some fantastic rumors” (Emling 72) at the time about a possible romantic involvement between him and the much younger Anning, he was fifty-two, she twenty-one at the time (Torrens 261, Pierce 26, Emling 72, Sharpe 55). The salacious gossip about a liaison between her and Birch has been traced back to the English art collector, writer, and poet George Cumberland (1754-1848) (Sharpe 55). He wrote after the auction, ““Mrs. Hanning [sic] is the dealer at Lyme. Col. Birch is generally at Charmouth (they say that Miss Anning attends him)”” (qtd. in Sharpe 55). His comment insinuates that their relationship had been more than a strictly professional one, Sharpe says (55). There is no reliable surviving evidence to support this suggestion, however (Sharpe 55).

In her novel, Chevalier draws a very different image of Birch, one at odds with the concerned, generous, and supportive benefactor that the Anning biographers usually cast him as. In fact, he becomes the reason why the Annings run into financial difficulties and an existential crisis in the first place. Through Elizabeth's eyes he is characterized as a "greedy schemer" (Chevalier 191) with only his own benefit in mind, a "fraud [...] leaving out the 'Lieutenant' to promote himself higher than he was" (Chevalier 189). Birch is presented as a very selfish, vain, and overconfident man who uses his good looks and his charm to enlist Mary into working for him not caring about the fact that he compromises the young woman's reputation by spending so much time with her alone on the beach hunting fossils. He also seems oblivious to the fact that he raises Mary's hopes of marrying up through him. He does not only take advantage of Mary's growing affection for him but is shown to even flirt with her mother to convince her into allowing Mary to spend the summer with him instead of working for other fossil collectors. Birch has no talent for finding his own fossils, as Elizabeth notes: "[h]e found his [fossils] through his wallet, or his charm, or by picking them off others" (Chevalier 189). With Mary's help, he quickly gains an extraordinary fossil collection. Nevertheless, he does not think about paying Mary and her family for their services even though he knows that fossils are their livelihood and that Mary had devoted all her hunting time to him and not found anything to sell in the family's fossil shop. As soon as he has acquired what he wanted, including a perfect specimen of an ichthyosaurus, which he believes to have found all himself though Mary had nudged him towards it, he leaves town without giving Mary the money that she and her family so desperately need. Only when confronted by Elizabeth with the Annings' dire economic situation – "you have robbed the Annings of their livelihood, and Mary of her reputation. It is because of you that they are selling their furniture" (Chevalier 202) – and threatened with exposure does he eventually realize his mistake. He decides to auction off the collection, not because of his willingness to be of assistance to the family but due to a guilty consciousness of having exploited them and even more so because of a not unjustified fear of exposure and open shame by society and the scientific community. At the auction, he publicly acknowledges the Annings to have assembled his collection, and then hands over the profits to them. Thus, Chevalier still allows him to function as "the Annings' saviour" (Pierce 24) yet definitely not "an elegant white knight" (Emling 70) in shining armor. The high praise Birch has for Mary in the end – "She is [...] possibly the most remarkable young woman I have had the privilege to meet in the fossil world," he exclaims to the auction's attendees (Chevalier 236) – does not help much in changing the carefully built-up impression of him as a contemptible man dressed in fine uniform. Nonetheless, before the unhappy love story is over, Chevalier pushes it a little further. When Birch arrives in town to give the family the money from the auction, even though he has betrayed her, the twenty-one-year-old Mary decides that he will be her birthday present and rides off with him experiencing her first sexual encounter.

The romantic episode does not only seriously violate the good reputation and noble character that Anning biographers have generally attested to Birch. Historical facts do

not suggest that he stole from the Annings, that he exploited Mary in such or any other way. Quite the opposite seems to have been the case. Emling, for instance, writes that Birch “[o]ften went to Lyme Regis, where he took to visiting with Mary and her mother in their home, *buying* many fine specimens from them. [...] Shortly after their first encounter, Mary discovered a nearly complete ichthyosaur, and Birch *purchased* it” (70, emphasis mine). By means of the romantic interlude, the novel also makes a problematic suggestion about Mary Anning herself. It once more evokes the image of the irrational child in need of protection (in this case from herself), a rebellious teenager who goes against the good advice offered to her, a naïve and immature girl whose emotions get her and her family into trouble. She falls in love with a man who is twice her age and outside of her own station in society and seriously believes that he will marry her and lift her “from the hard life of her own class into a kinder, more prosperous world” (Chevalier 191). Knowing that not even “Miss Austen would [...] allow such a marriage to take place in her novels” (Chevalier 210), a well-meaning Elizabeth warns her that he will never consider marrying her and only compromise her reputation which is already stained due to her many unchaperoned interactions with the various scientific men seeking her help. The society presented deems being out alone on the beach with a man that one is not married or related to as improper female behavior, also for women of the working classes. The rumors spreading around town soon prove Elizabeth’s point. However, Mary is so infatuated with Birch and blinded by her feelings that she does not listen to her friend, nor does she care about the town’s gossip. She does also not realize that Elizabeth is right, that Birch is only using her for his personal gain. Even after he is gone, she believes that he will return to her. When her family starves and must sell the furniture because Mary is so love-sick that she is no longer able to hunt for fossils on the beach, she does still not blame him. Instead, the novel shows her to have a heavy heart and to hope to see him again soon. Even her own mother, generally “a good judge of character” (Chevalier 191), as Elizabeth remarks, is shown to allow herself to be carried away by Birch: “[s]he who had been so indignant at William Buckland innocently taking Mary out now threw away her caution for the price of a kiss on the hand and a kind word or two” (Chevalier 192).

Worse than the extreme naivety and immaturity the novel ascribes to Mary here is the suggestion that she had somehow been complicit in her own subjugation and exploitation at the hands of the male scientific establishment, that knowingly and willingly she had allowed men like Birch to (ab-)use her for their own profit and to appropriate her work. Mary leads Birch on the beach and nudges him into finding specimens, including “perhaps the finest ichthyosaurus [she] ever found” (Chevalier 196). She allows him to believe that he discovered all of these by himself though she denies it when Elizabeth reminds her that he should be paying her. Chevalier suggests that Mary is so in love that she “let[s] him rob her of many specimens and call them his own finds” (Chevalier 189). Men had constantly appropriated and plagiarized Anning’s work, something that, as I have alluded to earlier, had increasingly embittered her. Surely, some have proposed that Anning had been extremely generous and perhaps much too tolerant with the men

of science, who often claimed her achievements as theirs without giving her proper credit. However, to suggest, as Chevalier does in the novel, that she freely let men (ab-) use her in this way is difficult, especially since there is no evidence to support this. Moreover, the scene also puts forward the idea that Mary deliberately downplays her own competence as a fossilist to please the man she hopes to marry which is highly problematic considering ongoing disputes about her scientific legacy and women's scientific abilities and achievements past and present.

There are different ways to interpret the function of this romantic episode for the story and against the background of Anning's biography and reception history. One is that of *gendering* her as feminine. Heilmann sees in this romanticizing of Anning's life and the subsequent exploration of her sexuality a desire to 'feminize' a historical woman who has often been portrayed as rather masculine by traditional male-oriented history writing (107-108). Heilmann argues, "Anning's 'afterlife' exemplifies the considerable tensions and complex gender dynamics that underpin representations of early women scientists" (107). Referring to a characterization by Gideon Mantell (1790-1852), she notes that

by exploring Mary's emotional and erotic fulfilment, however short-lived, alongside her professional achievements, [Chevalier] reclaims her from the image of the 'prim, pedantic, vinegar looking, thin female, shrewd and rather satirical in her conversation' of [her] contemporary scientists' descriptions. (108; for the original quotation from Mantell see Torrens 268).

Thus, for Heilmann, the romantic interlude seems to be a way of restoring to her the femininity that especially the male scientists of her day have often denied her. Davis, too, observes that her contemporaries have frequently described Anning as having been rather 'masculine' in both look and character (107). He points to a short reference made in *Chamber's Journal* in 1857 that styles Anning as having been "of rather masculine appearance" (qtd. in Davis 107). He also references a comment about her by Leichhardt from 1837 who refers to Anning as "...a strong, energetic spinster of about 28 years of age, tanned and masculine in expression..." (qtd. in Davis 107, omissions in original). One can attribute this perception of Anning to the gender bias towards women in science that sometimes still finds expression in current representations of female scientists.<sup>29</sup> It certainly also had to do with the way she dressed as her cloths needed to be warm and practical and created a "hybrid cross between masculine and feminine" (Lanone 78). Moreover, she certainly had a strong body due to the kind of work she was performing every day (Pierce 77). Davis notes that we know in fact very little of Anning's appearance (107). There are only two portraits of her, one being a copy of the other, and there is a sketch made by de la Beche (Davis 107). The latter shows her as "a rather round figure with a hammer, and wearing a top hat, perhaps as protective headgear" (Sharpe 156). It might very well be part of the reason why so many continue to view her as masculine.

---

29 See for instance Eva Flicker's typology of women in science in popular feature films which includes the so called 'male woman' that embodies traits normally associated more with masculinity than femininity as one of its archetypes (311).

One may find a genre-related explanation for the romantic interlude, too. Chevalier uses this episode as coming-of-age ritual for Mary. Gutenberg describes the first sex as a frequently found motif in initiation plots of the more contemporary and women-centered kind (184). It thus represents a genre- and gender-typical moment of personal growth in which Mary realizes something important about the world and her place within it:

Perhaps it was because of what had just happened to me, of the lightning that come from inside, which made me open up to larger, stranger thoughts. Looking up at the stars so far away, I begun to feel there was a thread running between the earth and them. Another thread was strung out too, connecting the past to the future, which the ichie at one end, dying all that long time ago and waiting for me to find it. I didn't know what was at the other end of the thread. These two threads were so long I couldn't even begin to measure them, and where one met the other, there was me. My life led up to that moment, then led away again, like the tide making its highest mark on the beach and then retreating. (Chevalier 258)

The experience she allows the other female protagonist to make exemplifies that another, perhaps a bit more feminist-oriented moment of personal development or transformation might have been possible, too. Violating societal rules and worrying her sisters who think it a “folly” what she is doing (Chevalier 284), Elizabeth embarks on a short trip by ship all by herself and in the middle of winter to travel to London and convince the president of the Geological Society to acknowledge Mary's professionalism to defend the accusation of fraud by Cuvier. On board of the vessel, she makes an important discovery about herself: “Until I boarded the *Unity*, I had always thought of the sea as a boundary keeping me in my place on land. Now, though, it became an opening. [...] I had no choice but to see the greater world, and my place within it” (Chevalier 286-287, italics in original). Over the course of her journey, Elizabeth gains new confidence and self-awareness, a sense of her own identity as a woman and a fossilist, someone independent of her male relatives and the men-only scientific establishment: “I was responsible for myself. I was Elizabeth Philpot, and I collected fossil fish” (Chevalier 289). When returning from her trip, Mary notices that something about Elizabeth has changed: “She was like a fossil that's been cleaned and set so everyone can see what it is” (Chevalier 339).

Chevalier also uses the romantic subplot as a means for the women to redefine their relationship with each other and certainly to create some additional dramatic tension in the story. Birch functions as an irritation, even a source of conflict, in their relationship causing feelings of jealousy and disappointment and some rather unfortunate rivaling behavior for the attention and affection of the same man. Gutenberg says that in contemporary (English) literature, female friendship plots often feature a male intruder, that men often threaten women's relationships with each other in novels of this kind (219). Hence, the attraction to and ensuing competition might be just the kind of stereotypical complication readers would expect in a story like this. While Mary falls immediately and visibly in love with Birch, Elizabeth experiences some difficulties in revealing her true feelings. She eventually admits to the reader that she “was a little in love with him myself” (Chevalier 190). She explains that

[f]or all my complaints, I found him very attractive: not only physically, though there was that, but because his interest in fossils seemed genuine and penetrating. When he was not flirting with Mary, he was capable – and keen – to discuss the origins of the ichthyosaurus, and what it meant to be extinct. (Chevalier 190)

Elizabeth becomes increasingly jealous as Birch, for reasons I have outlined above, prefers Mary: “My anger at him stemmed [...] from indignation that he never for a moment considered me – closer to his age and of a similar class – as a lady he might court” (Chevalier 190). Mary’s love for Birch, her extreme naiveté, and Elizabeth’s complicated feelings of jealousy paired with her wish to protect her young friend and colleague eventually lead to a year-long breach between the two protagonists. In a way that is not beneficial to the story, the rivalry casts doubt on the idea of female solidarity and sisterhood that defines the novel. That they reconcile in the end and that they miss each other during this time apart shows that Chevalier does not want to devalue the power of female bonds or their relationship. In fact, it is when seeing Elizabeth again that Mary experiences her most important jolt of lightning, a “lightning that signalled my greatest happiness, in all my life” (Chevalier 337), one greater than any of the fossil findings or the discovery of her own sexuality in the intimate moment with Birch provides her with. The women’s association is resilient enough to endure such challenges brought about by heterosexual love. The final scene portrays the two women on the beach together hunting for fossils and thus circles back to the image the reader finds on the front cover of the book. The women realize the strength of their alliance, that their friendship is their strongest asset. Mary’s last sentence is: “So we continued, arm in arm along the beach, talking until at last we had no more to say, like a storm that blows itself out, and our eyes dropped to the ground, where the curies were waiting for us to find them” (Chevalier 340). Elizabeth’s final words, too, suggest a recreation of harmony between them: “We are silent together, each in her own world, knowing the other is just at her back” (Chevalier 343). Hence, the story ends “on the kind of domestic companionship and friendship that women could offer each other – and on their ability to live well and happily without any connection with men” (Caine 196). It even suggests that they are now at eye level when Elizabeth asks Mary to call her by her first name, a request that might be seen as an act of erasing all class difference between them, Glendening suggests (60). *Remarkable Creatures* does conclude with a “feminist success story,” as Heilmann is convinced (107). Nonetheless, that a man comes between them is still one of the gendered tropes about women’s relationships I find rather problematic about this story. For a novel that tries to make a point about women’s friendships and collaborations, the use of a rivalry for the attention and affection of the same man is a rather unfortunate and cliché-laden way of complicating their relationship, of adding another layer of complexity to their bond. It reinstates a conservative, male-oriented plot line and patriarchal gender stereotypes into a progressive female-centered approach to her story that suggest women to be not only caring but also spiteful and competitive.

With its focus on the friendship and collaboration between two female characters, *Remarkable Creatures* subverts “the conventional marriage or erotic plot” which Carolyn Heilbrun once identified as the prevalent plot pattern for the retelling of women’s

lives (48). Unlike many traditional-oriented biographies and biofictions of women that chart female lives by means of their relationships (friendships, liaisons, or marriages) with prominent and powerful men, this novel represents its chosen subject's life through her association with another woman and thus constitutes a more progressive approach in female-centered biofictional writing of a historical woman's life. The novel still perpetuates the heteronormative idea of women's ultimate fulfillment in marriage and motherhood and thus prefers a conservative idea about female lives. In this aspect, the novel reminded me of Marcel LaFolette's study of biographies of female scientists in American popular magazines between 1910 and 1955, in which its author noted that "even women who were successful scientists [...] were [portrayed as being] still more fulfilled through marriage and motherhood than through research" (265-266). Both Mary and Elizabeth have a rather unconventional lifestyle and go against the norm with their bold characters and interest in fossils; they are both outcasts in society because of their unusual occupation, and because of their status as unmarried, childless women. Hill emphasizes that many women in history consciously chose not to marry and have children to follow other pursuits, especially their intellectual callings (81-93). Elizabeth and Mary's lifestyles are not the result of a conscious decision in the sense of a feminist-motivated breaking with traditional, patriarchal gender roles, however. Both women are not actively challenging normative gender roles, refusing to conform to societal expectations of marriage and motherhood. Rather, they cannot perform the expected feminine roles and are devastated about this and jealous of women who are more successful on the marriage market. They perceive of themselves as "the unfortunate ones who failed in their efforts to get a husband" (Hill 3) even though they learn to cherish the independence they have as 'spinsters' and the value of their friendship. As an unmarried upper-middle-class woman in her mid-twenties who people in town are reported to make fun of as "the London [lady] too peculiar even to get a Lyme man" (Chevalier 64), Elizabeth is more than aware that she is a "failed woman" in the eyes of her society, someone "to be pitied or derided" (Hill 1). She constantly agonizes over the fact that her looks and character have not allowed her to find a husband and thus start a family of her own: "I never said I didn't want to marry. I just didn't happen. I am not the sort of lady a man chooses to marry, for I am too plain and serious" (Chevalier 92). She feels that even women socially inferior to her, such as Mary's mother Molly, look down upon her: "I knew she did not think much of me, for I was the embodiment of what she did not want Mary to become: unmarried and obsessed with fossils" (Chevalier 93). Elizabeth believes that Molly pities her "for I had never known a man, never felt the security of marriage or the love of a baby in my arms" (Chevalier 191). However, Elizabeth learns to accept her 'spinstership.' She even comes to appreciate the freedom it gives her. After all, the absence of a husband allows her to pursue her scientific interest, for "a married lady [would not] be out on the beach, far from home, hunting for fossils" (Chevalier 184). Nonetheless, Elizabeth is constantly hoping that she will still find someone to marry, preferably one of the gentlemen scientists. Such a match would en-

able her to have both married life and a continuing research activity as well as greater access to the scientific community:

[...] a match between [William Buckland] and me was not such a mad idea. Granted I was several years older than him, and too old to have many children. But it was not impossible. [...] William Buckland and I were of similar social standing, and intellectually suited. Of course I was not educated to his degree, but I read widely. I knew enough about geology and fossils to be a supportive wife to him in his profession. (Chevalier 179)

Marriage to a fellow scientist would provide her with the opportunity to escape singleness, conform to societal expectations of women, and, at the same time, overcome some of the gendered restrictions of the institution of science. Mary, too, is envious of married women and believes herself to have little prospects when it comes to marriage because of her occupation: "I know I won't marry. No one wants someone like me for a wife" (Chevalier 257). She understands that being a fossil hunter and dealer and having a family are not compatible in the eyes of society. Birch tries to make her see it in a positive light: "There are many women – most women, in fact – who can be perfectly good wives. But there is only one like you" (Chevalier 257). Mary is not convinced, however. When seeing her former friend Fanny Miller with her husband, Mary seems devastated about missing out this kind of relationship in her life: "their marriage reminded me that I [...] would never marry. Fanny was getting all the time what I experienced only the once with Colonel Birch in the orchard. I had my fame to comfort me, and the money it brought in, but that only went so far" (Chevalier 323). Both Mary and Elizabeth long for the kind of life that would not have allowed them to do what they were doing, for the novel makes clear that their status as single women is what allows them to pursue their scientific interests. By means of this longing for marriage, the novel reiterates the very male-oriented view it supposedly seeks to counteract in narrating the story of two long-forgotten historical women who struggled against the patriarchal system of science and society in Regency England. Perhaps Chevalier thought this would make it more realistic for the time depicted. It displays how patriarchal thinking of appropriate gender roles for women deeply affects both protagonists on a psychological level, as they are both not able to perform them yet feel pressured by society and their own internalized patriarchal thinking to do so. It also shows them as women with a conflicted identity, who try to conform to certain expectations while openly flouting others. Nevertheless, as scholars like Hill have shown, there have also been women in the past who enjoyed singleness and who sometimes chose it deliberately to be able to dedicate their lives to interests and endeavors other than marriage and motherhood. Thus, a different interpretation of the women's 'spinsterhood' could have been possible and equally accurate of the period portrayed in the novel. The conservative gender agenda that underlies the authorial conception and narrative representation of the relationship between the women in *Remarkable Creatures* must be seen as counterproductive when considering the overall feminist goal of making women in the history of nineteenth-century geology and paleontology visible and have their abilities and achievements valued by twenty-first-century readers.

### 3.1.6 Conclusion

A fictionalized account of the intertwined lives of two historic women fossilists whose contributions have often been denied or undervalued, *Remarkable Creatures* can surely be considered a “feminist counter-narrative of nineteenth century science” that is engaged in the celebration and commemoration of “the contribution of women to the history of science,” as suggested by Heilmann (92, 109). The novel’s revisionist agenda becomes visible in the light it sheds on Anning and to some extent Philpot’s scarcely known lives and long-neglected achievements. It also manifests itself in the strong case the fictional narrative makes for female friendship despite severe differences in age, class, education, and religious orientation as well as sisterly solidarity, sustenance, and support as a means of women’s functioning even survival in view of male opposition and patriarchal oppression in the deeply sexist and stratified society of Georgian England. With the example of Anning and Philpot, *Remarkable Creatures* raises awareness of a vital, yet so far little-known aspect of the female experience in (science) history. I mean the kind of personal and professional relationships women had formed and maintained with each other and the ways in which their alliances and communities had served them as an important space for intellectual exchange, scientific education and training, moral guidance, emotional and sometimes also financial support. Associations such as those of Anning and Philpot but also others like Mary Somerville and Ada Lovelace, who feature in a later chapter in this study, show that personal friendships and scientific mentor- and partnerships among women have been a vital tool of female support. By highlighting the friendship and collaboration between two representative women in the history of nineteenth-century geology and thus showing that other like-minded females have always surrounded women in science, Chevalier also questions the prevailing cultural perception of historical female scientists as mere exceptions to the rule. Chevalier weakens the feminist potential of her novel, however, when she decides to use her poetic license for the inclusion of a fictional romantic subplot. An unfulfilled love interest is arguably an important step in Mary’s personal development and a sexual encounter an important experience of initiation. Nevertheless, the rift that the invented romance causes in the empowering friendship between the two women and the traditional gender roles it reinstates seem rather counterproductive to this otherwise feminist portrait of strong, ambitious, and talented females in the history of science. Chevalier’s reliance on popular myths about her chosen protagonist as well as gendered clichés of female lives and women’s relationships stand in stark contrast to the revisionist ambitions driving this relational herstorical bio-fiction. Thus, while one might applaud *Remarkable Creatures* for the attention it draws to Anning’s life and the role of sisterly support and solidarity in the history of women in science, one must also criticize it for perpetuating a rather stereotypical image of both female lives and women’s relationships with each other as well as of its chosen protagonist who once again emerges from the pages of this book as the child who made great fossil discoveries. Astronomer Caroline Herschel, who features in Carrie Brown’s *The Stargazer’s Sister*, is also unable to shake off the image that history has bestowed upon her, that of her brother’s self-sacrificing ‘Cinderella sister’.

### 3.2 The Stars, Sibling Love, and a Scientific Fairy Tale: Remembering Caroline Herschel, “the First Professional Female Astronomer in History,”<sup>30</sup> in Carrie Brown’s *The Stargazer’s Sister* (2015)

“I am nothing, I have done nothing; all I am, all I know, I owe to my brother. I am only the tool which he shaped to his use – a well-trained puppy-dog would have done as much.”  
Caroline Herschel about herself (M. Herschel, *Memoir* ix)

More than fifty years of feminist research on women’s history have shown that the androcentric focus of traditional historiography has often failed to do justice to the lives and achievements of women who had lived in previous centuries. Still dominant patriarchal conceptions of cultural significance and historical noteworthiness frequently led to the exclusion of women and thus to the invisibility of their roles and contributions in the official records of the past. On the rare occasion that historical women had been considered worthy of historiographical attention, the patriarchal ideology operating within conventional history writing has often led to rather problematic portrayals of their characters and lives. Scholarly studies testify to the gender bias running through representations of women throughout history. They have shown the ways in which their “work is belittled or devalued in favor of their liaisons with famous and infamous men” (Trofimenkoff 3). Moreover, they have pointed to how women in history were often remembered more readily for their gender identities than for their notable abilities and accomplishments (Zimmermann 17), and how women’s achievements were all too often qualified in terms of their womanhood: “She did this at the expense of her femininity; she did that without neglecting her duties as wife and mother” (Trofimenkoff 3).

The posthumous reputation of the German-born yet England-based astronomer Caroline Herschel (1750-1848) also attests to this long-prevailing historiographical tendency to remember historical women more in terms of their feminine qualities and their romantic or familial relationships than for their outstanding achievements.<sup>31</sup> Herschel’s most significant successes as a woman in science were the discovery of eight comets as well as her correction of the Star Atlas by Flamsteed. These achievements were made in addition to the untiring support that she had provided her older brother with, the astronomer William Herschel (1738-1822), with whom she had worked during her career. For these noteworthy scientific contributions, she was celebrated by the public as well as the all-male astronomical elite of her day, and not to forget the royal family. Because of the attention and acknowledgements that she had received in her own day, Herschel stands out among her female contemporaries. Unlike many other women in the history of science, Herschel managed to become officially recognized and even financially rewarded

---

30 Hoskin, “Mortifications” 451.

31 A note on my use of names in this chapter is necessary: Caroline Herschel, born Carolina Lucretia Herschel, and her brother William, born Friedrich Wilhelm Herschel, both adopted the English rendition of their first names after moving to the English town of Bath in 1772. Since Carrie Brown uses their English forenames in *The Stargazer’s Sister*, I will do so as well within this study.

for her scientific contributions already during her own lifetime and, moreover, to be remembered by the traditional male-oriented historical narrative of science (Winterburn, “Learned Modesty” 7). However, far more than for her own astronomical discoveries and her important cataloguing work, it was the self-sacrificing sisterly support of her brother William Herschel which had earned her a place in the historical narrative of astronomy. “Much has been made about her selfless devotion to his studies, her long nights of waiting for his command to write down stellar position, her placing bits of food into his mouth when, due to excessive concentration on work, he had forgotten or was too tired to eat himself,” Claire Brock observes (5). Throughout the past, historians and biographers have not only stressed her role as William Herschel’s dedicated and dutiful assistant, even stylized her into the stereotypical “ideal of what an assistant should be” (Clerke 140). The (over-)emphasis of Herschel’s womanly qualities and her part as William’s assistant was often accompanied by a strategic downplaying of the significance of her own astronomical discoveries as well as a highlighting of the limitations of her scientific abilities: “Caroline Herschel was not a woman of genius. Her mind was sound and vigorous, rather than brilliant. No abstract enthusiasm inspired her; no line of inquiry attracted her; she seems to have remained ignorant even of the subsequent history of her comets. She prized them as trophies,” noted Agnes M. Clerke in her 1895 biography (139).

The male bias of traditional historiography is also evident in the frequent romanticization of her story. Indeed, the patriarchal trivialization of her independently made scientific contributions was all too often embedded in a heavily sentimentalized, almost fairy-tale-like version of her life story. Emily Winterburn remarks that “[s]he is very often, even now, described as ‘astronomy’s Cinderella.’ Her mother, meanwhile, is cast with annoying regularity as the wicked stepmother while William gets to be her savior prince” (*Quiet Revolution* 9). The gender-stereotypical fairy tale-motif of a damsel in distress who must be rescued from her fate as domestic servant in her parents’ home by her knight in shining armor, in this case her older brother William, and who out of gratitude for her liberation dedicates her life to this prince charming and his career has followed Herschel through many biographical accounts of her life. Michael Hoskin is undoubtedly the leading scholar on the Herschel siblings and he, too, relies on the caricatures of Cinderella, the wicked stepmother, and prince charming (see for example *Priestess*). Also, some of the more recent feminist-oriented accounts of her story adopt these fairy tale-motifs (see, for example, Fara, “Caroline Herschel,” *Pandora’s Breeches*).

That Caroline Herschel has so far generally been perceived as nothing but the dedicated and dutiful assistant to her famous brother rather than a distinguished astronomer in her own right is partially due to her own insistence on the insignificance of the contributions she had made and the unimportance of the role she had played, Brock explains (219). Caroline Herschel saw herself as her brother’s tool, which he could sharpen as required, for his musical and later astronomical endeavors. She is regularly quoted to have claimed about herself once: “I am nothing, I have done nothing; all I am, all I know, I owe to my brother. I am only the tool which he shaped to his use – a well-trained

puppy-dog would have done as much" (M. Herschel, *Memoir* ix). Looking at Caroline Herschel's own memoirs it becomes clear that she contributed to, perhaps even created, the image of her in public discourse. And yet, one needs to be careful when taking self-characterizations like these at face value. While Patricia Fara maintains that this "self-abnegating remark cannot simply be dismissed," that "this picture conforms to the version of reality that she recorded for her heirs" ("Caroline Herschel" 124), others have cautioned against taking utterances like these as an accurate and literally-meant self-characterization. In their assessment, this ignores historical context of eighteenth- and nineteenth-century science and society and the ways in which women had to negotiate their place within them. Those who take these words at face value, argues historian and Herschel biographer Winterburn, clearly misunderstand the rigid social restrictions on women at the time. Herschel, she claims, was highly aware of the sexist attitudes towards learned women that defined her lifetime and carefully and consciously created this image of herself to make her scientific ambitions socially acceptable (see "Learned Modesty," "Self-Presentation," *Quiet Revolution*).

Over the course of the last couple of decades, Caroline Herschel's life has not only found its way into several factual biographies (for example Brock 2007, Ogilvie 2011, Hoskin 2013, McCombs 2017, Winterburn 2017, to name only some of the more current ones). Lately, her story has also been told in a series of biographical fictions of which Carrie Brown's *The Stargazer's Sister* (2015) is not only the most recently published but probably also best-known example.<sup>32</sup> Brown has written a total of seven (historical) novels and a collection of short stories. *The Stargazer's Sister* is her most recent novel. In *The Stargazer's Sister*, Brown opts for a relational approach to the chosen female subject's life story. This is already foreshadowed by the given title, which positions and thus presents the historical woman in relationship to the arguably most important man in her life, namely her brother William. The title of this fact-based fictional account of Herschel's life surely is a fitting though from a feminist perspective also problematic choice for this period novel which narrates the fascinating tale of the Herschel siblings William and Caroline and their close relationship, "one perhaps unparalleled in scientific history" (Brown 326). The novel does not take a multi-perspective approach but concentrates instead on Caroline and her female point of view. As Brown explains: "It was always Caroline – the satellite star, not the planet – in whom I was most interested. I was interested in the life that was more difficult to discover, more hidden, the life whose sorrows and compromises were not readily apparent, a life whose silences were

---

32 Within the English-speaking literary context further examples include, for instance, Christina Koning's *Variable Stars* (2011) as well as Kelley Swain's *Double the Stars* (2014), both of which have been released by relatively small publishing houses – Arbuthnot Books and Cinnamon Press respectively – and have presumably for that reason not received the kind of widespread public attention that Brown's *The Stargazer's Sister* experienced, which was published by Pantheon Books (Penguin Random House). I also came across two German-speaking biofictions about Caroline Herschel in my research: Eva Maaser's *Die Astronomin* [*The Female Astronomer*] (2004) und Ruth Kornberger's *Die Symphonie der Sterne* [*The Symphony of Stars*] (2022).

as eloquent as her words” (qtd. in Kalb). While Brown traces Caroline Herschel’s incredibly long, nearly a century-spanning life almost ‘from cradle to grave’ – the fictional narrative begins with her early childhood, when she is about five years old, and ends with her death at the age of ninety-seven, – it is not the known story already told in numerous biographies that she relates. Rather, and like many novelists who use the lens of fiction in approaching a historical subject’s story, the American author seeks to shed a fresh light on her chosen female protagonist and illuminate those aspects of her life that we have no historical knowledge about, the moments, experiences, and memories that are unrecorded by history. “Wisely, sometimes brilliantly, Brown skips over much of the familiar material, instead training her gaze on the blanks in the record and emphasizing experiences a biographer might scant,” Andrea Barrett writes in her review of the novel. The book at hand is an intimate and unagitated as well as slow-moving narrative told solely from Caroline’s perspective if not in her supposedly own words. Rather, this herstorical biofiction realizes her story with the voice of an unknown third-person narrator.

The novel chronicles the evolution of the sibling relationship of brother and sister Herschel from Caroline’s perception: from the childlike admiration she has for her favorite older brother, over the strong attachment she feels to him after he rescues her from her fate as domestic servant in their parents’ home, and the profound love that develops over the years that they live together and work side by side night after night at the telescope. *The Stargazer’s Sister* opens as William rescues Caroline from a life of domestic service in her emotionally and physically abusive mother’s loveless and poverty-stricken home in Hanover. On a long, uncomfortable, and stormy boat trip across the English Channel, he brings her to Bath where he has established himself as an organist and conductor. Lina, as the fictional William calls his younger sister, will from now on function as his musical assistant, run his bachelor household, and sing in his concerts. Lina is terrified by the idea of moving to a country whose language she does not speak, joining and caring for a brother she has not seen in many years, and performing as a vocalist in front of the English public. However, she is also happy beyond the moon to be given this chance of finally escaping the grim life as “her miserable mother’s miserable companion” (Brown 82). Lina swears eternal gratitude and unconditional love to her favorite brother for having emancipated her and for offering her a meaningful, intellectual life by his side, a new sense of purpose. While she initially supports William in everything that the composing and teaching of music requires, her brother’s early childhood passion for astronomy soon takes over and his plans for his and his sister’s lives shift from music making to stargazing and the difficult and often dangerous task of building ever-larger and ever-better telescopes. During the day, Lina manages the Herschel household, keeping the account books, cooking for the many workers that William hires to build his telescopes, doing the laundry, attending to the garden, emptying the chamber pots, and even sifting dung for the telescope mirrors. At night and in all weather, Lina sits by William’s side taking notes, recording his findings, and, when he is too occupied to eat or drink himself, feeding him so that he keeps his strength for his

important work that she is convinced will make her brother famous one day. With Lina's help, William maps the sky and constructs his enormous and impressive forty-foot telescope which allows him to peer ever further and further into space and to eventually make his groundbreaking discovery of a new planet, Uranus. The novel does not only show the strong bond Lina shares with her brother; it also focusses on the meaning of that bond for her life – personally and professionally. Using her fictional privileges as a writer of literature, Brown grants her readers access to the female subject's inner life – as she envisions it, of course – providing them with the compelling portrait of a historical woman in science who struggles with the physical costs, emotional complications, personal compromises, and endless concessions her life at her brother's side, a life “*within the radiance of genius*” (Brown 289, italics in original), means for her. Drawing on both the available documentary evidence as well as her artistic creativity, Brown's character-driven novel reveals Lina's deep love for her brother, her utter gratefulness for having been rescued by him, her strong admiration for his abilities, intellect, and ambitions, her longing to be useful to him and his stargazing and telescope-building enterprise, and her growing sense of wonder at the natural world that she has only access to because of him. It also shows her constant exhaustion at the physical and mental demands William makes of her, her increasing frustration with his indifference to basic human needs and his obliviousness at the world around him, her growing sense of loneliness and sadness despite the close relationship she has with her brother, her devastation and sense of betrayal when William decides to marry late in life and rearranges their relationship. It also portrays her incredible grief and feeling of loss when he dies, leaving her with the need to find a new purpose in life. The relational biofiction also explores Lina's unmet emotional needs and her unfulfilled sexual desires. Brown imagines her longing for true love and the roles that her society expects of members of the female sex, namely becoming a wife and a mother. In the end, after William's death, she rewards her heroine with a happily ever after with a fellow astronomer allowing her to experience in old age for the first time what she had renounced in her life with her brother.

The aim of this chapter is to undertake a close and, above all, feminist reading of Carrie Brown's novelistic exploration of Caroline Herschel's life in *The Stargazer's Sister* (2015). The literary text has so far not received much critical attention except for some reviews. Reading the biographical novel against the background of the chosen subject's biography and her reception history, I argue that Brown's biographical novel creates a moving, indeed captivating, and undoubtedly more complex picture of Herschel, which complements and complicates the overly simplified image of her within traditional historiographical discourse. Nonetheless, the biofictional narrative at hand, despite its clearly perceptible revisionary purpose, does not qualify as a feminist rewriting of the dominant patriarchal representation of her story. Brown's biofictional account shows itself surprisingly unimpressed by recent feminist (re-)interpretations of her private life, professional work, and personal character. These have emphasized her role as an important astronomer in her own right, her ambition, her desire for independence as well as the careful and conscious ways in which she managed to succeed in science

despite the odds of her female gender. Using both the available biographical facts as well as her own artistic imagination, Brown transforms the overly reductive and highly romanticized popular caricature of ‘astronomy’s Cinderella’ into a more ‘human’ fictional character, providing her readers with a compelling portrait of a historical woman in science who struggles with unfulfilled desires, conflicting expectations, and emotional complications. However, the image Brown creates does, overall, largely conform to the perception that it was Herschel’s relationship to her brother and the loving and devoted support she had provided him in his exploration of the night skies rather than her own scientific achievements which make her a memorable historical character. While certainly giving her story depth and breadth, this interesting and insightful twenty-first-century version of Caroline Herschel’s life must be criticized for preserving, even emphasizing, the still prevalent societal idea of her as William Herschel’s self-sacrificing ‘Cinderella sister.’ Furthermore, Brown’s speculations about Caroline’s longing for marriage and motherhood, her relational representation, and her critical neglect of her achievements make the revisionist potential of this herstorical biofiction questionable. As will become clear, Brown, unfortunately, fails to acknowledge her chosen protagonist as an important astronomer in her own right, and moreover as an eighteenth-/nineteenth-century woman who carefully and consciously crafted a place for herself among the learned men of the scientific community of her time.

### **3.2.1 A Dutiful Assistant to Her Famous Brother or a Distinguished Astronomer in Her Own Right? Caroline Herschel’s Still Disputed Role in the History of Science**

Only few women who engaged in scientific endeavors in previous centuries were officially recognized and even rewarded for their contributions during their own lifetimes. Caroline Herschel surely is a rare exception in this regard. She had received widespread public attention as well as professional acknowledgements for both the indefatigable assistance she had provided her brother William, the renowned discoverer of the planet Uranus and builder of the world’s largest and best reflective telescopes of his day, as well as her own astronomical accomplishments, most notably the identification of eight comets and fourteen nebulae as well as the extensive correction and reorganization of *Flamsteed’s Catalogue of Stars*.

Like most women before the 1900s, Herschel gained access to the world of astronomy through a male family member, in this case her older brother William Herschel; for much of her life, indeed until her brother’s death, she had worked in a scientific family, as part of a brother-and-sister team. In the eighteenth and nineteenth century, British astronomy was for the most part still the business of “independent amateurs” who conducted research “in their own homes and at their own expenses” (Brück xv). In these settings, “family members were naturally drawn in as helpers and collaborators, especially wives, sisters and unmarried daughters who had no option but to live at home and few outlets for their talents and interests” (Brück xv). Caroline Herschel, Dale DeBakcsy notes, is often seen as the leading example of the many women that had entered the

male-dominated world of science, or astronomy to be precise, via a male relative (xi). But there are various other women that could be named here as well. He cites, for instance, Sophie Brahe (1559-1643), Elisabetha Hevelius (1647-1693), Nicole-Reine Lepaute (1723-1788), Louise du Pierry (1746-1807), and Marie-Jeanne de Lalande (1768-1832) (xi). Often, these women did not only record men's observations but also took over computations and many of them became important astronomers in their own right (DeBakcsy xi). Their work in astronomy was thereby often restricted by their limited access to the necessary education, the male-dominated scientific community of their day as well as to scientific infrastructure, in this case the instruments they needed to pursue such endeavors as peering into space. These previously invisible and thus unknown helpers are only now coming into view, for present-day scholars are increasingly shedding light on the supporters of male scientific discovery and knowledge production, especially on the work of scientific couples (Winterburn, "Self-Presentation" 80).

Like many of the crucial supporters those amateur astronomers relied on for their discoveries, e.g., servants, technicians, instrument makers, these female members of astronomical families were, however, often not credited for their contributions (Winterburn, "Learned Modesty" 7). In contrast to most other women who worked in the shadow of a 'great man,' Caroline Herschel did receive some recognition for her work – and she was even paid for it. Hoskin notes that she was celebrated across Europe as a great comet huntress receiving "boundless admiration from male astronomers" ("Mortifications" 456). The high esteem in which she was held by the scientific community of her day is clearly visible in her surviving correspondence with some of Europe's leading astronomers: Nevil Maskelyne (1732-1811) named her "my worthy sister in astronomy," Jérôme de Lalande (1732-1807) addressed a letter to "Mademoiselle Caroline Herschel, Astronome Célèbre, Slough," and Carl Felix von Seyffer (1762-1822) called her "a noble and worthy priestess of the new heavens" and a "most admirable lady astronomer" (qtd. in M. Herschel, *Memoir* 89, 90, 92-93, cf. Hoskin, "Unquiet Heart" 26). In appreciation of the crucial work that she performed for her brother, she even obtained an annual salary from the royal family, which her brother had petitioned for at her own suggestion (Hoskin, "Mortifications" 451). The yearly pension she received from the Crown made Herschel "the only woman in Britain to earn her living from the pursuit of science and, historically, the first woman to earn her living from astronomy," as Brock argues (2). She was "the first salaried woman astronomer," and thus "the first professional female astronomer in history" (Hoskin, "Mortifications" 443-444, 451). She was also "the first woman ever to publish an astronomical discovery" (McCombs 7). Herschel has been bestowed with numerous honors, among them the Gold Medal and an honorary membership of the Royal Astronomical Society (1828 and 1835), an honorary membership of the Royal Irish Academy (1838), and a Gold Medal for Science from the King of Prussia (1846), which represented "the highest accolades ever awarded, at that time, to a woman from the scientific community" (Brock 2). It is important to remember, however, that like the salary given to her by the royal family, these distinctions were given to her for the work she had performed for her brother rather than her independently

made discoveries, Fara emphasizes (*Pandora's Breeches*). The Gold Medal, for instance, was awarded "in recognition of the invaluable services rendered to astronomy by you as a fellow-worker of your immortal brother, Sir William Herschel" (qtd. in Hoskin, "Assistant" 442). Due to her successes, she certainly also became an inspiration for others, especially women in science. American astronomer Maria Mitchell (1818-1889) is said to have seen her as a role model though she was also troubled by Herschel's devotion to her brother and her sense of subordination to him and his scientific pursuits (Bergland 110-113). She was also celebrated by the British public as evidenced by the satirical cartoon entitled 'The Female Philosopher Smelling out the Comet' that portrays her (Hoskin, "Unquiet Heart" 26). This very cartoon might also be seen as evidence of a different aspect to her story, Winterburn suggests: while she was "a celebrated figure throughout Europe" ("Self-Presentation" 69), she was also "a figure of fun" in her own day ("Learned Modesty" 5). And yet, despite some mocking images like these, which according to Roberta Olson and Jay Pasachoff might not only be directed towards the female astronomer but also towards the time's "frenzy surrounding comets" (6), the positive perception of her seems to outweigh the negative. Even late in life, when she had moved back to Hanover and was no longer active in the world of astronomy, she continued to be seen as a celebrity and was visited by many scientists and even royalty (Hoskin, "Unquiet Heart" 26). Upon her death, the Crown Prince and Princess of Hanover sent their coaches to accompany the hearse carrying her body (Hoskin, "Unquiet Heart" 26). Considering the historical circumstances of the day, the public attention, professional acknowledgment, and even personal admiration that Herschel received during her own lifetime surely were an astonishing achievement, one by means of which she certainly broke the boundaries of female involvement in science at the time. It grants the astronomer a rather unique place in the history of women in science.

Like her brother, Caroline Herschel had an initial career in music. She was born in 1750 in Hanover in what is now Northern Germany into the lower-middle-class family of a military musician named Isaac Herschel (1707-1767) and his wife Anna Herschel (1710-1789). She was one of ten children, six of whom had survived into adulthood. Caroline Herschel was deemed unmarriageable by her family because of her childhood illnesses of typhus and smallpox which stunted her bodily height and left her with a scarred face (Hoskin, "Mortifications" 442). Destined for a life of servitude in the parents' home, she was offered to move to England in 1772 to become the housekeeper and assistant to her older brother William, to whom she "had been deeply attached from childhood" (Holmes, *Age of Wonder* 64). William Herschel, like all his brothers, was trained by the father to become an expert musician himself (Winterburn, "Self-Presentation" 71). Fleeing the Continent from the Seven Years' War, he established himself in 1766 in the English town and popular spa resort of Bath as an organist and conductor (Hoskin, "Assistant" 427). In Bath, Caroline Herschel ran the bachelor household of his brother. Her household duties included "managing the servants, purchasing supplies, organizing meals, welcoming guests," among others (Hoskin, "Mortifications" 453). Yet she was also invited to try a career as a soprano in his choir and was trained by her

brother in English, music, and deportment. She appeared as a singer in his concerts and assisted him in the various tasks that the composing and teaching of music required (Hoskin, "Mortifications" 442-449). She became very successful as a vocalist, so successful indeed that she was offered to embark on a singing career of her own, independently of her brother (Hoskin, "Unquiet Heart" 22-23). She declined the offer, however, as she had sworn to stay with her brother and to only perform in concerts in which he was conducting (Hoskin, "Unquiet Heart" 23). The Herschels' musical career was soon ended as William Herschel became increasingly passionate about stargazing and fascinated with building reflective telescopes of unprecedented sizes, and before long his new interests took over his and with that also Caroline's lives (Hoskin, "Unquiet Heart" 23). Soon, music became only a means of making a living, but his passion was in the sky. Because of their background, William and Caroline Herschel were initially perceived as outsiders by the scientific community of their day: "They were provincials, émigrés, and poor self-taught enthusiasts" and as such not expected to "achieve anything particularly original in astronomy" (Holmes, *Age of Wonder* 63). William had never been to university and was not formally educated in science. He did not arise from among the group of upper-class gentlemen scientists who dominated the pursuit of science at the time but came from the lower middle classes (Lemonick 15). In the world of late eighteenth- and early nineteenth-century British science, he was an "outsider" (Lemonick 20). But this would not stop him from becoming one of the greatest astronomers of his day, and, in fact, in the history of astronomy. When in 1781 he discovered a new planet, which he initially called Georgium Sidus, in honor of King George III and which was later renamed Uranus, the King made him royal astronomer to the court at Windsor (Hoskin, "Unquiet Heart" 23). With a lifetime pension from the King, he was able to make his living of astronomy instead of pursuing it as a hobby, and he and Caroline switched careers from music making to stargazing (Lemonick 19).

In the family's new astronomical endeavors, Caroline Herschel's task was to mainly assist her brother. Since she had not learned mathematics in school, her brother would begin training her in elementary geometry and basic arithmetic so that she could provide him with the assistance he needed in his observations of the night sky and the manufacturing of instruments (Hoskin, "Unquiet Heart" 23). In their scientific partnership, she took over the more traditionally female roles: "she organised, recorded and wrote out their collaborative work" (Winterburn, *Quiet Revolution* 12). But she was also encouraged to 'sweep the skies' or 'mind the heavens' on her own, as she herself put it (Holmes, *Age of Wonder* 116-117). Her brother asked her to use a telescope, a simple refractor he created for her, and "scan horizontal strips of sky for anything interesting – double stars, nebulae, comets, whatever" (Hoskin, "Mortifications" 449). While much of her time was spent supporting her brother, Caroline Herschel had also pursued scientific projects independently of him – usually when he had been away from home or was otherwise occupied. This was increasingly the case upon William's marriage which gave her more free time as she no longer had to run the Herschel household and thus was at leisure to work on her own projects and to make discoveries of her own (Hoskin, "Mor-

tifications” 453). And she became very capable at that. “The employment of writing down the observations, when my brother uses the 20-foot reflector, does not often allow me time to look at the heavens; but as he is now on a visit to Germany, I have taken the opportunity of his absence to *sweep* in the neighborhood of the sun, in search of comets....,” she wrote in a letter to Charles Blagden (1748-1820) which was read as *An Account of a New Comet* at the Royal Society on November 9, 1786 (qtd. in Hoskin, “Observer” 384, italics and omission in original). Between 1786 and 1797, she discovered eight comets, at least five of which had never been previously spotted (Olson and Pasachoff 8-13). By the time of Herschel’s first comet discovery, thousands of others had already been identified, as Winterburn points out (“Learned Modesty” 4). Olson and Pasachoff speak of a “comet fever” rampant at the time (6). Herschel’s 1786 comet was the first ever ‘lady’s comet,’ however, the first comet discovered by a woman, and she became quite a sensation for it at the time (Winterburn, “Learned Modesty” 4). She also discovered several nebulae and star clusters (Hoskin, “Assistant” 432). Moreover, she undertook an extensive correction, reorganization, and addition of John Flamsteed’s *Catalogue of Stars* (Hoskin, “Mortifications” 456). She did so at William’s suggestion, “so he might have a version of the catalogue on which he could rely” (Hoskin, “Mortifications” 456). Her work, which she completed over a period of two years, was printed by the Royal Society in 1798 at their expenses and bearing her own name. It contained an index of every observation of every star made by Flamsteed, a list of errata, and a list of more than 561 stars that had not been included (Hoskin, “Mortifications” 456). Later she helped her nephew John Herschel (1792-1871), William’s only son, in his astronomical work. Initially working as “his father’s assistant,” John Herschel eventually became his father’s “heir in astronomy” dedicated to “revising and completing William’s great work” (Hoskin, “Mortifications” 459). When her brother William died in 1822, Caroline Herschel moved back to Hanover. Though separated by a long distance, she continued to guide, encourage, and support her nephew (Hoskin, “Unquiet Heart” 25). Late in life, Caroline Herschel continued to verify and confirm her already deceased brother’s findings and completed a *Zone Catalogue* of all the nebulae and star clusters observed by him (Hoskin, “Mortifications” 460-461). According to Hoskins, this was a “mammoth enterprise,” and “arguably the greatest of her many contributions to astronomy, and it earned her the Gold Medal of the future Royal Astronomical Society” (“Mortifications” 460-461). Apparently, Herschel was so proud of this honor that she had it engraved in her tombstone (Hoskin, “Unquiet Heart” 25). She died in 1848 at the age of ninety-seven after having lived for almost a century.

There seems to be little doubt of the groundbreaking nature of William Herschel’s contributions to astronomy. The discovery of a new (eighth) planet was “unprecedented in the history of the world” and catapulted him “from obscurity to world-wide celebrity, essentially overnight,” Michael Lemonick explains (18, 19). Lemonick clarifies that his scientific achievements were so important “it’s not exaggeration to say that modern astronomy was invented, more or less, by William Herschel in the last decades of the eighteenth century” (19). William Herschel’s reputation as an astronomer is of the first

order. The role and place attributed to Caroline Herschel by the male-dominated historical narrative of science has often been a secondary one, however. Unlike many other women scientists in history, Caroline Herschel had not been erased from the scientific records and thus our cultural memory of the past. Her story, which is usually related alongside that of her brother William, has been frequently told throughout the past and is thus rather well-known to historians of science, Winterburn emphasizes (“Learned Modesty” 3). Until not so long ago, her life had often been presented in a highly reductive and clearly gendered way. It is beyond dispute that Caroline Herschel had been an invaluable attendant to William. In addition to running his bachelor household, she had “acted as his amanuensis during the night watches, seated by an open window ready to record whatever her brother called out as he stood with his eye to the telescope” (Hoskin, “Assistant” 425). While she faithfully recorded his observations and compiled his findings, she also undertook meticulous calculations and produced exhaustive transcriptions of his notes (Hoskin, “Mortifications” 442). Furthermore, she prepared his work for publication (Hoskin, “Mortifications” 442, “Unquiet Heart” 26). She copied his correspondence and scientific papers. She also supported her brother in the construction of telescopes. This included “spending long hours pounding horse-dung for the mould [in which the disks of mirrors would be grinded and polished]” (Hoskin, “Assistant” 429). But the untiring and crucial assistance she had provided her brother with in his exploration of the night skies and the building of telescopes are but one part of her many contributions to astronomy. Herschel also worked independently of her brother making her own discoveries and contributing her own work to astronomical discourse (Olson and Pasachoff 5). Nevertheless, in the history of science, Herschel has often been reduced to a secondary character, a one-dimensional figure, remembered for her devotion to her brother but not for her own achievements. While she had been famous in her own day as a great comet huntress, it was above all her more suitably feminine role as William’s dutiful and dedicated assistant that historians and biographers stressed when recounting her story in the decades, even centuries, to come. The introductory words of *Memoir and Correspondence of Caroline Herschel* (1876), a collection of selected letters and diary entries by the female astronomer issued posthumously by her family, prove an ideal example for the kind of popular narrative that has been attached to Caroline Herschel’s story in many accounts of her life:

Great men and great causes have always some helper of whom the outside world knows but little. These helpers [...] men or women, have all the same quality in common – absolute devotion and unwavering faith in the individual or in the cause. Seeking nothing for themselves, thinking nothing of themselves, they have all an intense power of sympathy, a noble love of giving themselves for the service of others, which enables them to transfuse the force of their own personality into the object to which they dedicate their powers. Of this noble company of unknown helpers Caroline Herschel was one. She stood beside her brother, William Herschel, sharing his labours, helping his life. [...] By sheer force of will and devoted affection, she learned enough of mathematics and of methods of calculation, which to those unlearned seem mysteries, to be able to commit to writing the results of his researches. She became his assistant in the workshop; she helped him to grind and polish his mirrors; she stood beside his telescope in the nights of midwinter, to

write down his observations, when the very ink was frozen in the bottle. She kept him alive by her care; thinking nothing of herself, she lived for him. She loved him, and believed in him, and helped him, with all her heart and with all her strength. She might have become a distinguished woman on her own account, for with the ‘seven-foot Newtonian sweeper’ given to her by her brother, she discovered eight comets first and last. But the pleasure of seeking and finding for herself was scarcely tasted. She ‘minded the heavens’ for her brother; she worked for him, not for herself, and the unconscious self-denial with which she gave up her own pleasure in the use of her ‘sweeper,’ is not the least beautiful feature in her life. (v-vii)

The stereotypical image of a self-sacrificing sister who altruistically commits herself to the career of her brother and who unstintingly supports him in all his astronomical endeavors has determined her story for much of the past.

There is no denying that William Herschel’s successes were also due in large part to his younger sister Caroline, “his faithful companion in stargazing” (Olson and Pasachoff 3), who had supported him throughout his life, and who had thus helped him in becoming the astronomer that he eventually was. While the nurturing care, self-sacrificing dedication, and obedient persistence with which Herschel had assisted her favorite brother in his explorations of the night skies have been (over-)emphasized throughout the past, her scientific interests and professional desires as well as her own agency, especially the way in which she managed to gain access to and acceptance in the male-dominated world of eighteenth- and nineteenth-century science have all too often been critically neglected or even outright dismissed; her independently made astronomical discoveries are often shown to “simply [...] have happened to her” (Winterburn, *Quiet Revolution* 11). Other aspects of her story, for instance her “profoundly ambitious nature” and “lifelong belief in the value of independence” (Brock 8-9) as well as her “active role in shaping her [scientific] education and public image” (Winterburn, “Self-Presentation” 80), her ability to carve out a place for herself in the male-dominated world of science have generally been ignored or were simply not seen or understood.

It is only in recent years that scholars have begun to offer a different interpretation of her, to create a different image of her by means of a reconsideration of her story through the lens of contemporary feminist scholarship on the history of women in science. In the context of the women’s movement, the life story of Herschel was also interpreted in a new light and attempts were made to bring her out of the shadow of her famous brother, to see her less as a mere assistant and more as an astronomer in her own right. In her biography *The Comet Sweeper* (2007), Claire Brock seeks to rehabilitate Herschel. Brock stresses her own astronomical ambitions noting that “she was not simply an amanuensis or general dogsbody. Caroline Herschel made her own original findings, separate from the work she carried out for her illustrious brother” (1). Brock claims that “Herschel may have followed her brother’s instructions, but she was determined to achieve more than anyone could ask of her” (6). She emphasizes her great ambition as well as her desire for independence. For Winterburn, Herschel was clearly ambitious, though she would also be careful to not appear too ambitious to remain within the boundaries of appropriate female behavior which was based on modesty, among

other things ("Learned Modesty" 3-4, "Self-Presentation" 77-79). Her ambition can be seen, for example, in how "she actively sought recognition and credit" (Winterburn, "Self-Presentation" 79). However, Winterburn is more reluctant to ascribe her a desire for independence. In her assessment, Herschel did not seek to embark on an independent career; she closely identified with "the Herschel family project" ("Self-Presentation" 79). This, however, was not in conflict with (a longing for) receiving appreciation and acknowledgement for her achievements and abilities ("Self-Presentation" 79).

The feminist-motivated reappraisal of her story is not without problems. Winterburn rightly points out, this retrospective heroization, this singling out of women as lost heroines, often does not correspond to the historical circumstances ("Learned Modesty" 7-8). She asks us to keep in mind that "women have, for a variety of educational, social and cultural reasons, historically taken on different roles in science to men. [...] tasks carried out by women, and other low status groups, have historically been labelled less 'scientific' than those carried out by white upper class men" ("Learned Modesty" 7-8). These roles were often seen as subordinate and by consequence remained historically invisible which is one of the reasons why the cultural narrative and public memory of science in the past is dominated by the achievements of 'great men.' Fara cautions us to not overstate the case with historical women in science. She claims that we cannot simply transport women from one stereotype into the next, "from the docile assistant, and the dotting but ignorant source of inspiration" to "the lonely, unappreciated pioneer" ("Caroline Herschel" 123). Many historians and biographers, Fara points out, try to "convert her into a female icon of science" and "have rewritten Caroline Herschel's story to underline [...] the contributions she made towards breaking down prejudice against scientific women" (*Pandora's Breeches* 149). Fara asks us to always consider the historical context when celebrating female lives and contributions in the past from a contemporary perspective to avoid retrospective misrepresentations that may do more harm than good to the feminist cause:

When does a shift of emphasis become an exaggeration, a distortion? Scientific women have been concealed for so long that it's very tempting to overstate the case and convert them into unsung heroines. Retelling women's stories to make them conform with modern ideals is historically insensitive; moreover, it is not very helpful for understanding how the past has led to the present. (*Pandora's Breeches* 149, cf. "Caroline Herschel" 123)

Undoubtedly, Fara is right here: exaggerating the roles played by women like Herschel in the history of astronomy is problematic. But what I find just as problematic is not cherishing the full range of female contributions due to a narrow focus on scientific achievements as a male endeavor and an understanding of women's roles in science as subordinate and secondary.

Despite recent feminist-motivated reappraisals of her life and abilities and achievements, Herschel's status as a significant "astronomer in her own right" (Brock 12) continues to be debated. Even in the twenty-first century, Kevin McCombs remarks, there are still historians and biographers who show themselves reluctant to describe her as a

scientist in her own right (84). For Hoskin, Herschel was “rightly esteemed throughout Europe [...] for her own achievements as a comet-huntress” (“Assistant” 425). She was indispensable to her brother, crucial to his achievements. Hoskin notes that without her, William Herschel would never have achieved what he did, he would “never have transformed astronomy from the study of the solar system to the exploration of the cosmos” (“Assistant” 442). Yet he places some clear restrictions to her abilities and achievements noting that she was definitely “no scientist” (Hoskin, *Priestess* 162). Hoskin uses her comet discoveries, which have often been stressed by those in favor of her role as an important astronomer in her own right, to support his point that she did not possess the kind of scientific curiosity and intellectual ambition that defines a scientist. He depicts her as ignorant of and disinterested in her own discoveries claiming that “she has no interest in comets as such. There is no hint that she ever wondered about the physical makeup of the comets she had discovered, or their role in the economy of nature (to refuel the Sun, perhaps), or even whether they would return” (*Priestess* 162). According to Hoskin, her life revolved around providing her services to her brother who had been “fortunate beyond words in having such a devoted assistant constantly on the lookout for ways in which she could advance his great enterprise” (“Unquiet Heart” 24, 27). He further justifies his view of Herschel by noting the following: “One feels that if William’s interests had taken a different course, and it had been (say) fossils that she had been told to go out and find, she would have responded with equal diligence and equal lack of interest in the significance of her discoveries” (“Assistant” 443). To him, she is thus better described as William Herschel’s “indispensable collaborator” (“Observer” 373) and his “faithful companion” (*Discoverers* x). Adopting the canine metaphor that Herschel had once used to describe herself, he dismisses her as “an obedient gundog, told to go and retrieve trophies”. He even goes so far as to argue that “the history of astronomy would have been the same if she had never found a comet” (“Assistant” 443). Winterburn argues that Hoskin’s evaluation of her abilities and achievements is based on a very narrow understanding of astronomy as being “the calculations and theorizing following discoveries” (“Self-Presentation” 78). In the case of Herschel, many scholars have shown themselves reluctant to cast her as a feminist heroine of science because of the ways in which she presented herself, her role, and her work. Surely, Herschel’s life “does not lend herself to the heroic stories of discovery we are used to hearing about,” Winterburn argues (*Quiet Revolution* 13). She appears to have been a woman “happy enough to remain in the background and to conform with the social customs of [her] day” (Brück xvii). Perhaps she colluded in this role “dreading being labelled a blue-stocking” (Brück xvii). Other present-day scholars have cautioned not to overstate the case here. For Fara, there is no denying that Herschel was a woman of great talent who had made important and independent contributions to astronomy. Yet, she “willingly endured a satellite existence” and “allowed her reputation to be eclipsed by her brother’s”. But this “satellite existence” that she “willingly endured” (Fara, “Caroline Herschel 124) has of late also been seen with different eyes, namely as a conscious and careful strategy used by Herschel to carve out a place for herself in the male-dominated

world of nineteenth-century astronomy (cf. Winterburn, "Self-Presentation," "Learned Modesty").

### 3.2.2 "A Well-Trained Puppy-Dog Would Have Done as Much"<sup>33</sup>: Herschel's Carefully Crafted Yet Often Misunderstood Image of Herself

Unlike many scientifically inclined women at the time, Herschel had successfully and visibly entered the male-dominated world of science of her day. That she was publicly acknowledged for her achievements and abilities as a woman in astronomy must be credited in part to her brother. It would have been within the conventions of the time if William had claimed her achievements as his, Winterburn explains, after all, "[h]e was the male figurehead of the family's scientific enterprise and therefore he was the official discoverer of everything they found, the maker of all their telescopes and the creator of all their theoretical work" (*Quiet Revolution* 40). While science has always been a joint effort based on the work of many different people, for much of the past it was usually only those at the forefront of the important scientific discovery that were honored and remembered. Against the conventions of the time, William Herschel had not claimed Caroline's discoveries as his (Winterburn, *Quiet Revolution* 39-40). He had allowed his sister to be acknowledged for her abilities and achievements. Winterburn explains this with the different nature of their scientific partnership, as they were brother and sister and not husband and wife ("Self-Presentation" 79). She also suggests a connection to the Herschel sibling's initial musical career, for in music, "public recognition for each individual contribution was standard" ("Self-Presentation" 79). That she was so widely accepted and even admired by both the public and the scientific community of her own day is also Caroline Herschel's own merit. She knew how to present herself and her work in a way that made it acceptable to be welcomed and even celebrated, Winterburn explains ("Learned Modesty" 4). She knew "how to manage her public image" (Winterburn, "Self-Presentation" 80). She made sure her voice was heard and her observations were taken seriously (Winterburn, *Quiet Revolution* 228). Moreover, she found male scientists next to William who supported her claims (Winterburn, *Quiet Revolution* 230).

In the context of the feminist-motivated rediscovery and rewriting of the history of science from the previously neglected and omitted perspectives of scientifically inclined women, historians of science have not only focused on the gendered restrictions that women interested and engaged in scientific education and work encountered throughout the centuries (Kohlstedt and Opitz 105-106). Historians of women in science have also revealed the various ways in which female scientists carefully and often strategically negotiated their place within the men's world of science throughout the past, also through modes of self-presentation. They have pointed to "the sometimes unconscious and sometimes consciously strategic ways in which women negotiated gender norms, bringing their own agency to the pursuit of their scientific aspirations" (Kohlstedt

---

33 C. Herschel ix.

and Opitz 105). According to Ute Hoffmann, one of the most widespread ways in which female scientists harmonized their interference into the male domain of science with the prevailing gender expectations of their day was camouflage (53-54). Intentionally, sometimes also merely instinctively, many women camouflaged their scientific interests and ambitions as well as their engagement in science by means of adopting more traditionally feminine roles, namely those of helpmates or assistants, sometimes also muses to male scientists, often fathers, brothers, or husbands, which fit the male-oriented image of science (Hoffmann 53-54, cf. Kohlstedt and Opitz 105-106). Appropriately feminine roles like these provided little or less target for those opposed to female education and participation in science. The adoption of such roles also explains why so many women remained invisible to the historical record for much of the past. Sally Gregory Kohlstedt and Donald L. Opitz discuss how women carefully negotiated their images and with that their position within the scientific communities of their respective time and place: “women in science viewed and presented themselves (often with deceptive, feminized modesty) as capable and talented historical agents,” they point out (106). In doing so, women scientists sometimes also contested popular images of themselves in self-representations, for instance, in portraits, engravings, photographs, autobiographical writing, and other forms of self-expression (Kohlstedt and Opitz 106). They invoked norms of femininity, at times representing themselves as “sympathetically conventional” or “flamboyantly unconventional” (Kohlstedt and Opitz 107). They created identities that they hoped would be beneficial for their work (Kohlstedt and Opitz 107).

Drawing attention to the strategies used by many historical women to negotiate a place for themselves within the male-dominated world of science, Winterburn contends that Herschel understood the cultural expectations imposed upon her gender and was very careful to portray herself and her work in a way that made it acceptable for the scientific community of her day to support and encourage her role and her contributions (“Learned Modesty” 4). She always presented her work in astronomy as something imposed upon her, carefully distancing herself from personal ambition (Winterburn, *Quiet Revolution* 8-9). Winterburn explains that

[i]n her letters, and especially her autobiographies, Caroline was very careful to present herself in a particular way. When she put her mind to it, the image she presented of her life and her path to success was that of an innocent, wide-eyed, but put-open heroine. She was a passive but grateful recipient of good fortunes. (*Quiet Revolution* 8-9)

Following this reasoning, the domestic labels Herschel used to describe her astronomical work (‘minding the heavens’ and ‘sweeping the skies’) are certainly further proof of her ability to present her scientific activities in appropriately feminine ways that made it acceptable for the learned men of her time to welcome her participation and even acknowledge her contributions. Holmes explains that Herschel gave terms like ‘sweeping’ or ‘minding’ a certain “domestic familiarity,” using them in her letters to imply that she was “a sort of celestial housekeeper, brushing and dusting the stars to keep them in good state for her brother, a sort of heavenly *Hausfrau*” (*Age of Wonder* 116-117, italics in original). The ways in which Herschel presented herself in her letters and her memoirs

must be seen as part of this strategic submissiveness and subordination (to her brother) that she adopted to be accepted and appreciated by the male-dominated scientific community of her day, for instance when she described herself as “a well-trained puppy-dog” (Herschel ix). Following Winterburn’s reasoning as outlined above, the use of such language might then not only be interpreted as a sign of her excessive modesty but as a strategic tool for counteracting her gender-based exclusion and disregard by the masculine culture of science, to carve out a place for herself in the male-dominated world of science. While expressions like these are often still used to dismiss and downplay her abilities and achievements, as I have pointed out above with reference to Hoskin and Fara, they might be seen as a conscious and strategic form of female, perhaps even (pre-) feminist, resistance to patriarchal oppression and gender-based restrictions.

Winterburn also draws attention to the ways in which her actions often undermined her own words. While Herschel usually announced her comet discoveries by letter, in the case of her eight and last comet she rode in the middle of the night to the observatory in Greenwich to tell the astronomer royal Neville Maskelyne personally about her finding (Hoskin, “Assistant” 439). Winterburn interprets this as a clear sign that she was eager to claim it (“Self-Presentation” 79). She always made sure that they would be acknowledged and accounted for to her, that her name would be attached to her discoveries. This does strongly contradict the assumption put forth by historians like Hoskin who claim that she did not care about her comet discoveries (*Priestess* 162). The language she used and the actions she took always show the specific tension she had to manage between her ambition of being acknowledged and accounted for and her need to appear non-ambitious (Winterburn, “Self-Presentation” 78-79). She developed the ability “to couch her astronomical work in ways that allowed it to be welcomed and accepted” (Winterburn, “Self-Presentation” 78-79) while training for her initially intended career as a concert singer. Winterburn explains that upon her move to Bath, Herschel had received lessons in self-presentation by hired tutors, among them women friends or acquaintances of William’s, in addition to lessons in singing and running the household that had been given to her by her brother (“Self-Presentation” 73-74). Hence, Winterburn continues, she was familiar with the expectations towards members of her sex, among them characteristics like “female modesty, self-depreciation and politeness” (“Learned Modesty” 4), and could “present herself in polite society as a performer and gentlewoman,” carefully managing her public appearance as well as her personal reputation (“Self-Presentation” 73-74, 75). Later, she was able to apply this knowledge to the public presentation of her role and work in the male-dominated world of eighteenth- and nineteenth-century science (Winterburn, “Self-Presentation” 75). She used this strategically in her writings: According to Winterburn, this can be seen, for instance, in the letters by means of which she announced her comet discoveries to some of the learned men of science of her day (“Learned Modesty” 3). Here, her overly modest way of speaking and writing and the domestic metaphors she used to describe her science become apparent. A frequently cited example is the letter she wrote to Maskelyne upon the discovery of her first comet: “In consequence of the Friendship which I know to

exist between you and my Brother I venture to trouble you in his absence with the following imperfect account of a comet” (qtd. in Winterburn, “Learned Modesty” 1). It also becomes visible in the two portraits that exist of her, Winterburn explains: these “show Caroline demurely dressed, head covered, collar buttoned up to the chin with minimal clutter around her. In neither image are there any props or background imagery to indicate her importance or profession” (“Learned Modesty” 8).

### 3.2.3 A Damsel in Distress in Need of Rescue by Her Savior Prince: Herschel as the Cinderella of Astronomy

Looking at Herschel’s reception history, one will notice immediately that she had further been victim to the long-prevailing cultural tendency to remember historical women more in terms of their feminine qualities than for their notable achievements and abilities. The male bias of traditional historiography is also evident in the frequent romanticization that her story has been subjected to. Throughout the centuries, historians and biographers have frequently adopted the Cinderella motif when talking about the German-English astronomer, Winterburn notes (“Self-Presentation” 70-71, *Quiet Revolution* 9). The origins of this comparison with Grimm’s now-famous fairy tale-figure must be ascribed to Herschel herself. In a letter to her niece Margaret Herschel dating September 24, 1838, she described herself as “the Cinderella of the family” (M. Herschel, *Memoir* 299, cf. Winterburn, *Quiet Revolution* 9). For Winterburn, this self-characterization was as a strategic choice by Herschel, one that fit “the prevailing mood” of the time when “the Brothers Grimm were collecting and recording their fairy tales” (*Quiet Revolution* 9). Winterburn understands Herschel’s use of the Cinderella motif as it neatly fits the kind of image and idea that she was so careful to create about herself, namely that of “an innocent, wide-eyed, but put-upon heroine [...], a passive but grateful recipient of good fortunes” (*Quiet Revolution* 8-9). While she comprehends Herschel’s use of this motif in her own writing, what is stranger to Winterburn is that many writers telling her story have taken her “fairy-tale depiction of herself and her family at face value” (*Quiet Revolution* 8), reproducing and thus repeating it in their own works. It can still be found in the many accounts of her life written in the present day, as Winterburn points out (*Quiet Revolution* 9). The gender-stereotypical fairy tale-motif of a damsel in distress who must be rescued from her fate as domestic servant in her parents’ home by her knight in shining armor, in this case her older brother William, and who out of gratitude for her liberation dedicates her life to this prince charming and his career has followed Herschel through many biographical accounts of her life. Hoskin, undoubtedly the leading scholar on the Herschel siblings,<sup>34</sup> has significantly contributed to this idea and image of Herschel and her life. Since the late 1950s, he has published nine major biographical works about William and Caroline Herschel, which have strongly shaped the public perception of their stories. His reliance on these fairy tale-caricatures of Cinderella, the

---

34 Michael Lemonick, for instance, notes that Hoskin is “widely acknowledged to be the world’s foremost authority on the life of William Herschel and his family” (21-22).

wicked stepmother, and prince charming shines through in his accounts, most prominently perhaps in one of his latest biographies entitled *Caroline Herschel: Priestess of the New Heavens* (2013), in which he uses these motifs as chapter headings.<sup>35</sup> What has surprised me is that also some of the supposedly more feminist-oriented accounts of her life adopt these fairy tale-caricatures (see, for example, the biographical sketches produced by Patricia Fara and the biography written by Claire Brock).

Hoskin notes that Herschel had a “grim childhood” (“Mortifications” 443). Though other reasons are certainly thinkable, for instance, the financial difficulties of the not well-off family, to him, the source of her misery was clearly her mother who planned to make her into a maid for the family. Hoskin insists that the “unsympathetic Anna” (“Assistant” 426) saw and treated her youngest daughter as “a household drudge” (*Pioneers* 3). According to him, she saw her “an enduring source of cheap help in the home” (“Assistant” 426). Hoskin describes Anna Herschel as a “slave-driver of a mother” (“Mortifications” 445). He portrays her as a villainous schemer and monstrous woman doing everything in her power to force her daughter into a life of domestic servitude in the Herschel household putting obstacles in her way so that she would have to stay with her for the rest of her life. He claims that

Anna enjoyed having a maid of her own, and the only candidate was Caroline. Anna therefore conducted a long and well-thought-out campaign, whereby her daughter would acquire the skills that would be useful around the Herschel home, but would not be a plausible candidate for a more ambitious post that would allow her to make her escape. (“Mortifications” 443)

It has often been claimed that the society of her day saw Herschel as unfit for the marriage market; she was regarded as unlikely to ever make a match due to her physical appearance. Hoskin notes that she was diminutive and disfigured from the various illnesses she had contracted as a child, smallpox, and later typhus (“Mortifications” 442). This assumption of her unmarriageability is based on Herschel’s own recollections of her life. In her memoirs, she recorded a frank warning her father once gave her about her prospects in terms of finding a husband and having a family of her own: “And I never forgot the caution my dear Father gave me; against all thoughts of marrying, saying as I was neither handsome nor rich it was not likely that any one [sic] would make me an offer, till perhaps when far advanced in life some old man might take me for my good qualities” (qtd. in Hoskin, “Mortifications” 442). To keep Caroline in the Herschel home, Anna Herschel apparently vetoed against her learning French, which, at the time, was a necessary requirement for becoming a governess (Hoskin, “Mortifications” 443). She also prevented her from learning more advanced needlework thus prohibiting her

---

35 Other works by Hoskin include *William Herschel, Pioneer of Sidereal Astronomy* (1959), *William Herschel and the Construction of the Heavens* (1963), *The Herschel Partnership: As Viewed by Caroline* (2003), *Caroline Herschel's Autobiographies* (2003), *The Herschels of Hanover* (2007), *Discoverers of the Universe: William and Caroline Herschel* (2011), *The Construction of the Heavens: William Herschel and Cosmology* (2012), *William and Caroline Herschel: Pioneers in Late 18th-Century Astronomy* (2014).

from becoming a seamstress (Hoskin, “Mortifications” 443-444). Clearly, Anna Herschel is presented by him as the one hindering Caroline in her emancipation from conventional, patriarchal gender roles.

The image of the wicked stepmother was often paired with the idea of a kind and supportive but regarding his wife rather powerless father. Hoskin notes “theirs was a marriage of opposites” (“Assistant” 425). While he portrays Anna Herschel as unsympathetic and uneducated, Isaac Herschel is characterized by Hoskin as “a man of true culture and intelligence” (“Assistant” 426). He was “determined and hardworking” and his “greatest joy in life was communicating to his children his love of music and things of the mind” (“Assistant” 426). A similar characterization of the personalities of Anna and Isaac Herschel can be found in Brock’s account of Herschel’s life. She states that Caroline’s “attempts to improve herself were blocked all the way by Anna, who wanted to keep her unpaid housekeeper” and that the “weak and gentle Isaac was roughly overruled by his vulgar wife and Herschel was permitted only to improve ‘useful’ elements of her education” (52, cf. Winterburn, “Self-Presentation” 71). Winterburn claims that the characterization of Anna Herschel as the wicked stepmother of the family lacks any historical basis. She finds this treatment of Anna Herschel and her motives both unfair and unfounded. Neither Caroline Herschel herself nor any of her brothers ever wrote about their mother in this way in their surviving correspondence, diaries, or any other kinds of primary sources (Winterburn, “Self-Presentation” 71). Furthermore, to suggest that Anna Herschel denied her daughter the more ‘polished’ education of her brothers and prevented her child from developing a career for herself outside the family home and “was acting out of cruelty,” ignores the historical and gendered circumstances of their existence, according to Winterburn (“Self-Presentation” 71). Winterburn explains that Caroline Herschel’s situation was a quite common one for unmarried middle-class women of her time and place, that many remained in their parents’ home for much of their lives (“Self-Presentation” 71-72). She describes the life of women in eighteenth-century Europe as follows:

Women were expected to fit in with men, to have access to education only if they had a male relative who chose to allow it. They were expected to stay at home, cook, clean and raise children while their brothers, fathers and husbands went out into the world. They were expected to accept their fate quietly, their only hope of escape to be found in meeting a prince or, at the very least, a wealthy man, and to marry him. (*Quiet Revolution* 9)

Moreover, while girls in Germany attended school, they usually did not receive the same education as boys. For girls, the focus was placed on acquiring domestic skills, though girls’ schooling also included learning how to read and write (Winterburn, “Self-Presentation” 72). Winterburn speculates that casting Anna Herschel as the wicked stepmother hostile to and even physically and emotionally abusive of her own daughter might have to do with the fact that “Caroline’s story otherwise lacks any real tangible enemy. [...] Her story contains no ‘Big Bad Wolf’” (*Quiet Revolution* 9). According to Winterburn, Herschel, unlike many other scientifically inclined women at the time, never suffered any direct attacks from the male-dominated world of science (*Quiet Revolution* 8).

Though it would be incorrect to suggest that Caroline Herschel did not face any boundaries and barriers in her pursuit of science, most of her fellow astronomers and many other scientific individuals she met during her lifetime were rather friendly towards her and supported her work (*Quiet Revolution* 8-9). The lack of any overt opposition surely also had to do with the ways in which she presented herself and her work, as I have discussed with reference to Winterburn earlier on.

There is no denying that with little prospects of getting married and having a family of her own, as well as no options of fulfilling her desires of work outside the home as a governess or seamstress, Herschel's future looked rather grim. But "[i]n her dismal predicament there appeared, almost by magic, Prince Charming in the shape of her beloved William" (Hoskin, "Assistant" 427). In these fairy tale accounts of her life, Herschel's untiring support of and selfless commitment to William are generally ascribed to her enormous gratitude at having been liberated by him from her Cinderella-like existence in the unloving Herschel home. She "was determine to repay him and – and herself find fulfilment in life – by her devotion to his ambitions," Hoskin claims (*Autobiographies* 2). William and his brother Alexander "had hatched a plot to rescue Caroline" (Hoskin, *Discoverers* 2) who was "trapped in the family home in Hanover at the beck and call of their domineering mother" (Hoskin, *Pioneers* 3) where she faced a "career as scullerymaid" (Hoskin, "Mortifications" 444). "To prey Caroline from her mother's clutches" (*Discoverers* 2), they would bring her to Bath where she could try her luck as a singer in her brother's choir. In Hoskin's assessment, the idea of Herschel becoming a concert singer, even a soloist in her brother's oratorios presented to the aristocratic Bath audiences, was rather absurd: "although their brother Alexander (who by now had made his home in Bath) spoke well of her voice, she was untrained in music, unused to high society, unable to speak a word of English, diminutive in stature, disfigured by smallpox – the list of obstacles was endless" ("Assistant" 428). But it was apparently the only pretext they could think of at the time "to extricate her from her Hanoverian predicament" (Hoskin, "Assistant" 428).

The problem with this fairy-tale-kind-of-narrative of Herschel's life, the representation of her as a 'Cinderella-like figure' awaiting her rescue fosters a narrative of female passivity and powerlessness ignoring her own agency in the direction her life has taken her, Winterburn explains ("Self-Presentation" 71). To Winterburn, Herschel was an active agent rather than a passive recipient of good fortunes. She carefully, consciously, and very cunningly shaped her own education, participation, and image as a female scientist ("Self-Presentation" 80). That she herself used these fairy tale motifs in the accounts of her life must be seen as part of her strategy to create a space for herself in the male-dominated world of science (Winterburn, *Quiet Revolution* 8-9). It should not be used to diminish or dismiss her achievements. Nonetheless, the romanticized image of a passive heroine waiting to be rescued from her Cinderella-like existence as a domestic servant in her parents' household and dedicating her own life to her brother and his astronomical ambitions in eternal gratitude for her liberation strongly influences the general perception of Caroline Herschel until today. Pamela S. Turner's *Comet Chaser*:

*The True Cinderella Story of Caroline Herschel, the First Professional Woman Astronomer*, a book for children and young adults, published in 2024, functions as a telling example here – and so does Carrie Brown’s *The Stargazer’s Sister*.

### 3.2.4 “Let Whatever Shines Be Noted”<sup>36</sup>: The Complex (Inner) Life of the Woman Behind the ‘Great Man’

Brown’s *The Stargazer’s Sister* is a beautifully written and, in many regards, fairly accurate historical novel based on the biography of Caroline Herschel. In different ways, it is a novel about discovery, the discovery of the universe which becomes Caroline and William’s mission in life, and the discovery of the self when Caroline notices her own scientific talent and her value as an astronomer. The idea of discovery also functions as a metaphor that describes the cultural function performed by the novel itself. Brown’s *The Stargazer’s Sister* allows readers to discover Caroline Herschel, the woman behind the ‘great man,’ as a historical person in her own right. Brown uses the motto of the Royal Astronomical Society as the guiding metaphor of her story: “Let Whatever Shines Be Noted.” It features as the title of the novel’s prologue and is inscribed in the medalion that William gives Lina as a gift (Brown 1, 6). The phrase is taken up again at the very end of the story, when a ninety-seven-year-old Lina teaches a young German girl about the stars. Quoting the Royal Astronomical Society’s motto, she tells her to “look always toward the light” (Brown 323). In an interview, Brown explains: “That phrase was the Royal Astronomical Society’s motto. I was delighted to find it. It felt like a useful metaphor to describe her character in the world and her and William’s astronomical work” (qtd. in Birkett Morris). The metaphor not only functions to describe what their work was like, that everything that shone had to be noted by them and that with their joint work on the stars they exceeded the catalogue of stars from a hundred to a couple of thousands. The motto functions also as a comment on the protagonist herself and her role in the history of science. Read against the story of Herschel and other women in the history of science, this passage unfolds its full metaphorical and even meta-historical significance. For just like the stars, it is about the lives of lesser-known and often-neglected figures, which feminist historiography wants to bring to light and remember with its own means. The motto might be seen as problematizing historiography itself, whose focus on ‘great men and their ideas’ has often pushed the lives of women to the margins and footnotes of the historical narrative of science. Herschel had often been lost in the light of her brother’s; she was “like a little satellite star” while he was “a sun, a planet,” as Lina notes in the novel (Brown 141). With her novel, Brown pushes William, the sun, the planet to the periphery of the story, allowing her protagonist to step out from underneath his shadow into her own bright light. She makes sure that Lina’s own shining star is noted by a twenty-first-century audience which is most likely unaware of her story.

---

36 Brown 1, 6.

It was certainly not the necessity to artistically fill in an insufficiently recorded life that has led Brown to explore Herschel's story through the lens of biographical fiction. Caroline Herschel's life, like that of her brother William, is extremely well-documented, as the author herself points out in the acknowledgements: "Fortunately for the world, brother and sister William and Caroline Herschel left remarkable and detailed records of their lives in the forms of letters, lists, catalogs, journals, musings, 'day books,' and scientific papers" (325). The siblings, Brown continues, "were active correspondents and chroniclers of their separate and combined scientific endeavors and achievements, as well as the more prosaic details of their daily domestic experience" (325). According to Marilyn Ogilvie, many of the Herschel manuscripts are now held by the Royal Astronomical Society while a lot of the personal correspondence is housed by the Royal Society (3-4). Other papers are widely dispersed, also in private collections, though many have been microfilmed before their dispersal and can be consulted at the British Library (Ogilvie 4). In addition to her surviving personal correspondence and professional works, Herschel's own attempts at telling her life in the form of two albeit uncompleted memoirs are important and invaluable primary sources available to those in search of her story – and voice. Herschel had twice embarked on the endeavor to write the story of her life for members of her family. Both autobiographical accounts, which she had begun in her seventies and then again in her nineties, remain unfinished though. She had intended them for her youngest surviving brother Dietrich Herschel and her nephew John Herschel respectively. The first account of her life ends on the day of William's marriage in 1788. The second account stops in 1782 in the middle of the 'Bath years.' Both autobiographies are now located at the Harry Ransom Humanities Research Center at the University of Texas (Ogilvie 4). In 2003, Hoskin published both autobiographies for the first time. The publication, which is accompanied by extensive annotations, is entitled *Caroline Herschel's Autobiographies*. Previously, only excerpts had been made available within two influential biographies that had been written about Caroline and her brother William by their relatives. These are *Memoir and Correspondence of Caroline Herschel* (1876) edited by her niece Margaret Herschel, John's wife, and *The Herschel Chronicle: The Life-Story of William Herschel and His Sister Caroline Herschel* (1933) authored by her great-niece Constance Lubbock, John and Margaret's youngest daughter (Ogilvie 4, Hoskin, "Mortifications" 465-466). In addition to these primary sources, there are many secondary sources – biographical, historical, and scientific – on which Brown was able to rely in reconstructing Herschel's life in *The Stargazer's Sister*. Truly, "a scholar in search of their story will find no shortage of material, written both by the Herschels themselves and, as the years progressed, by others," as Brown explains in the acknowledgements (325).

Rather than the need to compensate for an absence of facts, it was a desire to access those aspects of Herschel's life unrecorded by history, especially the interiority of her chosen subject, which motivates Brown's use of fiction in relating her story. The astronomical work the Herschel siblings pursue together in the novel appears as an apt allegory for Brown's literary project in *The Stargazer's Sister*. Just as William and Caroline

use their telescopes to discover a world that has long been hidden from view, a world that cannot be seen with the naked eye, Brown uses the lens of fiction to make a very similar discovery of an undiscovered world. Yet, while William and Caroline turn the telescope outwards to look further and further into space and see hitherto undiscovered celestial bodies, Brown turns the lens of fiction, her literary microscope, inwards to see the chosen female protagonist's unknown feelings and thoughts. Despite the incredible amount of existing material originating from her pen, little is known about what occupied Herschel emotionally and psychologically; only rarely does one get a glimpse of her thoughts, feelings, and perceptions within these surviving records of her life, as Brown explains (qtd. in Golay). Thanks to Herschel's habit of keeping a diary and copying her letters as well as due to her own attempts to tell her life in two albeit uncompleted memoirs there is a considerable amount of information on her life and the work she performed. However, these documents are comparatively silent about what went on inside her mind and heart. Herschel's writing was not confessional. In fact, the sources fail to provide significant insights into her inner life, they are surprisingly limited when it comes to her thoughts and feelings, and not always reliable for not only were her autobiographies crafted for her family, in her letters she was careful to present herself in a certain way, as I have discussed above. Writing within the confines of fiction gives authors license to not only fill in the gaps but to penetrate their characters' minds and hearts, to speculate what they might have thought and felt. While historians and biographers who take their job seriously must contend themselves with the documented evidence and existing material about their subject and are unable to speculate about what might have been but went unrecorded, biographical novelists can "illuminate those 'private moments' unrecorded by history" (Brown 328). With reference to the German poet and philosopher Novalis, Brown points out in the author's note: "Novels arise out of the shortcomings of history" (327). Novelists can make those silences speak. In doing so, she can give readers a different image of Herschel, and a deeper understanding from the one contained in biographical-historical scholarship. In the context of herstory, this act of accessing a historical woman's inner life might be seen as a conscious feminist strategy aimed at saving the female subject from the reductive oversimplification that she had been exposed to throughout history. As Katherine Cooper and Emma Short point out, writers of female-centered historical and biographical fiction "provide detailed and complex portrayals of [...] [the female figure] at odds with her accustomed place as a one-dimensional, supporting character in *history*" (14, italics in original). The motivation to explore Herschel's little-known inner world, those aspects that she left out of her own account of her life, and to thus deepen our understanding of her as a person and present the reader with a more complete version of herself, is what drives the novel at hand.

Like many biographical novelists, Brown uses her narrative privileges as a writer of fiction to imaginatively explore Caroline Herschel's otherwise missing inner world and in doing so gives her more individuality and complexity. Brown's wish to access her chosen subject's unknown inner life and to provide her readers with an intimate,

nuanced, and complex view of Herschel's life and character becomes also visible in the perspective structure that has been chosen in the novel. Here, Caroline Herschel functions as character-focalizer while not a first-person narrator – something that sets *The Stargazer's Sister* apart from the other biographical novels I have chosen. Unlike the other literary texts featuring in this study, *The Stargazer's Sister* is not written as an autofiction or heterobiography in which the fictional Caroline is given the chance to tell her own story from her purported first-person point of view and moreover in her supposedly own words. However, Caroline is the focalizer in the novel; the story is told only from her viewpoint. Hence, it is her thoughts, feelings, and perceptions, as the novelist imagines them, of course, that readers have access to in the novel; the action and characters are all rendered solely through her perspective, which makes the story very personal. By consequence of the strong focus that is placed on Caroline, other characters are not investigated in detail at all, and what readers learn about them is necessarily filtered through Caroline's viewpoint. Though written in the third- rather than first-person, *The Stargazer's Sister* is told in present and not past tense which some readers might need a moment to get used to. The chosen tense of the narrative, while giving the story a certain vividness and immediacy, feels somehow at odds with the chosen narrative situation.

As it is quite typical in the genre of biographical fiction or biofiction, Brown uses the acknowledgements to explain to her readers both the hybrid nature of the narrative text at hand and her authorial intention in writing it to begin with. To reconstruct and recreate the inner life of Herschel, the author draws on both biographical scholarship as well as creative invention. By listing and commenting on the various primary and secondary sources that she relied upon in creating *The Stargazer's Sister*, she makes clear that her novelistic account of Herschel's life is the result of careful research and that it is firmly rooted in the historical facts about the chosen subject's story (Brown 329-331). In addition to documenting her extensive research and source work, the accuracy and authenticity of the presented story is further underlined by Brown's expression of gratitude to those people whose writings she could rely on in her account of Herschel's life. She thanks the Herschels themselves for their "shared habit of letter writing and keeping records of their experience, and especially for Caroline's effort later in life to fashion a narrative from the deep and rich trove of material left by her brother and contained in her own notebooks" (326). She is also grateful to the numerous "scientists and biographers – who understood the significance and scale of their contributions to astronomy, and who worked with diligence and skill to produce narratives that reflect the fullness of the lives of these two singularly fascinating people and their place in history" (325-326). Her research about the Herschels' lives and times did not only encompass the study of the many sources available. It also included making herself familiar with how the Herschels had lived and worked, e.g., travelling to the places in which they had been as well as spending many nights at an observatory to understand the stargazing business and the science behind it (Brown 331 and Brown qtd. in Kalb). The close connection to the life story presented here as well as to the historical context is strengthened by the

fact that Brown claims to have reproduced from time to time Caroline and William's actual words exactly as they were written or spoken and have been recorded in surviving documents, though much of the dialogue had to be invented, of course (Brown 327). Nevertheless, the author is also keen to distance herself from the historiographical discourse of biography and its claims to factual truth. "In telling her story in *The Stargazer's Sister*, I have made several deviations – some minor, some dramatic – from the historical record, sometimes for purposes of narrative design and sometimes out of an impulse to shape the material for purposes other than historical accuracy," she notes insisting on her fictional privileges as a novelist (326). As was pointed out earlier on in this study, in biographical novels the acknowledgements become an important space in which authors negotiate the relationship between fact and fiction and admit the liberties they have taken, to reveal transparently some of the deviations made. In the present novel the poetic license that Brown has taken include the invention and exclusion of certain characters to deepen our understanding of her chosen subject's character, the alteration or compression of historical events and dates to fit her century-spanning life into a coherent and compelling narrative, one that reveals the kind of message she wants to send to her twenty-first-century readers about Caroline's life (Brown 326-327). The liberties she takes are the result of her self-image as a writer of fiction. The author does not see herself as a historian or biographer but emphasizes her role as an artist. She explains that "a historian seeking to understand the Herschels' lives would approach their story very differently than I have done though we might depend on many of the same sources for information" (326). With all the additions, changes, and omissions she made in telling Caroline's story in *The Stargazer's Sister* Brown sought

to capture the truth of what has felt to [her] from the first most intriguing and most moving about Caroline Herschel's life: that she clearly loved her brother, that she admired him and served him and his endeavors with unquestionable loyalty and intelligence... and that her devotion was not without complexity and perhaps sometimes cost for her. (328, omission in original)

Her choice of fiction thus seems to stem above all from a desire to get to the essence of her chosen subject proving Michael Lackey's point that for writers of biographical fiction, fictional creation is more important than historical accuracy and biographical representation (Lackey, "Narrative Space" 2). She knows that authors of fiction aim for a different kind of truth, not biographical truth but "fictional truth," as Lackey would put it (*American Biographical Novel* 35). Thanking Michael Hoskin, "perhaps the foremost scholar on the Herschels' lives," Brown expresses the hope that he would see the different kind of truth about Caroline Herschel's life she attempted to create in the novel: "It is my hope that should he ever read this novel, he would appreciate the story's deviations from the historical record and see in my changes to that record an altered but not unrecognizable truth" (330).

It is undoubtedly Caroline Herschel's story in which Brown is interested. Though Caroline clearly is the protagonist of *The Stargazer's Sister*, it is not the story of her remarkable rise from its humble and unpromising beginnings as an unpaid household

servant in her parents' home in Hanover to a famous comet huntress and internationally celebrated lady astronomer which this novel seeks to tell. Like many historians and biographers before her, Brown has chosen to focus on her emotional and intellectual relationship to her brother – something that is already visible in the given title which represents the female figure in relation to the arguably most important man in her life. The central goal of *The Stargazer's Sister* is a novelistic exploration of Caroline's personal relationship to and professional partnership with her brother William. This also manifests in the amount of narrative space: the part of her life that she spent at her brother's side clearly dominates in the story while the twenty-three years that she lived without him after he died only form a small part of the narrative presented here.

To focus the story's attention on "the remarkable story of their [Caroline and William's] relationship, one perhaps unparalleled in scientific history" (Brown 327), Brown has strongly reduced or even outright suppressed other meaningful kin- and friendships in the historical female scientist's life. For instance, her nephew John Herschel, whom Caroline Herschel had dearly loved and greatly supported at the beginning of his own professional career as an astronomer and with whom she had upheld a regular correspondence after having moved back to Hanover in old age (Hoskin, "Mortifications" 456-461), is completely omitted from this fictionalized version of her life. Hoskin suggests that Herschel had been very close to her nephew, that John had been almost like a son to her. He claims that her nephew's birth had provided her at last with an outlet for her motherly feelings ("Mortifications" 456). While the fictional William marries Mary Baldwin Pitt, as he did in historical reality, the novel shows them as unable to have children (Brown 292). With the fictional character of Stanley, a boy (and later young man) working as a servant for the Herschels in Bath and basically growing up in their household, the novel still imagines an outlet for Lina's motherly feelings though. Indeed, Stanley might be seen as a child surrogate for Lina, a figure created to show her longings for motherhood, even though she is shown to see their relationship more "like sister and brother than parent and child" (Brown 180). Caroline Herschel's brother Alexander Herschel (1745-1821), who had worked together with them in the beginning of their careers and with whom she had a strong bond as well, is briefly mentioned. He becomes a minor character though he had lived with her and William in Bath and was involved in their musical and later astronomical endeavors; he was especially crucial in the instrument (telescope) making business which took the brothers across the English country and to Europe (cf. Hoskin, "Alexander Herschel", cf. Brown 327). Neither is her close friendship with Emmeline Beckedorff mentioned (cf. Hoskin, "Mortifications" 459). After her childhood friend, a neighbor girl named Margareta dies, Caroline does not have a single female friend. There are only male relatives and friends who determine her life. This is something that sets *The Stargazer's Sister* apart from the other herstorical biofictions of science chosen in this study, which all somehow or other emphasize women's relationships with each other and sisterhood as an important source of support and solidarity in the respective woman's life. This is not to say that Brown's Caroline does not connect meaningfully with others. She does form a couple of relationships to people other than

her brother in the story, yet these are all male, and they are all fictitious characters, as I will explore later in this chapter. Moreover, none of these relationships are as strong as that with her brother.

Brown's focus on Caroline's relationship to her brother is understandable given William's strong presence in her life and the close bond they undoubtedly had. While the Herschel siblings were twelve years apart in age, they "were rarely divided by distance of any significance in terms of time and space," as Brown notes in the acknowledgements (328). Due to its relational approach to Caroline Herschel's story, the novel also offers glimpses into the fascinating life of her brother, his careers first in music and later in astronomy. However, Brown does not use the fictional character of Caroline as a lens through which to understand the life of the famous man – though such herstorical biofictions do exist, as Ina Bergmann has shown ("Historical Biofiction" 320). "It is Caroline's life in which I have been chiefly interested for the years of my work on this novel," Brown emphasizes (326). From a feminist perspective and especially when keeping in mind Herschel's reception history as outlined above, the narrative choice to concentrate on her connection to William might also be seen as problematic. A focus on women's relationships to men is not unusual in the genre of herstorical biofiction, as I have already shown with reference to observations made by Stephanie Bird and Ina Bergmann. Some feminist scholars in the field of life writing studies have seen a relational approach as a remedy against the often-problematized "spotlight approach" (Stanley 214) of traditional male-oriented biography, as Julia Novak explains ("Screening Clara Schumann" 3). However, a relational approach does also pose the risk of remarginalizing the historical woman, reducing her to the subordinate position that had been assigned to her throughout history, especially when it is the relationship to a famous man that is at the center of attention in the respective narrative (Novak, "Screening Clara Schumann" 3, cf. Ní Dhúill, *Metabiography* 192-194). Thus, a relational approach might also be counterproductive to the feminist project of telling *her*story. As I have discussed earlier, Herschel's reputation was based upon both her assistance to her brother and her own scientific discoveries. For long, historians and biographers have tended to overemphasize her role as astronomical assistant and have downplayed or dismissed altogether her own scientific interests and distinct talents as well as her independently made discoveries and contributions. Some still show themselves hesitant, even unwilling, to acknowledge her as a significant astronomer in her own right. Given that Herschel had often been remembered more readily for her role and work as her brother's assistant than for her own scientific accomplishments, Brown's relational approach to her story in *The Stargazer's Sister* goes some way to uphold and continue the gendered image of her as the less important sister of William Herschel.

### 3.2.5 “What Will She Not Do to Repay Him with Her Gratitude?”<sup>37</sup> (Re-)Writing the Romantic Fairy Tale of Brother and Sister Herschel

Possibly because Herschel had once described herself as “the Cinderella of the family” (M. Herschel, *Memoir* 299), it is this overly romanticized, patriarchal image of a damsel in distress in need of rescue by a knight in shining armor that has followed her through many accounts of her life (Winterburn, *Quiet Revolution* 9). Indeed, as I have shown above, throughout the past and well into the present, Herschel has been depicted repeatedly as an oppressed, passive, and dependent heroine condemned to a life of domestic servitude in her parents’ household in Hanover, until she is eventually saved by her favorite brother, prince charming to her rescue. He whisks her off to a better place in his newly-found home in far-off England offering her a fulfilling life of at first music making and then stargazing. Telling Herschel’s life story in *The Stargazer’s Sister*, Brown relies heavily on these fairy tale elements. Brown presents her female protagonist as a Cinderella-like figure: a submissive, innocent, and obedient heroine who suffers from maltreatment through her family, especially her mother and her brother Jacob. Like the Cinderella of Grimm’s fairy tale, she is even made to sleep in the dark and cold attic of the house (Brown 14). In a vivid yet also cliché-laden way, Brown chronicles Caroline’s grim childhood and youth as one of many children in the poverty-stricken and constantly money-lacking Herschel home. This happens at great length – more than one quarter of the story is dedicated to Caroline’s early life in Germany. The members of her family clearly resemble the one-dimensional, stereotypical characters of the Cinderella story, even though the biographical circumstances of Herschel’s life make a couple of alterations necessary. Nonetheless, readers will immediately recognize the cruel mother who constantly blames and beats Caroline and who does not show any affection for her many children, especially not for her youngest daughter. There is a fleeting moment of sympathy in the novel, in which Lina shows understanding for her unhappy mother’s difficult situation (Brown 72). She knows that her mother worries about how to provide for the many children she gives birth to with the little income the family has. Despite this reference to historical context, overall, however, the mother remains a highly unsympathetic character in the story who is shown to be so controlling and cruel and so cold and uncaring that none of her children “will remain with her” (Brown 71). Cinderella’s mean stepsisters manifest in Caroline’s hateful brother Jacob who “likes to direct his malice toward Lina especially” and who says to her “[t]hey should’ve drowned you in a bucket” (Brown 17, 34). And then there is the good but sickly and somewhat powerless father “with his ready sympathy, his cooing and tut-tutting and damp gaze and kisses” (Brown 18) who is shown to love his daughter dearly but whose words against the mother and brother lack authority.

Adopting a gender-sensitive perspective, *The Stargazer’s Sister* offers glimpses into the restricted world offered to women in earlier times. At the instruction of her mother, Lina is not allowed to learn or even play like her brothers but must stay at home

---

37 Brown 71.

performing domestic duties. In contrast to her male siblings, her room for maneuver is clearly limited. The only happy moments are when her favorite brother William explains her things about science and the world that lies beyond the house in which she lives and the narrow frame of the life she is expected to lead. William, Lina is convinced, “knows everything about the world” (Brown 13). He is the one who nurtures her curiosity and intellect, who sees her for the bright and inquisitive person that she is but that she is not allowed to be in terms of the gendered expectations of her time and place. Secretly, so their mother, who does not understand the value of education particularly not for her daughter, does not see it, he teaches her to read and shares with her his knowledge of scientific topics like convexity, animalcules, motion, and gravity, and talks about instruments like telescopes and microscopes. He also tells her stories about the creatures that “live on the moon and even on the sun. [...] Lunarians, giants with long slender legs and faces calm as lakes” (Brown 13-14). In her childlike admiration for William, Lina hopes that he will be her lifeline, that one day he will transport her to a better place. When war breaks out, William soon flees the country permanently to avoid being drafted for the military. Lina is left in this destitute situation with her unloving and frustrated mother, her cruel brother Jacob, and her caring yet weak and suffering father.

Being a girl from a not-well-off family and without any title, Lina has few prospects in life. Marriage, the novel suggests, would be her only hope of escape from her fate as household servant in her parents’ home. Due to frequent illnesses, which leave her with a scarred face and which stunt her growth, finding a husband seems unlikely for her according to the sexist standards of her day in which a woman’s chances at fulfilling the socially expected roles of wife and mother are defined by her physical appearance and the economic situation of her family. After attending a wedding in the neighborhood, her father laments to her: ““Oh, my dear [...] you are neither handsome nor rich. What is to be done? What is to be *done*?”” (Brown 64, italics in original). This Cinderella is not a stereotypically beautiful character; it is her lack of beauty which creates her misery. Lina knows: “All possibility in life began with her sex, perhaps, and ended with the fever that came to her one night and left her scarred and stunted” (Brown 66). That the actual Herschel had contemplated becoming a seamstress or governess and had actively sought a respective education that would permit her to follow this path of employment outside the family household (cf. Winterburn, “Self-Presentation” 72-73) is not mentioned in the novel. With no prospects of saving herself from these circumstances through marriage, Lina feels trapped: “she is *trapped* in the life she has, she knows. She is *trapped* at her mother’s side, condemned to listen to her complaints. She is *trapped* by the walls of the courtyard and the orchard that ends at the river, *trapped* by the duties of sweeping and washing and cooking and sewing” (Brown 65-66, emphasis mine). Her future does not look particularly bright. To further dramatize the desperate situation that Lina finds herself in, Brown uses her poetic license and makes her heroine even have suicidal ideation:

She had not told him this: sometimes during the years he had been away from home, she’d walked down to the river at the bottom of the orchard. She’d known that if she waded in,

perhaps even only as far as her knees, her dress would have become too heavy for her to struggle back up the bank for safety. The current could be powerful, especially with snow-melt in early spring. Illness had weakened her, and she was not strong. She had never learned to swim, as her brothers had. A girl was not taught anything she could use to save herself in the larger world. She had frightened herself, staring at that river. (Brown 5)

When her father dies and leaves her without anyone loving her and protective of her, Caroline writes to her brother imploring him to rescue her. Eventually, in her dismal predicament prince charming in the shape of her favorite brother arrives to save his beloved twenty-year-old sister from this unpromising life of domestic servitude in the unhappy Herschel home. He essentially buys her out as he agrees to pay their greedy mother the cost of a hired help so that she lets Caroline go. He had promised to come back for her – and he lives up to it. That Lina is shown to act and “write to William, to plead for his help, to beg for his rescue” (Brown 67) does little to challenge the highly stereotypical and clearly gendered image of a hopeless and helpless damsel in distress in need of rescue by her savior prince that Brown has carefully built up in the first quarter of her novel. Through the detailed description of Lina’s childhood and youth in the Herschel household, the novel addresses many of the social and psychological barriers that make it difficult, if not impossible, for women to participate in society in the same way as men. In doing so, it grants its female protagonist a pre-feminist consciousness, which allows her to critically reflect upon the connection between women’s limited opportunities in life and societal expectations of their sex. But the novel does this in a way that remains very much in the clichéd way in which Herschel’s life story has often been told which does a disservice to her. The romantic notion of rescue emphasizes Lina’s passivity rather than showing how she willfully rebelled against her family, rejected the life that fate had foreseen for her, and found a way out of her misery even if it surely was thanks to the help of others. Instead, the novel states that “a girl was not taught anything she could use to save herself in the larger world,” and that she has “little power in the world” (Brown 5, 74), thus emphasizing women’s lack of agency and justifying the need for male rescue. However, Brown’s fairy-tale-like narrative fits the kind of image she wants to create of Lina, one that is firmly rooted in the idea of her as William’s self-sacrificing ‘Cinderella sister’ whose dedication to her brother and his life has often been connected to her liberation by him.

Herschel’s lifelong devotion to her brother, her ceaseless support of him in all his pursuits have often been attributed to her utter gratitude and gratefulness for having been rescued by him from her Cinderella-like existence as household servant in her parents’ home. Brown’s *The Stargazer’s Sister* follows this interpretation of Caroline’s reasons for dedicating her life to her brother’s endeavors. “What will she *not* do to repay him with her gratitude? She will do anything, everything” (Brown 71, italics in original). The novel opens with a prologue in medias res on the ship from Holland to England. William has just rescued his sister from a life of drudgery. “Her old life – and the life she always imagined would lie before her – is gone. [...] Her brother has set her free. [...] She clings to the rail, makes a vow: nothing William might require of her will be too much. He has emancipated her. He has given her a life. She loves him beyond com-

passing. She would do anything for him,” the narrator tells us (Brown 6-7). From there, the novel jumps back in time to Caroline’s early childhood in Hanover when she is about five years old. It then follows her life chronologically until her death at the age of ninety-seven. To feature the moment of liberation in which Caroline and her brother embark upon the vessel that will take them to their new life in the English town of Bath as a prologue to the otherwise straightforward linear almost cradle-to-grave narrative marks the author’s decision to focus on Caroline’s gratefulness to her brother in this fictional account of her life. For Brown, the rescue is the defining moment in the sibling’s relationship (from Caroline’s point of view), the moment when her life would become forever bound to his: “I was struck by the fact that precisely because William rescued her, she would be forever in his debt – that’s a complicated circumstance. No matter what she did for him, in some ways it would never equal what he did for her” (qtd. in Kalb). Lina’s admiration, even idolization, of, dedication to, and love for her brother, her indebtedness to him for having given her a meaningful life, which have so often been used to characterize the historical figure of Herschel, are undoubtedly the defining characteristics of the fictional heroine: “To be of use to his greatness – for she is sure that he *is* great, that further greatness lies before him – this is all she wants” (Brown 106, italics in original). She even says so to her brother: “‘I wish only to be of help to you,’ she says, ‘I am so grateful to you’” (Brown 104). Her pledge of eternal gratefulness falls on fertile ground: “‘I need someone who understands what I am trying to do. I need someone who will not judge me or doubt me or chastise me or trouble me about unnecessary things. I need someone who will only help me,’ he tells her. ‘And your mind is quick. I think you will be an even greater help to me than I had foreseen’” (Brown 129). Despite her reliance on the fairy tale images that have haunted Herschel in so many accounts of her life, Brown is keen to give readers a more realistic picture of the romanticized relationship between Caroline and her brother. In her novel, she emphasizes the emotional complications, personal compromises, and physical costs of the life Caroline is leading at her brother’s side. She shows that the life that expects Caroline was by no means *princess-like*: her brother had rescued her for a purpose and was keen to put her to work as soon as they arrived in Bath. It becomes clear that the life at William’s side was no fairy tale, that she was at best a ‘failed Cinderella,’ as Fara has suggested, who “escaped the drudgery imposed by her mother only to become the handmaiden of her elder brother” (“Caroline Herschel” 124).

In her review of the novel, Andrea Barrett describes the story that Brown creates as a love story, albeit an unconventional one being about two siblings and what they have achieved together. To refer to the novel as a love story does seem fitting, indeed. There is great intimacy and tenderness in the ways in which Lina cares for her brother: “When he works on his mirrors, or if he spends many consecutive hours at the telescope at night, reluctant to turn aside or to pause for sustenance, she stands nearby and feeds him, bits of cooked potato and meat, bread and cheese. She holds a wineglass to his lips, a napkin beneath his chin” (Brown 138). When he is done eating and drinking, “[s]he wipes his mouth for him” (Brown 218). She behaves almost like a beloved wife. She

thinks that “[n]o one else, she feels sure, would ever care for him in this way” (Brown 219). This has also been suggested by historians and biographers. Hoskin proposes a marriage-like relationship between the Herschel siblings when he notes that Caroline “ran William’s home as though she were his wife” (“Mortifications” 450). Brown even suggests that Caroline’s love for and devotion to her older brother had a somewhat disturbing “erotic component” (Barrett). Indeed, the way in which Lina looks at William from time to time has some clearly sexual/erotic undertones and supports the impression of an almost marriage-like relationship between brother and sister: “The muscles on his arms and chest are well defined and powerful. His regimen of physical work has made him strong. There are a few grey hairs on his chest. Yet as he ages he becomes only more beautiful, she thinks” (Brown 157). In old age, Lina remembers his beautiful hands and graceful fingers (Brown 316). That said, Brown never crosses the line of what one would see as ‘proper’ behavior for siblings.

In *The Stargazer's Sister*, Brown uses her narrative privileges as a writer of fiction to point to and explore the many compromises and concessions that Caroline had to make, the costs that a “life within the radiance of genius” (Brown 289) meant for her. In the novel, much emphasis is placed upon Lina’s frustration with her brother, her exhaustion at the chores of work he demands from her, and her increasing loneliness when she realizes that William is only focused on the stars: “though her gaze had been trained always – and only – on him, *his* mind forever had been elsewhere” (Brown 119, italics in original). William is portrayed as a loving brother, and a generous and kind person, someone who has the makings of a true genius. He is also shown as obsessed with his work and oblivious to the world around him, which includes his sister and her concerns and her labor. William is not a prince at all but, as Lina puts it, a “monster” (Brown 133), a “slave driver” (Brown 135), and a “lunatic in a madhouse” (Brown 206) who only thinks about building telescopes and exploring the heavens and who has little interest in ordinary human needs and “no feeling for other people” (Brown 191). The stereotype of the genial, obsessed, emotionally detached, and in worldly affairs rather incompetent scientist is clearly noticeable in Brown’s characterization of William: “He truly is the happy genius of his own company. He needs no companions, she thinks – not even her – unless they are useful to his ambitions. He loves no one. Not really. He lives only for his work” (Brown 193). But he always remains a sympathetic character in the novel, “the little boy gazing up in at the moon,” as he is also described from Lina’s perspective (Brown 174). William’s appreciation of and respect for the work she performs for him is never in doubt. Nonetheless, Lina realizes that she can work as much and as hard as she can and still not meet his expectations and satisfy his desires: “[...] it will *never* be enough for you. Nothing will ever be enough” (Brown 190, italics in original). But despite her brother’s incessant and extraordinary demands, her physical exhaustion also due to little sleep and food as well as hard corporal work, the incredible emotional loneliness she feels despite her closeness to her brother as well as the constant danger of poverty they are faced with, Lina perseveres by constantly “remind[ing] herself [...] of what she escaped” (Brown 141). After all, “she has vowed to be obedient,

to serve William in all things” (Brown 127). Lina appreciates the life she leads at William’s side, the chance he gave her in moving beyond the limiting roles that society anticipates for members of the female sex. She knows that “[a]nything else, any other life, she realizes, would be a small life, a narrow life, compared to the one she has now” (Brown 226).

The novel’s fictional exploration of Lina’s inner life is not limited to revealing her thoughts and feelings about her brother, to showing that while she dearly loved him and willingly devoted herself to him and his cause, this “was not without complexity and perhaps sometimes costs for her” (328). Brown also calls into question the idea that to serve her brother had been all that Caroline had ever wanted in her life, that she found this role at her brother’s side, as his assistant and housekeeper as well as his emotional and social companion, entirely fulfilling. Hoskin claims that this period in which she worked for and with her brother was the happiest period in her life (“Mortifications” 456), that “as mistress of his household, and his assistant in astronomy, she was as fulfilled as she would ever be” (*Priestess* 240). However, it has also been argued that despite her great accomplishments Herschel never felt truly happy about her life. Apparently, Herschel was unhappy that she never adopted the roles that were expected of women in her day, that of wife and mother. Hoskin maintains that she did not find contentment in all the achievements she made, that at the end of her life, she was unhappy about dying an ‘old maid’ (“Mortifications” 462). While much has been said about Herschel’s love for her brother, nothing is known about her ever having experienced a serious love interest outside the family. In her writings, no evidence can be found that she had ever been romantically involved or that she ever had a sexual encounter, Hoskin notes (“Mortifications” 442). She had once referred to herself as “‘a poor solitary old maid’” and there is little to no doubt that this self-characterization was truly accurate, he points out (“Mortifications” 442). The only reference to marriage and motherhood one can find within her memoir is the one cruel thing that her father had once said to her: since she was neither handsome nor rich, he cautioned her against any hopes of ever finding a husband and having a family of her own (cf. Hoskin, “Mortifications” 442). According to Hoskin, “[h]ers was a hard and largely loveless life” (“Unquiet Heart” 22) that “found its purpose elsewhere” (“Mortifications” 442). Brown uses her narrative privileges to explore this aspect of her story that biographers and historians can only speculate about. Early in the novel, Lina renounces “the kind of love between husbands and wives”. She believes in “this other, different future, a different kind of love, her love for William” (Brown 107). She knows that her wish to be of use to her brother is mutually exclusive with marriage and motherhood. A family of her own would make her unavailable to William in this way. But despite the marital-like relationship she has with her brother and the joy and purpose she finds in their work first in music and then in astronomy, Lina is often lonely: “Suddenly their life – the constant work, William’s obsessive ambition and drive – makes her feel profoundly, unmistakably lonely” (Brown 154). While she finds her life at William’s side “as provocative and exciting as she could ever have imagined for herself [...] she cannot prevent the sadness that overtakes her

sometimes, her old familiar, her loneliness” (Brown 194). In her loneliness, she constantly thinks of marriage imagining what it would feel like: “What would it be like to lie down beside a husband every night, someone whose steady breathing comforted her in the dark hours?” (Brown 194). In referring to Lina’s longing for romantic love and companionship, the novel also addresses her desires for intimate touch and sexual pleasures. Lina feels “[t]here will always be a . . . lack; she thinks of the empty bed, the desires she feels at night, heat in regions of her body that at times is almost painful” (Brown 226, omission in original).

Lina’s struggle with being single, a ‘spinster,’ and her longing for romantic love, to be loved by a man, is further dramatized in the novel by means of the imagined love stories. Like women’s historical novels also herstorical biofictions, as I have shown earlier in this study, often feature a prominent romantic subplot for the female protagonist. In *The Stargazer’s Sister*, the marital-like relationship between Lina and her brother William is undoubtedly the central love story in the plot. Additionally, Brown includes two entirely invented romantic episodes for her female protagonist. While Brown excludes some of Caroline’s real family members to focus the attention on her relationship with her brother, she creates fictional characters to explore Caroline’s “foolish romantic fantasies,” her longing for love and “ordinary comforts” (Brown 155). These romances serve the purpose of visualizing the just-outlined inner conflict that she experiences. The first, albeit unsuccessful romance that Lina experiences in the novel is with William’s aristocratic friend, the physician and fellow astronomy enthusiast Sir Henry Spencer, who deeply cares for her and showers her in compliments and gifts. “She would marry Henry Spencer, she knows. She loves him for his kindness and his generosity, and she does not want to feel alone in the world [...],” Lina thinks (Brown 194). But Lina is also aware of the gender conventions of her time and place. She knows that unlike for her brother who eventually marries, for her as a woman “there is no having both, for she cannot have a husband *and* her brother and her labors with him” (Brown 226, italics in original). In this comment, the novel shows how she must forgo having a family of her own in her pledge of eternal service for William; in fact, her singleness is a necessary condition for being available to her brother and thus becoming part of his successes in science (cf. Pusch 544-546). Henry, too, seems very fond of Lina, perhaps even in love with her. He admits to “admire her beyond any woman [he has] ever met” (Brown 227). But a full romance does not develop. Eventually, Henry reveals his true reasons for not asking her for her hand in marriage: he suffers from syphilis (Brown 227-228). Moreover, he promised to marry another woman for reasons that lie in his family’s past, a gambling debt now to be paid upon his upcoming death by ways of inheritance (Brown 228). Clearly, Lina’s affection for Henry, though reciprocated by him, is hopeless. There are, she realizes, “no alternatives to her life with William” (Brown 242). The second romance that Lina entertains in the novel comes much later in her life – and is more successful. Brown invents a decade-long fictional episode in which Lina lives with Dr. Silva, an elderly and widowed fellow amateur astronomer and physician from Portugal. Silva is briefly introduced after Lina makes her first comet discovery. He sends a letter

to her addressing her as the “High Priestess of the Heavens” (Brown 268), one of many complimentary nicknames he gives her. Apparently, William and Caroline are in regular correspondence with him. He is never again mentioned in the story until the death of her brother when he offers his condolences to Lina and invites her to join him in his villa by the sea in Lisbon. He wants to care for and comfort her in this “darkest of dark nights,” and to offer her “a sanctuary in which to work” (Brown 285, 298). Though Lina has never met him, knows him only from his admiring and attentive letters to her, she takes on the long journey and travels across Europe. There, she does not only fall in love with the beautiful surroundings and the agreeable weather as well as the luxury and intellectually stimulating life that Silva allows her to have but soon also with the man himself. Brown even includes a totally invented sexual encounter in which a seventy-year-old Lina finally experiences some emotional and physical intimacy. Having had to renounce her “body for any purpose except work” in the life with and for her brother, she finally learns that “her body had many uses, after all” (Brown 107, 310). Thus, Brown uses her narrative privileges to allow Lina some personal happiness and indeed a sexual awakening late in life. The whole episode with Silva feels almost like a fictional reward for the historical figure of Herschel who had forgone true romance all her life, a kind of poetic justice for the “hard and largely loveless life” (Hoskin, “Unquiet Heart” 22) she led at her brother’s side. Brown uses her poetic license to provide her chosen heroine with the kind of experience she did not have in history, but that Brown felt she would have deserved. It is a fairy tale indeed that Brown creates at the end of her biographical novel though historical circumstances prevent the ‘happily ever after’ of the romance genre (cf. Wherry 53). After a decade of blissful happiness, Silva dies in his sleep and Lina moves to Hanover – as she did in history. Here, she lives on her own for another fifteen years before she too forever leaves this world she had inhabited for close to a century. The fictional nature of both romances is transparently revealed by the author in the acknowledgements. With them, Brown undoubtedly gives her protagonist more complexity through its exploration of her desires for physical closeness and romantic love. She does so not without problems for the feminist project, however. While Brown does not create these episodes to sensationalize her story but to explore her incredible loneliness and true longings, I find them also troubling in terms of the rather conservative suggestions they make about gender roles. For hidden in this moment of romantic happiness she grants her chosen heroine in the end of her life is the patriarchal message that sees women’s ultimate happiness in monogamous, heterosexual love (for marriage and children it is too late). Moreover, the romance she has with Silva might also be interpreted as reducing the extent of her personal sacrifice, for Herschel never had such an experience in her life – at least not to our knowledge today. What is more is that in the novel, the speculations about her apparent unhappiness overshadow her own accomplishments. Caroline is remembered for her many personal sacrifices and her unfulfilled desires, yet the novel fails to properly acknowledge a large part of her scientific legacy, as I will show next.

### 3.2.6 A “Star [...] in Orbit Around William”<sup>38</sup> – Always Second to Her Brother?

In the novel, Caroline is undoubtedly portrayed as a complex, multidimensional figure, saved from her often-one-dimensional portrayal in historiography. While Brown attempts to give her heroine complexity through a nuanced depiction of her inner life, overall, the image she creates does while complementing not challenge the one we have of her. Brown's adherence to the standard narrative of Herschel's life does not only emerge in the Cinderella-like story that she creates. It also manifests clearly in the strong focus that she places on the domestic and support work that she performed for her brother and the critical neglect, even outright suppression, of her independently made scientific discoveries. The literary text at hand is a novel “about work,” as Brown herself points out, “the challenges and joys and frustrations of work” (qtd. in Kalb). Often at her brother's side and in his service, Lina works day and night until arriving at the point to exhaustion as the work she needs to do never seems to end. Still, she finds great satisfaction in what she does for and with her brother: “She has never worked so hard in her life. She has never been so tired or so overwhelmed. Also, she realizes, she has never felt so happy” (Brown 134). As much as the novel is about the work Lina performed, it is about what motivates her to do the work (Barrett). What drives her in the novel is not only her devotion to and love for her brother, a longing “[to] be of use to his greatness – for she is sure that he *is* great, that further greatness lies before him” (Brown 106, italics in original). Lina is also driven by a strong interest and a willingness to learn more about the world in which she lives, for she knows that “it is in curiosity, first, and then in knowledge and reflection that freedom rests. To know something is a kind of power. Even to ask a question about the world is a kind of power” (Brown 84). She also finds great delight in their chosen object of study, the heavens, and the various celestial items already known and still to be discovered:

She is grateful for this joy, the joy of being amazed, this transformation of her gaze from admiration – for anyone can see the stars are beautiful – to astonishment. This is William's greatest gift to her, she thinks, the gift of awe. She lies down with it at night and wakes with it in the morning. Somehow, her awe makes what is quotidian or tedious – the tiring business of making meals or beds, or washing clothes – almost holy. (Brown 220)

Lina finds much joy in the work she performs for and with her brother, the way in which she assists him in his many endeavors and the ways in which he relies on her support. But she also “delights in her hours alone on the laundry roof, her contributions to the catalogs of stars on which William works” (Brown 243). Initially reserved and only at her brother's request, she becomes a passionate observer of the stars, enjoying every free minute at her telescope when she does not have to be at William's side or do the housework. In these moments, “she feels in some way as if she has been unleashed. Her time, for almost the first occasion in all the years she has been with William in England, is her own” (Brown 264-265). Lina cherishes the rare moments in which her brother is

---

38 Brown 163.

not at home or when he is otherwise occupied and she is given the chance to sweep the skies herself in search of comets and other heavenly objects yet to be discovered. "It is simply more engaging [...] to be the stargazer than to be the stargazer's assistant," she concludes after a long night of studying the heavens on her own and recording her very own findings instead of her brother's (Brown 199). Here, the novel alludes to how her own work in astronomy was circumscribed by traditional gender roles which expected her to always place her brother's needs first and her own second. Only when he is not there or otherwise engaged, is she at leisure to do as she pleases. She experiences great joy in working on her own and pursuing her own work: "She does not want to abandon her own investigations, any more than she wants to abandon his" (Brown 243). This moment can be seen as a kind of intellectual awakening for the heroine. The fact that this process of change, of maturation is not triggered by an inner longing and intellectual insight but by an external factor and above all a very emotional experience, namely her brother's marriage, which drives her out of the house and permanently changes her relationship with him, is a minor drawback for sure.

Eventually, she begins to make her own scientific discoveries and thus moves from the role of William's assistant to that of "a powerful astronomer in her own right" (Brown 268). But this process of transformation from being a private self in service of her brother to a public figure noticed by the scientific community of her day is not reflected in the ways the novel covers her independently made discoveries and contributions to astronomy. It is mainly the domestic and support work she performs for her brother that is depicted in the story in detail:

She copies William's letters, so that he may keep a record of them. She washes their clothing. She keeps on the table in the kitchen a list of the mathematical equations needed to compute exact positions of celestial objects, so that she might refer to it throughout the day, trying to memorize them. She plans and cooks the household's meals. She adds and subtracts figures from the accounts, gauges the weather and if there might be sufficient hours fine enough to hang out washing that day, calculates how long it will take her to copy the musical scores William has set aside for her. She would never have imagined her head could hold so much. (Brown 133-134)

Her astronomical achievements, her struggles and success as a woman in science in the eighteenth and nineteenth century, her discovery of eight comets and her extensive corrections of the star catalog, for which she is celebrated today as a pioneering woman in the astronomical sciences, are barely mentioned in the story. Her comet findings, which lead the astronomer royal Maskelyne exclaim that she was "a powerful astronomer in her own right" (Brown 268), are presented in a highly reduced way. "Her years as a 'great comet huntress' slip by in a paragraph," as Barrett notes in her review of the novel.

What is more is that her own achievements are diminished by the suggestion that she only took them up when William got married and was on his honeymoon. While it is true to fact that all her comet discoveries happened when he was away or otherwise occupied (cf. Winterburn, "Learned Modesty" 4), the parallel the novel draws between her first discovery and William's betrayal to her is problematic from a gender-sensitive perspective. Brown uses her narrative privileges to shift events in time and have Caro-

line's first comet discovery appear shortly after her brother's marriage when he and Mary are travelling the country. In history, the discovery of her first comet happened a couple of years before her brother's wedding. What I find problematic here is the parallel drawn by the novel which suggests that Caroline developed her own ambitions and made her own scientific discoveries in response to this betrayal, the hurt and anger she feels towards him, perhaps to fill in the void left by the man in her life. She emancipates from him after he gets married, deciding that she does not want to work for him but make a discovery in her own right now. Given Lina's devotion to her brother and his work and the marriage-like relationship in which she lives with William, the devastation and jealousy she feels when he decides to marry late in life might be understandable. Biographers have also alluded to a feeling of jealousy, which they have also used to explain why Herschel destroyed many of her writings. "Embittered [by the consequences her brother's marriage had for her situation in the family household], she later destroyed her diary for the period" (Hoskin, "Assistant" 436). Though such an emotion feels likely given the close attachment to her brother and the change in their relationship his decision to get married certainly brought about, we do not know for sure if this is true and other writers have also rejected this view of Herschel as "broken by her brother's marriage" and "hiding in her room writing mean things about the woman" that was her sister-in-law (Winterburn, *Quiet Revolution* 10-11). Brown still runs with it creating the kind of stereotypical complication that readers might expect in (such) a love story, and it certainly fits the message she wants to send about Caroline's devotion to her brother. While the novel suggests that William considers marrying Mary Pitt, a wealthy widow, for economic reasons, Lina soon realizes that he is truly infatuated by her – and she by him. While Mary clearly makes William happy, Lina feels utterly betrayed and hurt by his decision to get married when she has dedicated her life to him and his work and been the one presiding over his household for such a long time. She eventually comes to accept her sister-in-law and the happiness she brings her brother. However, in portraying the women's relationship, Brown misses out the opportunity of giving Caroline a meaningful female friendship, even though in historical reality the two women became close friends (Winterburn, *Quiet Revolution* 11).

The author gives some narrative space to her first comet, the other seven discoveries are dealt with in one sentence: "By now, Lina has found eight comets with her reliable little sweeper" (Brown 282); her nebulae discoveries as well as her extensive correction and reorganization of Flamsteed's *Catalogue of Stars* do not feature in the novel at all, even though it is suggested that she would become involved in the work on it. The impact her discoveries had on society and the scientific community is also neglected. Likewise, the attention and acknowledgement as well as recognition and reward Herschel received for her work alongside her brother and her own contributions are not really emphasized. Brown's reward for her character seems to lie rather in the fictional romance she allows her to experience late in life. While the novel portrays Lina's various household responsibilities as well as her complex duties and demanding tasks as William's assistant in detail, her own valuable and valued astronomical discoveries and sci-

entific projects are barely mentioned and at times even glossed over entirely in the story. Likewise, her activities in music are condensed to one performance that is depicted very briefly (Brown 177-179). That Herschel had been offered to perform in other cities and might have embarked on a professional singing career of her own is not mentioned at all. To be fair, *The Stargazer's Sister* includes only little of the Herschels' initial careers in music. The novel is clearly more interested in the sibling's roles in the history of astronomy rather than in musical history, as can be guessed from the title. One might now argue, as Barrett does, that *The Stargazer's Sister* is not so much about depicting Caroline's astronomical work as it is about showing what drove her to that work. While I agree with Barrett's assessment of Brown's novelistic agenda, her glossing over of Caroline's achievements rings false to me especially since William's achievements, his cataloguing work, the groundbreaking discovery of the planet Uranus as well as other discoveries he makes, and his building of the largest and finest telescopes which allow him to see further into space than anyone had before him, are covered in great detail in the novel. Not only the performance of the work itself but also the significance of her achievements as a woman and a scientist are strikingly absent from this novel. The significance of William's contributions to astronomy becomes clear, as do his difficulties as a self-taught lower-middle-class astronomer and mechanic in finding acceptance and gaining admittance to the elite scientific circles of his day. The novel clearly shows that William's public work relied largely on the invisible work of his sister in the private domestic sphere, how they had worked closely together, he in the public and she in the private sphere, along clearly gendered lines. The novel works to make visible the private, domestic work, the historically often invisible labor of women (cf. Ni Dhúill, *Meta-biography* 190). It shows the conditions in which his work was made. *The Stargazer's Sister* suggests that William would never have achieved what he did if Lina had not supported him, that she was essential and indispensable to his achievements. This view is expressed in the novel by their mutual friend Henry:

“Nothing William has done would have been possible without you,” Henry says. [...] “I mean that your hand is in everything, is everywhere, Lina – the workshops, the gardens, the library, in every paper or letter William writes, every list and map and notation in an atlas. I know that you are with him night after night. Few women – *few people*, man or woman – would be capable of such devotion.” (Brown 224, italics in original)

William himself acknowledges at some point in the story that he could not have done any of it without her (Brown 281). But the novel does remain very much entrenched in this ‘woman behind a great man’-ideology which in the case of Herschel is reductive. By means of its selectivity in portraying Lina's work in science paired with the amount of narrative space devoted to her different roles as assistant and astronomer in her own right, *The Stargazer's Sister* suggests that the most memorable part about her story is the work she did with and for her brother, not the one she performed on her own. The novel thus figures her as second to William, his subordinate, though it does acknowledge her contributions as a comet huntress.

It is not only in the way that Brown has chosen to portray – or rather not portray – the significance of her scientific work in which her adherence to the standard narrative of Herschel's life shines through. Indeed, it is not only the amount of narrative space given to her own work in science that clearly suggests that Brown follows the patriarchal interpretation of her role and the meaning of her contributions in the history of astronomy. It is also the way in which she portrays her protagonist's self-understanding as a woman in science. The novel does not raise any doubts about her scientific competence and her abilities in hunting for comets. Lina has little formal education, but she is shown to have a great amount of curiosity and the support of her brother who teaches her things. Early in the novel, Lina tries to find scientific explanations for what happens around her, for instance, in the moment of the great earthquake in Lisbon which can also be felt in Hanover (Brown 19). Lina is lucky to have a brother like William who supports her – though not altruistically for he needs her help. The novel does a great job in showing the gendered restrictions that intellectual women faced in the day. Lina is highly dependent on him for knowledge and learning, for her access to science and work – and economically. William gives her what he calls “[l]ittle lessons for Lina” (Brown 131), an hour of instruction every morning on subjects he considers important for her to learn to be of help to him in his various endeavors – “music, arithmetic, astronomy English, the practice of keeping the household accounts” (Brown 130). William is amazed by her willingness to learn and her quick mind: “She's cleverer than all of you put together” (Brown 132) he exclaims in front of the various men that work for him. Lina soon develops abilities that her brother relies upon in his work. She learns to juggle many tasks at the same time. While Lina is shown as a competent woman in science who eventually makes her own discoveries, the novel does not present her as ambitious or longing for independence. In fact, in the novel it is Henry who comes up with the idea of petitioning a salary for Caroline from the Queen. In historical reality, it had been Herschel's own idea to ask the royal family for a monetary support of her as William's assistant (Olson and Pasachoff 9). While only in passing, the novel shows how she became an important and inspiring astronomer in her own right, how she was celebrated by the male scientific community of her day and showered with various honors. But this Caroline is not shown as proud or really interested about the attention and acknowledgements she receives. In portraying Caroline, the woman and the scientist, Brown emphasizes her stereotypically feminine qualities (I mean traits that are typically associated with femininity). Brown (over-)emphasizes Caroline's devotion and love to her brother, her gratefulness for having given her a meaningful life at his side. She is shown as very dependent and overly emotional, ashamed of her own body and face. She is presented as a woman with low self-esteem, who suffers because of her physical appearance, who is haunted by ‘excessive feeling’ or as her father calls it “Überangst” (Brown 27). She is very insecure, as seen, for instance, in how she worries about her face, is embarrassed by her appearance, and tries to cover herself with a scarf to hide the scars left from her childhood illnesses. What the novel does not acknowledge at all is the way in which she, understanding the gendered conventions of the time, carefully and consciously concealed her ambitions

and intellect, ‘feminized’ her science, and became accepted and acknowledged as a woman in science in eighteenth- and nineteenth-century Europe when women were generally neither encouraged nor welcomed to participate. This might very well be considered one of her greatest achievements, as I have discussed earlier on with reference to Emily Winterburn. Herschel had corresponded regularly with some of the world’s leading astronomers on her own because of her own discoveries but this aspect is not shown and the fact that she was greatly admired by both the public and the scientific community of her day is only hinted at. What is most problematic is that in the novel the celebratory words are all coming from men who also show a romantic interest in her, which undermines the credibility of their praise for her science. The pre-feminist consciousness she possesses is never directed towards women’s participation in the male-dominated world of science at the time, how women had to navigate their ways cautiously into it and how many of them, including Herschel, did so often by means of camouflage (cf. Hoffmann 53-54, Kohlstedt and Opitz 105-106). This Caroline does not strategically place herself as secondary to her brother to overcome the gendered barriers of her time and place and become recognized. She truly believes in being subordinate. She downplays her own work:

It is William who discovered the Georgium Sidus [which was later called Uranus], William who was – who is – the king’s genius, William who has understood the stars and the planets and all their places in the universe better than anyone else. What is she? She knows that her accomplishments, though far less than William’s, amount to something, of course. But perhaps her accomplishments are only the rewards of the dullest virtues – *women’s* virtues – of effort, interest, and consideration. Even her comet, though it required experience to know where to look for it – as William always said, seeing is an art – is mostly the result of her patience. (Brown 272, italics in original)

Caroline is shown to define herself in relationship to her brother and his achievements: “William has become the most famous astronomer in all of Europe. And she has become the sister of the most famous astronomer in Europe” (Brown 197). In the end Caroline writes the story of her life by William’s side, as she believes him to be worth remembering, not herself (Brown 296). Even in old age, after he is long gone from the world, she is unable to see herself in any other way than in relationship to him. She seems to be forever trapped in being a “star [...] in orbit around William” (Brown 163) – a bright one for sure but one that is always related to him.

### 3.2.7 Conclusion

Brown’s revisionism in *The Stargazer’s Sister* is limited to the project of giving complexity to a rather one-dimensional figure. It does not challenge the patriarchal diminishing of her own contributions. Through its fictional exploration of Herschel’s otherwise inaccessible interiority, Brown creates a more multifaceted version of the historical subject which complements and complicates but which does not actually challenge the romanticized notion of her as William Herschel’s self-sacrificing ‘Cinderella sister.’ Rather than deconstruct the conservative gender ideology of previous biographical ac-

counts of her life, Brown even strengthens it with her unfounded speculations about Caroline's true feelings and most intimate thoughts and the romantic happy ending she allows her fictional heroine to experience in old age with an imagined Portuguese astronomer. She creates a new myth about her through this fictional exploration of her supposed unhappiness and her longing for marriage and motherhood as well as sexual fulfilment, a myth that is deeply entrenched in patriarchal ideology and in rather conservative ideas about gender roles. That Brown is not really interested in a feminist revision of the dominant representation of her story is also evident from the way in which she depicts the protagonist's scientific work. Not only does she largely gloss over her own astronomical achievements while training her gaze mainly on the domestic and support work that Caroline Herschel undertook for her brother; she also neglects her professional ambitions and scientific interests ascribing the determination, precision, and devotedness with which she works rather to her gratefulness and longing to be useful (while it is suggested that she was also fascinated with the heavens). In doing so, Brown's biographical novel perpetuates, even reinforces, the highly gendered and overly reductive yet unfortunately still very common perception of Herschel as the dutiful and devoted assistant to her famous astronomer brother. Barrett applauds Brown for avoiding to cast Herschel "as a feminist heroine whose contributions were unjustly suppressed." It is certainly right to caution against overstating the case in depicting the achievements of historical women in science. To follow the traditional narrative of 'great men,' women's lives and roles were often exaggerated and their contributions overvalued. Even if we must be careful not to transport historical women in science from one stereotype to the next, as Fara has warned, and to turn someone like Herschel from the previous standard caricature of "the docile assistant, and the doting but ignorant source of inspiration" into the "lonely, unappreciated pioneer" of astronomy ("Caroline Herschel" 123), it is just as problematic if we do not acknowledge and adequately portray and thus remember what women in science history did when it was significant, and with Herschel this evidently was the case. In the now following case of Mileva Marić, the historical facts are much less clear and the highly speculative biofictional reconstruction of her achievements in science in Marie Benedict's *The Other Einstein* might be seen as running counter to the feminist project of women's historiography, indeed.

### 3.3 Hidden Achievements, Historical Speculations, and the Shadow of a Famous Husband: Rescuing Mileva Marić, the ‘Mother of the Theory of Relativity’,<sup>39</sup> in Marie Benedict’s *The Other Einstein* (2016)<sup>40</sup>

“I’ll be so happy and proud when we are together and can bring our work on relative motion to a successful conclusion.” Albert Einstein to Mileva Marić in a letter dated 27 March 1901 (qtd. in Renn and Schulmann 38)

That women’s scientific achievements have often received little or no attention and acknowledgment in the past is a well-recognized phenomenon for which the American historian of science Margaret W. Rossiter coined the term of the ‘Matilda Effect.’ The ‘Matilda Effect’ is named for the American suffragist and feminist critic Matilda J. Gage (1826-1898), who had suffered from and first written about this phenomenon in the nineteenth century (Rossiter 334-337). The term refers to the systematic suppression of women’s contributions to scientific research and the frequent crediting of women’s achievements to male relatives or colleagues (Rossiter 325-341). Rossiter compares the ‘Matilda Effect’ to the ‘Matthew Effect,’ a term coined by American sociologist Robert K. Merton, which describes “the over-recognition of those at the top of the scientific profession” (Rossiter 326). The term ‘Matthew Effect’ takes its name from the biblical Gospel of Matthew in which is written: “For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath” (qtd. in Merton 58). In his 1968 paper entitled “The Matthew Effect in Science,” Merton notes that already well-known researchers often receive more attention and acknowledgement than researchers who have not yet made a name for themselves even if their work is shared or regarded as being of similar value. Merton explains that

eminent scientists get disproportionately great credit for their contributions to science while relatively unknown scientists tend to get disproportionately little credit for comparable contributions. [...] As we examine the experiences reported by eminent scientists, we find that this pattern of recognition, skewed in favor of the established scientist, appears principally (i) in cases of collaboration and (ii) in cases of independent multiple discoveries made by scientists of distinctly different rank. (57)

“The ‘losers’ in the process,” Rossiter clarifies, “are [...] often marginal figures with no solid position, central location or established disciple to battle for them or protest their exclusion” (326). In her paper “The ~~Matthew~~ Matilda Effect in Science” from 1993, Rossiter adopts this phenomenon described by Merton to enlighten the historical reality of women in science. In the context of the second wave feminist movement and the rise

---

39 Rauch, “Mutter der Relativitätstheorie,” translation mine.

40 An earlier and much shorter version of this chapter has been published as MÜLLER, CHRISTINE, “The ‘Mother of the Theory of Relativity’? Re-imagining Mileva Marić in Marie Benedict’s *The Other Einstein* (2016),” published in *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, in 2022 by Palgrave Macmillan, pp. 317-336. Material from this publication is reproduced here with permission of SNCSC.

of women's history or herstory, feminist scholars like Rossiter began to critically examine the ways in which women's contributions to science and their historical representation and thus cultural visibility had been impacted by issues of gender. Due to their efforts, numerous instances of the denial and male appropriation of women's scientific accomplishments have been revealed. The cases of Austrian physicist Lise Meitner (1878-1968), American pathologist Frieda S. Robscheit-Robbins (1893-1973), and British biochemist and crystallographer Rosalind E. Franklin (1920-1958) are just some of the most prominent ones cited by Rossiter to show how women's successes in science have oftentimes been forgotten, ignored, and, moreover, attributed to men (328-330). For Rossiter, these examples function also to illustrate the fact that the 'Matilda Effect' "is especially notorious at the Nobel or near-Nobel level of recognition" (328-329) as, in her estimation, all the just-mentioned female scientists would have deserved the award as much as their male co-discoverers and co-authors.

The little-known Serbian mathematician and physicist Mileva (Einstein-)Marić (1875-1948)<sup>41</sup> has also been repeatedly referred to by historians and biographers as one of these unsung heroines whose scientific contributions were unjustly subsumed under her husband's name and who did thus not receive the credit she would have deserved (see, for example, Trbuhović-Gjurić, Troemel-Ploetz, and Walker). Until of late, Marić has remained in the shadows of her much-celebrated and now-iconic husband, Albert Einstein (1879-1955), who is undeniably "the most famous physicist to date," someone whose "name is synonymous with genius" (Asmodelle). She was barely mentioned in any of the various biographies written about him and, like most scientific women throughout history, she was not included among the eminent men who long dominated and determined the traditional narrative of science. However, recent decades of feminist-motivated research have shown that Marić herself was a pioneering woman in the male-oriented world of turn-of-the-last-century science who had a promising career ahead of herself. Like Einstein, Marić had studied physics and mathematics at the Swiss Federal Polytechnical School in Zurich, today Eidgenössische Technische Hochschule or ETH for short. She was his classmate and soon also his girlfriend. Unlike him, she did not embark on a professional life of her own but had to give up these plans due to an unwanted pregnancy with an illegitimate child fathered by Einstein and the subsequent failure of her final exams that would have led to her diploma and her doctorate. Instead, she became Einstein's wife and the mother of his three children, only two of which survived into adulthood.

The question of whether and, if so, to what extent Marić contributed to Einstein's groundbreaking theories, especially those of what is commonly known as his miracle year of 1905 when he published four now-famous scientific papers, is highly contested.

---

41 After their marriage in 1903, Mileva Marić added her husband's last name to her own and was henceforth called Einstein-Marić or Marić-Einstein (historians and biographers handle the order of names differently). Since the novel discussed here covers not only the years after her marriage but also part of her life before that, I have chosen to refer to her as Mileva Marić throughout this chapter and to reserve the name Einstein for Albert.

Marić did never publicly or in her surviving private correspondence with friends and relatives claim to have been her husband's assistant and/or collaborator, let alone the (co-)author of his epochal papers, as some proponents of what Allen Esterson and David C. Cassidy name the 'Mileva Story' (xviii) have suggested.<sup>42</sup> Furthermore, no ironclad proofs exist to date that would back up the claim that she was more than her husband's emotional and intellectual supporter, a role that is generally and quite undisputedly granted to her by the traditional (male-oriented) historical narrative. This view is held for instance by American historian of science Gerald Holton who has written intensively on Einstein and his theory of relativity. He evaluates Marić's role as follows: "At great personal sacrifice, as it later turned out, she seems to have been essential to Albert during the onerous years of his most creative early period, not only as anchor of his emotional life, but also as a sympathetic companion with whom he could sound out his highly unconventional ideas" (191, for similar assessments of her role see Stachel, Martínez, and Esterson and Cassidy). Others have claimed that her role had been far more instrumental than that (see, for example, Trbuhović-Gjurić, Troemel-Ploetz, and Walker). Her own scientific education and training as well as her personal if unfulfilled professional ambitions, the many hurdles she tackled on her path to be a student and become a teacher, perhaps even professor of science, make it highly unlikely that she, who had been married to and living with Einstein during this highly productive time of his life in which he made some of his greatest scientific breakthroughs, had not been included at all in his pioneering work. Furthermore, given the abundance of cases in which women's achievements in the history of science have been inadvertently overlooked, purposely suppressed, or strategically misattributed – especially in marital research collaborations, as Rossiter reminds us (330) – it is difficult to simply dismiss the existing hints which point to Marić's possible, even probable involvement in her spouse's accomplishments.

The controversy surrounding Marić's scientific legacy has not only found its way into numerous historical and biographical studies. Most recently, it has captured the interest of American author Marie Benedict who has written a novel about it with *The Other Einstein* (2016). Benedict has dedicated her current literary ambitions to the feminist project of shedding light on the unknown and/or forgotten stories and accomplishments of notable women in the past, among them some women in the history of science. *The Other Einstein* is the first example of a steadily growing number of biographical novels in which Benedict, whose real name is Heather Terrell, seeks to tell herstory.<sup>43</sup>

---

42 Esterson and Cassidy use the notion of the 'Mileva Story' as an umbrella term for the various claims which argue "that Mileva Einstein-Marić contributed substantially to Albert Einstein's scientific achievements, especially those of his 'miracle year' 1905, and that she should have been rightfully listed as a co-author of one or more of these papers" (xviii). Their monograph *Einstein's Wife: The Real Story of Mileva Marić* (2019) is dedicated to uncovering the various claims that have been made in favor of and in opposition to the 'Mileva Story'.

43 *The Other Einstein* is her debut novel in relating the untold stories of noteworthy historical women and the first novel she published under the name Marie Benedict. Beforehand, she had published mystery stories under the name Heather Terrell (her married name;

With her thematically connected series of biographical fictions, Benedict wants to narratively save outstanding women who have so far been hidden from or forgotten by history. In doing so, she aims to correct the one-sidedness of public perceptions of the past. In an interview, Benedict describes her current literary ambitions as follows: “I endeavor to excavate from the past stories about remarkable women, whose contributions are relatively unknown and whose tales have both historic and modern significance – in an effort to ensure that the negative preconceptions our society might still hold about women’s abilities are changed” (qtd. in MacAllister). Her narrative desire is thus not only to set the record straight and give these women the attention and acknowledgement they had all too often been denied in the past. She also seeks to narrate their stories and bring their struggles and successes to our awareness to support the feminist cause in the present day.

*The Other Einstein* is a herstorical biofiction that points to its revisionary purpose already within the given title. The author uses both historical facts and creative invention to recover Marić’s little-known life story, or rather a particular period thereof. She concentrates on the years that Marić spent at Einstein’s side first as a fellow student, then as his girlfriend, and eventually as his wife and the mother of his children. The novel covers a time span of almost twenty years, from 1896 when they first meet at university in Zurich until their separation in 1914. Telling the story from her chosen heroine’s first-person perspective and in her supposedly own voice, Benedict employs her fictional privileges as a novelist to imagine the largely unrecorded interiority of Marić and to fill in some of the lost details about her biography, for instance, regarding the still unresolved fate of the first child she had with Einstein before their marriage in 1903, a girl named Lieserl.<sup>44</sup> She also fills in the gaps in our knowledge about Marić’s role in Einstein’s academic work and his scientific achievements. Knowing full well that “the precise nature of Mileva’s contribution to the 1905 theories attributed to Albert is unknown,” Benedict utilizes her poetic license as a writer of literature to explore within the realm of fiction the “‘what ifs’” in the historical subject’s story (Benedict 313). There is a conceivable yet not clearly provable possibility that Marić had played a substantial if silent and historically invisible part in her husband’s scientific successes and that she, like many women in science history, was cheated out of the acknowledgment

---

Benedict is her birth name). Further examples in which Benedict narrates the little-known or long-hidden lives of historical women include *The Only Woman in the Room* (2019) about actress and inventor Hedy Lamarr (1914-2000), *Lady Clementine* (2020) on presidential wife Clementine Churchill (1885-1977), *The Mystery of Mrs. Christie* (2021) about writer Agatha Christie (1890-1976), and most recently *Her Hidden Genius* (2022) about biochemist and crystallographer Rosalind Franklin (1920-1958). Another novel in this thematically connected series of historical biofictions is *The Personal Librarian* (2021) about J.P. Morgan’s personal librarian Belle de Costa Greene (1883-1950) which is co-authored with Victoria C. Murray.

44 The very existence of the girl was only discovered in the 1980s with the publication of the couple’s correspondence, the so-called ‘love letters’, which had long been hidden from public view (cf. chapter 3.2.2).

for it by her spouse. In *The Other Einstein*, Mileva is not only Albert's intellectual sparring partner, his most important and intimate conversational mate, a sounding board for his ideas. She is also his equitable research associate, a more skilled mathematician than himself, who does the necessary calculations for all his theories. Moreover, the novel presents her as the true originator and rightful author of what is probably Einstein's best-known work, at least among laypersons: his paper *Zur Elektrodynamik bewegter Körper* [*On the Electrodynamics of Moving Bodies*], generally known as the special theory of relativity, or special relativity for short, which is the equivalence between mass and energy, the natural law behind the famous formula  $E = mc^2$ . In this fictional rendition of her life, Mileva thus literally becomes "the mother of the theory of relativity" as German journalist Judith Rauch had once entitled the historical Marić ("Mutter der Relativitätstheorie," translation mine). Furthermore, the novel suggests that Albert thwarted acknowledgement of Mileva's intellectual accomplishments and even prevented her from a Nobel Prize nomination by intentionally omitting her name from their joint work and thus erasing her from historical visibility to foster his own academic career and ensure his scientific ascent. Thus, *The Other Einstein* does present its audience with a new, female viewpoint on what was "a unique event in the history of science" (Renn and Schulmann xii), namely Einstein's *annus mirabilis* of 1905, in which he published several papers which "completely transformed our understanding of space, time, energy, and matter" (Popović 13). Within the scope of the fictional world, it also changes the hitherto agreed-upon facts about this very event itself. Claiming that Mileva conceived of some of these path-breaking ideas and co-wrote all the scientific papers credited to Albert alone, *The Other Einstein* destabilizes the official historical narrative. It does so even though there is no conclusive evidence so far that proves that Marić did contribute in this or a similar way to Einstein's miracle year, as Benedict herself points out in the author's note (313). Hence, *The Other Einstein* presents its readers with an alternative view on science history in two ways: it decenters the famous male subject in favor of his little-known and often forgotten (first) wife, allowing her to step out from underneath his enormous shadow and into her own bright light. Furthermore, in reclaiming Marić's life as a woman *and* a scientist and exploring the unresolved and perhaps unresolvable "'what ifs'" (Benedict 313) in her story, the novel also questions the prominent and popular myth of Einstein as 'a solitary male genius' who single-handedly forever changed our accepted view of the universe. The herstorical biofiction is thus a feminist revision, reevaluation, and rewriting of *history* in a double sense of the concept. It recovers Mileva Marić's lost life, a life that, in Benedict's view, is representative of "the story of many intelligent, educated women whose own aspirations were marginalized in favor of their spouses" (312). Inge Stephan called it "the fate of the gifted woman" in her text of the same name (see Stephan's chosen title, translation mine). Moreover, the novel uses her life and the speculations that surround it to challenge and change the cultural perception and historical memory of another life, that of Albert Einstein, who emerges from the pages of this book as a plagiarizing scientist who steals the intellectual property of his wife, robbing her of what is her due for his personal gain.

This chapter will take a closer look at Benedict's biofictional account of Marić's life in *The Other Einstein*. While the novel has been widely discussed by the press as well as in personal online reviews by readers, it has been neglected by academic scholarship so far, apart from my own paper (Müller 2022). As in all the analysis chapters included in this study, my discussion of Benedict's herstorical biofiction will be guided by a critical-feminist reading of the present literary text against the backdrop of the chosen individual's biography and reception history. The central question I will be asking myself here is what image does the biographical novel create of the historical female scientist, her life story as well as her scientific abilities and accomplishments. A particular focus shall thereby be placed upon the author's decision to use her artistic liberties as a novelist to explore in fiction the historically questionable assumption that Marić was indeed the 'mother of the theory of relativity' and thus create a counter-narrative to the official version of the *history* of science. I argue that Benedict's novel might not only be read as an attempt to recover the story of a little-known woman in science. It can also be seen as an effort to use her story and the speculation regarding her possible, even probable involvement in Einstein's achievements to raise awareness of the very mechanisms in which women's scientific accomplishments have all too often been appropriated by men and systematically neglected and obscured by traditional male-oriented historiography. And yet, as I will show, for the suggestions the novel makes about Albert's lack of integrity as a scientist as well as the myths it creates around Mileva's scientific activities and the loss of her daughter (she is shown to discover the relativity of time and space as a response to the untimely death of her first child), Benedict's speculative reconstruction of the herstory of science is not only ethically but also gender-politically problematic. I maintain that while apparently driven by the feminist desire to reveal Marić's own intellectual brilliance and scientific productivity and to reclaim her part in history as well as *his* (Einstein's) story, Benedict's fictional exploration of the 'Mileva Story' in *The Other Einstein* serves mainly one purpose, namely to foster the tragic victim narrative that she (re-)constructs about her. Ultimately, this deliberate if fictional misrepresentation of history runs the risk of lastingly damaging both Marić's and Einstein's cultural afterlives and potentially harming the cause of feminist historians of science.

### 3.3.1 "I Believe That a Woman Can Have a Career Like a Man"<sup>45</sup>: Mileva Marić, a Pioneer for Women in Science and a Tragic Heroine

Everyone knows Albert Einstein. The German-born theoretical physicist, who gave the world some fundamental concepts of modern physics and who has been voted 'Person of the Twentieth Century' (Golden), has become the symbol of the unconventional genius. His face, "peering beneficently out at us from coffee mugs, posters, calendars, and T-shirts, is familiar in every corner of the world," Dennis Overbye states (x). Einstein is "arguably the most famous man in the world, the very author of our modernity" (Over-

---

45 Marić qtd. in Stephan 91, translation mine.

bye xi). “[H]is ideas [...] reverberated beyond science, influencing modern culture from painting to poetry,” Frederic Golden points out. While he is long dead, he is ever present, Overbye suggests: “he remains the scientist most likely to make front-page newspaper headlines, as modern science confirms yet another of his bizarre-sounding hypotheses, published long ago” (x). Mileva Marić, by contrast, is known only by a select few. Marić accompanied and supported Einstein both emotionally and intellectually during the difficult early years of his academic career: from his beginnings as a student of mathematics and physics at the Swiss Federal Polytechnic in 1896 to his eventual rise to the highest echelons of the scientific community in 1914 when he was named member of the Royal Prussian Academy of Sciences and head of the prestigious Kaiser Wilhelm Institute for Physics in Berlin (Esterson and Cassidy xii). During that time, she had borne him three children: in 1902 (Lieserl), 1904 (Hans Albert), and 1910 (Eduard), respectively (Esterson and Cassidy xii). For much of the past, she has been reduced to a mere footnote in the life story of her famous husband. Little was known about her as a person and her relationship and marriage to Einstein, which lasted from 1903 to 1919 when the couple, which had separated in 1914 after a long-lasting crisis, was eventually divorced, and there was little interest in finding out more about it, Esterson and Cassidy note (xii). As Einstein’s first wife and the mother of his children, Marić was certainly mentioned with a few lines in every official Einstein biography, as Charles Chiu points out (14). However, she was generally presented as a dark chapter in his story (Rauch, “Mutter der Relativitätstheorie”). Stephan notes that for a long time, Einstein biographers only had incidental and derogatory things to say about her (92). They often painted a picture of her as “unattractive, moody, and a little silly” (Stephan 94, translation mine). Thus, despite having been “one of the first women theoretical physicists in the world” (Krstić 13), she has long been a relatively obscure figure, “an enigma” (Popović ix). Real interest in the story of this woman “who has been too long overshadowed by the glory and myth of Albert Einstein” (Krstić 17) would only emerge in the late twentieth century, spurred on by feminist scholarship about the history of women in science. Awareness of Marić and her until then long ignored and consequently little-known story grew substantially in the context of the discovery and subsequent publication of Marić and Einstein’s private correspondence and the speculation these prompted regarding her possible involvement in her husband’s scientific achievements, as I will discuss in a moment. In the last couple of decades, several authors have written books about her: Desanka Trbuhović-Gjurić, *Im Schatten Albert Einsteins: Das tragische Leben der Mileva Einstein-Marić* [*In Albert Einstein’s Shadow: The Tragic Life of Mileva Marić*], published in Serbian in 1969, in German in 1982, and in French in 1991), Jürgen Renn and Robert Schulmann, *Albert Einstein / Mileva Marić. The Love Letters* (1992), Milan Popović, *In Albert’s Shadow. The Life and Letters of Mileva Marić, Einstein’s First Wife* (2003), Dord Krstić, *Mileva & Albert Einstein: Their Love and Scientific Collaboration* (2004), Radmila Milentijević, *Mileva Marić Einstein: Life with Albert Einstein* (2015), and Allen Esterson and David C. Cassidy, *Einstein’s Wife: The Real Story of Mileva Einstein-Marić* (2019). In 2003, a documentary film directed by Nicola Woolmington and written

by Geraldine Hilton called *Einstein's Wife* has been released. Marić's life has also been treated in literature, theater, and film. In addition to Benedict's *The Other Einstein*, one can find the 1995 novel *Mileva Marić Ajnštajn* [*Mileva Marić Einstein*] by Serbian writer Dragana Bukumirović, the 1998 drama *Mileva Ajnštajn* [*Mileva Einstein*] by Serbian author Vida Ognjenović, and the 2016 novel by Croatian writer Slavenka Drakulić entitled *Teorija Tuge* [*Mileva Einstein or the Theory of Solitude*].<sup>46</sup> In 2017, her life was depicted in the first season of National Geographic's period drama TV serial *Genius*, which focuses on Einstein's life and which is based on the biography *Einstein: His Life and Universe* (2007) by Walter Isaacson. The streaming service Netflix plans a film about Marić and her relationship with Einstein (Napirca). Due to her recent reappraisal in feminist scholarship and popular culture, public knowledge of Marić's story is increasing and correctly so. As a studied mathematician and physicist at a time when members of the female sex were generally expected to become wives and mothers and universities were still institutions of men-only, Marić surely was an outstanding character herself and is today rightly celebrated as "one of the pioneers in the movement to bring women into science – even if she did not reap its benefits" (Holton 191).

Marić was born in 1875 as the eldest of three children to a wealthy and well-respected family in Titel, a town in the Vojvodina, then part of the Austro-Hungarian Empire and now part of Serbia. She is portrayed as "a gifted child who expressed a passionate zeal for everything that intrigued her" (Frize 273). She was "highly intelligent and exceptionally well educated" with "a natural aptitude in and passion for science" (Popović 5). She was also fluent in several languages (Frize 273). Her very supportive father, a civil servant at the court of justice, realized the extraordinary intellectual curiosity and scientific and mathematical talent of his daughter and saw to it that she received an education that was quite unusual for girls and women at that time (Stachel 207). Biographers often draw a connection between Marić's advanced education and her physical disability. Marić was born with a congenital hip defect which caused her to limp noticeably. Unable to play with other children and frequently teased by them because of her limp, she is said to have taken refuge in the world of books (Stephan 95). Her family's encouragement of her academic interests apparently resulted from a (from today's perspective clearly sexist) belief in the unmarriageability of Marić because of her disability and a concern for her future (Stephan 95). Miloš Marić moved his daughter from school to school, eventually even receiving special permission from the Ministry of Education to enroll her at the all-male secondary school in Zagreb, where she received top grades and was allowed to take advanced classes in mathematics and physics (Stachel 208). In these subjects, she received "the highest grades ever awarded by the school" (Frize 274).

---

46 Of the literary tributes writers have paid to Marić in recent years, Benedict's novel is the only one that is available in English so far. The novel by Bukumirović and the play by Ognjenović have been written in Serbian. I could not find any translations into other languages. While a German translation of Drakulić's novel exists, it has so far not been translated into English.

At the turn of the century, higher education was still closed to women in the Austro-Hungarian Empire, as it was in many other parts of the Western world. A fluent speaker of German, the nineteen-year-old Marić decided to leave home and move to Zurich in 1896 in pursuit of further education (Stachel 208). After France, Switzerland was the second country in Europe to fully open its universities to the female sex and many, especially Eastern European, women eagerly embraced the chance to receive further education and degrees there, as John Stachel explains (208). After having obtained the Matura-exam at the *Höhere Töchterschule*, a girl's school in Zurich, and thus completing the high school diploma, she became one of the very first women to study mathematics and physics at the Swiss Federal Polytechnical School at the turn of the twentieth century (Stachel 208, Troemel-Ploetz 421-422). Golden describes it as "Switzerland's M.I.T" (Golden). At the time, Marić was, in fact, the fifth woman ever to have been accepted to study at the *Department VI A: Mathematics and Physics*; of the six students in her year of study she was the only woman (Troemel-Ploetz 421-422). Before taking up the study of physics and mathematics, she had already tried medicine at the University of Zurich for a year (U. Fölsing 127). At the Polytechnic, she "excelled in her studies" (Popović 5). Esterson and Cassidy characterize Marić as courageous, determined, and ambitious (3). However, there is also a different side to her. The bullying she had experienced as a child led to "a poor self-image and an inability to fully appreciate her own qualities and talents" (Frize 275). Nonetheless, Marić developed into a confident person who did not let the gender conventions of her time and place limit her in her pursuits. Overbye describes Marić as a feminist (xi). This assessment of her might be justified indeed, as the following statements prove: "I believe that a woman can have a career like a man," she is reported to have once said to her friends (qtd. in Stephan 91, translation mine). Her confidence can also be seen in the following words which are often attributed to her: "I believe that I would be just as good a physicist as my male colleagues" (qtd. in Stephan 91, translation mine). She certainly had to possess a certain degree of confidence and strong willpower in view of the "institutionalized sexism" (Asmodelle) predominant in Swiss universities then. Though Swiss universities began to admit female students from 1867 onwards, there prevailed a highly "misogynistic atmosphere" (Frize 274). Indeed, the presence of a few women, such as Marić, should not obscure the fact that universities, and thus scientific teaching and research, were the domain of men and for many decades to come, with members of the female sex remaining the exception. Senta Troemel-Ploetz describes the situation for academically ambitious women such as Marić as follows:

The general attitude was [...] that women do not belong there, so there are no positive expectations for in the heads of their male professors and they are not promoted and mentored as the young bright male students are, who immediately become members of the male institution and begin to profit from their privilege. I am sure that none of her professors gave as much as a thought to the possibility that she might succeed and pursue an academic career to the same point they had reached themselves. They tolerated her at best; she had to look out for herself. (422)

Troemel-Ploetz notes that Marić must have felt extremely lonely during her school days, being the only female in every classroom she entered (422). But she would not have to face these difficulties on her own. While she had the support of some female friends and fellow students, with whom she lived together in the Pension Engelbrecht (Gagnon), she would meet her future husband in class. Three years her junior (he was 18, she 21 when they first met), Albert Einstein, with whom she would soon become close friends and eventually lovers, had begun his academic path in the same year as she had (Stachel 207). Partly due to a shared passion for science and music they developed a strong attraction for each other and eventually fell in love (Frize 273). Milan Popović describes the unlikely pair as a couple that complemented one another perfectly: “Albert was hopelessly impractical and indecisive about everyday decisions, while Mileva was practical, even maternal, and resolute. Albert countered Mileva’s seriousness with his irrepressible sense of humor. Albert had a great regard for Mileva’s independence and strength; she admired his natural genius” (ix). Pauline Gagnon claims that “Albert and Mileva became inseparable, spending countless hours studying together.”

Unlike Einstein’s, her dream of a scientific career (like him she had studied for a teaching certificate for secondary schools) did not materialize. She failed her final exams twice, the first time due to a low grade in mathematics, the second time supposedly because she suffered from severe emotional and physical distress following her first pregnancy (Esterson and Cassidy 266). She forsook all plans for her doctoral dissertation, apparently due to a disagreement with her advisor, the Swiss physicist Heinrich Friedrich Weber (1843-1912), over his treatment of Einstein; Weber did not give Einstein a scientific assistantship like he did with his other students (Troemel-Ploetz 425). While Einstein eventually got both his Diplomarbeit and his doctorate, Marić received neither (Troemel-Ploetz 425). Suffering from the trauma of losing a daughter born out of wedlock (either to sickness or adoption), she gave up all her academic ambitions and became Einstein’s wife and the mother of two further children, supporting her husband’s career but never again taking up scientific work of her own (Esterson and Cassidy 266). In her book *Das Schicksal der begabten Frau. Im Schatten berühmter Männer* [*The Fate of the Gifted Woman. In the Shadow of Famous Men*], Stephan describes the special identity problems that gifted women faced in their relationship with famous men. According to Stephan, this was a “struggle between self-assertion and self-abandonment” that often led to the end of one’s career and not infrequently ended in illness or even suicide (11, translation mine). In addition to Jenny von Westphalen-Marx (1814-1881), Clara Wieck-Schumann (1819-1896), Zelda Sayre Fitzgerald (1900-1948), and other women, Mileva Einstein-Marić also functions as an example of the “exploitation and destruction of female talent by the respective male partner and the marginalization and suppression of the creative female parts of men’s works in later historical perception” in Stephan’s study (13, translation mine). For these women, although intellectually at least equal if not superior to their partners, sacrificed their own career ambitions to place themselves and their lives at the service of men and their careers. The story of Einstein and Marić seems paradigmatic of a reality all too present in the past (and sometimes still

today): “the man became famous and is numbered among the great; the woman became invisible, unknown, and unheard of” (Troemel-Ploetz 415).

Throughout history, Marić had not only been a shadowy figure; she has also often been portrayed as a rather tragic one. As one of the very first women to study physics and mathematics in history and thus as part of the first generation of women to pursue higher education, Marić surely is an important and inspiring female role model who deserves to be remembered for the many obstacles she successfully overcame in her pursuit of education and a scientific career of her own. However, Marić is often remembered more readily for the tragic path her life took once she met Einstein, than for her pioneering forays into the male-dominated world of turn-of-the-century science, the ways in which she “had overcome, with distinction, all the academic prejudices that women could encounter” (Frize 279). Hers was not a triumphant story but a tragic one, the story of “a highly gifted girl who, after such great success at school, did not achieve a corresponding position in science” (Trbuhović-Gjurić 5, translation mine). *Im Schatten Albert Einsteins: Das tragische Leben der Mileva Marić* [*In Albert Einstein’s Shadow: The Tragic Life of Mileva Marić*] is the title of the first biography that has been written about Marić in 1988 by Desanka Trbuhović-Gjurić. It clearly hints at the spirit in which she and her story have been remembered throughout the last couple of decades. Admittedly, Marić suffered many personal and professional setbacks throughout her life; her story might be called tragic indeed. She features in books like Stephan’s publication *Das Schicksal der begabten Frau. Im Schatten berühmter Männer* [*The Fate of the Gifted Woman. In the Shadow of Famous Men*] (1989), as one of the most prominent and blatant examples of women who have lived in the shadows of famous men and seen their own contributions eclipsed by their husband’s.

The blame for this development of her life is usually placed with (her love for) Einstein. Troemel-Ploetz, for instance, writes that Marić “most certainly would have gotten both her Diplom and her doctorate had she not met Albert Einstein” (424). Monique Frize also places the beginning of the downward spiral Marić’s life took in her attraction to Einstein, as it would “lead to a marriage in which Mileva’s life gradually deteriorated into desperate uncertainty, constant upheaval, and finally despair” (273). Popović claims that “Mileva’s love of science was sacrificed to her love for the century’s greatest scientist, who cruelly mistreated her” (27). Frize suggests that “Mileva’s decline and fall into obscurity” (278) begins with the conception and birth of the first child, Lieserl. Einstein refused to marry her because he was without employment and could not provide for the family (Isaacson, *Einstein* 72-77). When he finally secured a job at the patent office in Bern, they got married, despite firm opposition of both of their parents (Stephan 99). According to Walter Isaacson, Einstein’s parents did not consider Marić a suitable partner for their son because “she was older, somewhat sickly, had a limp, was plain looking, and was an intense but not a star intellectual” (*Einstein* 52). That she was not Jewish and furthermore that she was Serbian did not improve the situation in the eyes of his family (Isaacson, *Einstein* 52). At the same time, the fact that Einstein was Jewish was a problem for Marić’s parents. The parents were indeed “a

major obstacle” in the couple’s path for a joint future (Frize 277). Nevertheless, they married in 1903. Soon thereafter, however, their relationship was overshadowed by a tragic event, the loss of their first child, an experience from which Marić never truly recovered, Popović claims (11). This is followed by the loss of her own productivity, as described by Stephan (8), and of being forced into the role of her husband’s career companion (Stephan 9). Stephan notes that she found herself in a role she never had wanted for herself: “cut off from science – both on a productive and receptive level – she was just a housewife and mother, and under extremely difficult conditions” (104, translation mine). Reduced increasingly to a domestic role, Marić fell into severe depression (Stephan 99, Popović 11, 20). Ultimately, the relationship with Einstein failed and they separated. Marić moved to Zurich with their children, while Einstein stayed in Berlin with his lover and soon-to-be second wife, his cousin Elsa Löwenthal (1876-1936) (Frize 281-283). The divorce followed in 1919. Einstein remarried shortly thereafter (Frize 283). He emigrated to the USA in 1930. Marić, meanwhile, continued to live in Zurich and looked after her younger son Eduard, who suffered from schizophrenia (Frize 281). When Eduard was older, his behavior became increasingly violent and destructive (Frize 283). His medical treatment was very expensive and even though Einstein provided financial support, Marić often faced monetary difficulties which caused her to borrow money from family and friends (Frize 281). From time to time, she also gave piano lessons or tutored students in mathematics (Stephan 105, 107). There is no denying that Marić faced many fateful blows in her life. She died “an impoverished old woman pushed aside” (Trbuhović-Gjurić 202, translation mine) in 1948 at the age of seventy-three, after a series of strokes left her partially paralyzed (Stephan 107, Popović 27). In present-day scientific and cultural discourse, Marić is more than the symbol of a tragically failed emancipation, however. Since the 1980s, she has also become a symbol of the so-called ‘Matilda Effect’, which is an aspect of her story I will explore in the next subchapter.

### **3.3.2 A Sounding Board for His Ideas or a Talented Scientist in Her Own Right? The Debate about Marić’s Scientific Legacy**

For several decades, there has been an intensive academic and public discussion about Marić’s possible contributions to Einstein’s professional achievements, especially his path-breaking papers of 1905 that were written in the years of their marriage. The period of 1905 has been described as the “most productive” and “most creative” in Einstein’s life (Popović ix, 24). Working as a junior civil servant in the Swiss Patent Office in Bern at the time, Einstein released four pioneering papers – on Brownian motion (which gave rise to quantum theory), the photoelectric effect, the theory of special relativity, and the matter-energy-equivalence ( $E=mc^2$ ) (Esterson and Cassidy 68-70). All four papers, which according to Stephan formed the basis of his worldwide fame and paved the way for his ensuing international university career (100), were printed in the prestigious scientific journal *Annalen der Physik* in the same year that he submitted his doctoral dissertation. His paper on the photoelectric effect as well as his services to theoretical phys-

ics would earn him the Nobel Prize sixteen years later in 1921 (Renn and Schulmann xxiv). The year 1905 has been described as Einstein's miracle year: he never again reached this level of research (Troemel-Ploetz 420). That a young man of twenty-six, who worked full-time as a patent clerk, published four extraordinary papers which revolutionized the field of physics, altering long-held ideas about space, time, and matter, within one year provoked some questions, historian of science Alberto A. Martínez explains ("Handling Evidence" 49). He specifies that some people asked whether Einstein wrote these papers by himself or whether he perhaps had a secret assistant and/or collaborator in the form of his wife, who, like him, had been trained in mathematics and physics ("Handling Evidence" 49). This controversial question about Einstein's productivity and his wife's involvement has fascinated the scientific world as well as the press for some time now:

Who was the real Mileva Einstein-Marić, the wife of the famed physicist Albert Einstein? Trained alongside him in physics and mathematics, what role did she play, if any, in the famous papers of her husband, which transformed contemporary physics? Was she an unsung contributor or even a co-author, a sounding board, the top fiddle, a glorified assistant, an unglorified housewife, the one who made it all possible? (Esterson and Cassidy xi)

The history of women in science shows that the question of what role Marić had played in Einstein's scientific successes is a legitimate and a justified one. To be clear: Marić never claimed that Einstein deprived her of the professional recognition that was her due (Stäudner 48). In fact, it is not even known whether she still engaged in scientific activities at all after their marriage and the birth of their children. Publications that bear her name are searched for in vain (Stäudner 48). She also never mentioned any scientific projects she was pursuing with Einstein or by herself in the surviving letters to her close friend Helene Kaufler-Savić (1871-1944) with whom she kept a regular personal correspondence (Martínez, *Science Secrets* 203, "Handling Evidence" 53). She did write in the letters to her friend about Einstein's work, however, and she referred to him writing papers (Martínez, *Science Secrets* 203, "Handling Evidence" 53). She has even been described as having been "only interested in developing his abilities and [...] content with his success" (Troemel-Ploetz 421). Nevertheless, it is well-known today that the contributions of women scientists have been systematically under-recognized in the past. The 'Matilda Effect' is particularly pervasive among collaborative married couples, as Rossiter emphasizes: when married scientists worked together, it was usually the wife who received less credit than the husband, "either deliberately for strategic reasons or unconsciously through traditional stereotyping" (330). In the foreword to *Creative Couples in the Sciences* (1996), Pnina G. Abir-Am describes the situation of married women in scientific couples (meaning marital partners who are both engaged in or trained as scientists and who had been in collaborative situations with each other). She explains that for many women in history, being married to a scientist had opened the opportunity to work in science (x). Marriage among colleagues offered women access to the male-dominated world of science and research, as well as a socially acceptable

space for participation and thus also the collaboration with male scientists. But there was a catch to it, as the price for many female scientists was dependence on their husband in legal, economic, and social ways (Abir-Am x). Furthermore, in many cases this meant that her work did not get attention and acknowledgement (Abir-Am x). Rossiter notes that even women scientists who had worked independently beforehand saw their work retrospectively attributed to their husbands upon marriage (330-331). In this context, Rossiter even claims that “marrying one’s collaborator may be a strategy for undercutting a serious rival in the race for recognition” (330). There were also couples that functioned differently and defied this. The Curies, for example, were different from other collaborative marriages in this regard, they did not meet the conventions of the day but can be seen as equals. Their publications were strategically planned so that it would minimize the ‘Matilda Effect’ for Marie, Ulla Fölsing explains (17). Helena Pycior, Nancy Slack, and Pnina Abir-Am propose the following typology of scientific couples which range “from relatively egalitarian partnerships (those of the Nobelist couples) through husband creator/wife assistant relationships [...] or wife celebrity/husband assistant relationships [...] and, finally, relationships where marriage seemed to end the wife’s involvement in science” (7). Marić and Einstein fall into the last category. In recent decades, scholars have done much to highlight the often undervalued or invisible contributions of women in joint work of scientific couples. Feminist researchers have also shown that it was oftentimes narrow definitions of scientific practice and knowledge as well as historical noteworthiness which have led to women’s contributions being neglected or completely dismissed in the first place. Studies like those by Pycior, Slack, and Abir-Am have shown the “collaborative [rather] than individualistic” nature of contemporary science; in doing so, they have begun “to correct the long-standing myth of the solitary (usually male) genius of the past” (3-4).

The speculations surrounding Marić’s participation in Einstein’s scientific work gained momentum when a series of previously undisclosed letters was published. The fifty-four letters, which had been in the possession of their son Hans Albert Einstein (1904-1973) and his family, were released in 1987 as part of the first volume entitled *The Early Years, 1879-1902 of The Collected Papers of Albert Einstein*.<sup>47</sup> These so-called ‘love letters’, which the two fellow students, aspiring scientists, and eventually intimate lovers exchanged between 1897 and 1903, cast a new light on the beginnings of their relationship and marriage. Ulla Fölsing emphasizes that they also contained a well-kept secret: they revealed the existence of an illegitimate child of the couple, which had been unknown to the public until then (130). The identity and fate of the girl, of whom only the name Lieserl is known, remains unclear. It seems that she was born out of wedlock in 1902 and hidden by Marić’s family in Serbia to not endanger Einstein’s professional prospects. Although Michele Zackheim devotes an entire book titled *Ein-*

---

47 *The Collected Papers of Albert Einstein*, in short *CPAE*, is a project at Princeton University which seeks to publish a comprehensive collection of all works, manuscripts, and correspondence, in the original German language and in English translation. The Collected Papers are also available online as an open access resource.

*stein's Daughter* (1999) to uncovering Lieserl's story, historians and biographers to this day do not know what happened to the girl. No birth or death certificates were ever found (Gagnon). At the beginning of the twentieth century, an illegitimate child was not exactly career-enhancing – even for a man. It is speculated that the child was either given up for adoption or that she died while still a baby, possibly of scarlet fever (this is the fate that Benedict opts for in the novel). It has also been suggested that she was placed in a home for children with a handicap after having suffered the already mentioned scarlet fever where she remained until her death (Popović 11). Einstein apparently never saw his first-born child, for there is no record of him visiting Marić in her hometown at the time (Frize 278). Once more, authors of fiction stepped in to fill in the gaps left by a lack of historical records. British writer Anna McGrail imagines what Lieserl Einstein's life as an adoptee might have been like in her novel *Mrs. Einstein* (1998).

The love letters also prompted a new view of Marić: they showed that their strong mutual attachment was not only based upon the serious romantic feelings they had for each other but also on a shared passion for science (Stachel 212). Within the letters, eleven of which were written by Marić and forty-three of which are in Einstein's hand, Marić and Einstein's courtship is interwoven with an intensive academic exchange of ideas about math and physics. In some of the letters written around 1900, Einstein briefly alludes to scientific projects that the two of them apparently pursued together. He writes about “our research,” “our paper,” and “our work on relative motion,” among others (Renn and Schulmann 39, 41). For many, these assertions became proof of Marić's collaboration with Einstein and even her co-authorship of the famous 1905 papers. Others have dismissed these allusions in the letters as “just too vague and insufficient to establish whether Marić had contributed to Einstein's publications” (Martínez, *Science Secrets* 194). Regarding the claim of “our work on relative motion,” Martínez also points to issues of time: “By no means did Einstein have the theory of relativity in 1901. At that time, he believed in the ether and sought ways to detect its relative motion experimentally” (“Handling Evidence” 50). Nonetheless, in the aftermath of the publication of the love letters several scholars began to offer interpretations about Marić's role in her husband's accomplishments.

In the context of the publication of the love letters and the speculations these ensued also the previously little-known biography written by Desanka Trbuhović-Gjurić gained new public attention (Esterson and Cassidy xiii). The ‘Mileva Story’ is said to have begun with Trbuhović-Gjurić's biography of Marić entitled *Im Schatten Albert Einsteins. Das tragische Leben der Mileva Einstein-Marić* [*In Albert Einstein's Shadow. The Tragic Life of Mileva Einstein-Marić*].<sup>48</sup> Troemel-Ploetz describes the biography as an attempt “to rescue Mileva Marić and write her into Serbian and scientific history”

---

48 The biography appeared in 1969 in the author's native language Serbian and was initially only sparsely received (Troemel-Ploetz 415). It was more widely distributed and discussed after being translated into German (1983) and French (1991). An English translation was never published.

(417). Its author “knew that no man would do that job for Mileva Einstein-Marić, whose own husband failed to give her the public recognition she deserved” (Troemel-Ploetz 417). Trbuhović-Gjurić suggests that Marić’s contributions to Einstein’s achievements were of major importance. Though she does provide no solid evidence to prove her arguments, she is convinced that Marić had functioned as Einstein’s advisor and the reviewer of all his papers and that she was the one who had written the mathematical proofs for his theories (90). She explains that although “she was not a co-creator of his ideas, as no one else could have been, she reviewed all his ideas, discussed them with him and gave his ideas [...] mathematical expression” (90, translation mine). Trbuhović-Gjurić also claims that Marić was the co-author of Einstein’s 1905 papers. The biographer draws this conclusion from six central arguments:

1. from her [Marić’s] great talent, which had already emerged in her childhood; 2. from the strength of her quest for knowledge and her foray into mathematics and physics, which drove her abroad despite strong resistance from her environment, the prejudices of the time and the small-town milieu; 3. from her unusual academic successes; 4. from her collaboration with Einstein during their student days and during their marriage; 5. from Albert Einstein’s own statements about her participation, attested to by credible contemporary witnesses; 6. from the fact that Einstein handed over the Nobel Prize to Mileva. (7, translation mine)

Troemel-Ploetz is convinced of the biography’s quality and the unique qualifications of its author (a Serbian mathematician and physicist and, moreover, a woman herself) for the task of making “Marić’s life visible” and “her scientific contributions known” (417). That said, this first and for a long time only biography of Marić has been harshly criticized and its scholarly merit strongly questioned. Some later biographers and historians completely rejected the book as reliable evidence and a truthful account of Marić’s life because the information presented is often based on hearsay and speculations. The fact that Trbuhović-Gjurić, like Marić, was Serbian has been used against her by scholars who argued in favor of Einstein as solitary male genius (Martínez, *Science Secrets* 198). Scholars like Martínez argue that Trbuhović-Gjurić’s biography of Marić is based on national pride and speculative assumptions, rather than historical facts and a biographer’s commitment to telling the truth (*Science Secrets* 198). And yet, the biography was widely influential and continues to determine the public image of Marić and the popular and to some extent scholarly discussion about her achievements as a woman in science.

In the 1990s, two further authors, Senta Troemel-Ploetz and Evan Harris Walker, used both the biography written by Trbuhović-Gjurić and the newly published love letters to make their case about Marić’s role in Einstein’s scientific achievements. For the German linguist Troemel-Ploetz, there is no doubt that Marić was “the woman who did Einstein’s mathematics” and that his papers were written together with his wife (419). Though she admits that “it’s an open question how much Mileva Einstein-Marić contributed to them” (419), she attests Marić not only mathematical devotion but genius (421). In her claims, she was supported by Evan Harris Walker. The American physicist proposes that Marić had been substantial in Einstein’s scientific successes. To him, there

is no doubt that she was a co-author of the paper on the special theory of relativity (Walker 15-16). He derives evidence for this view from Einstein's own statements in his letters to Marić. These point to her own research as well as their ongoing collaboration before and during their marriage (Walker 8-9). Walker also stresses that the nature of Einstein's work changed after the separation from Marić, that Einstein's physics became more conservative (10, 5). He concludes:

I cannot help but feel that the background material, the literature searches, the critical data and, most importantly, those most basic capricious ideas that were the turning points of relativity theory came from Mileva, while much of the overall formalism of the theory was set up by Albert. The mathematics and the proofs were probably shared. (5)

Both Walker and Troemel-Ploetz voiced their ideas about Marić's unacknowledged role in Einstein's scientific successes in the context of a scholarly conference of the *American Association for the Advancement of Science (AAAS)* devoted to Einstein's early life and work that took place in 1990 in New Orleans (cf. Esterson and Cassidy xiv). While the debate had started out as a scholarly one, it was soon picked up by the media and thus discussed more widely – mainly within the United States but also in Germany (Stäudner 48). In the same year that Troemel-Ploetz and Walker's claims were made, an article about Marić appeared in the feminist German-language magazine *EMMA* (it was republished in 2005). Here the author Judith Rauch stylizes Marić as the “mother of the theory of relativity” (“Mutter der Relativitätstheorie,” translation mine). Physician and Einstein biographer Albrecht Fölsing immediately responded with a piece that appeared in the German newspaper *Die Zeit*, rejecting the claim made by Rauch that Marić was the ‘mother of the theory of relativity’ and defending Einstein's sole authorship (A. Fölsing, cf. also Stäudner 48). In 2003, a one-hour television documentary film by Nicola Woolmington entitled *Einstein's Wife* was broadcast in the United States and other Western countries bringing the ‘Mileva Story’ to a more general audience (Martínez, “Handling Evidence” 49, *Science Secrets* 193). Casting a new light on the relationship between Einstein and Marić and their collaboration on the special theory of relativity, it highlighted the idea that Marić had made substantial contributions to Einstein's scientific works (Martínez, “Handling Evidence” 49, *Science Secrets* 193). The documentary was accompanied by an online poll in which viewers could vote whether Marić had collaborated with Einstein and contributed to his work. “Was it really possible for Albert alone to produce all of the phenomenal physics generated during 1905?”, the website asks. Seventy-five percent responded in favor of Marić (Martínez, “Handling Evidence” 49, *Science Secrets* 193). However, history cannot be decided by democratic votes, as Martínez rightly points out (“Handling Evidence” 49, see also Martínez' review of the documentary “Arguing About Einstein's Wife”). Ever since, numerous papers and book-length studies have appeared in favor of and in opposition to the ‘Mileva Story’. The alleged injustices that Marić had suffered at the renowned scientist's side also drew an enormous public and media attention, as Esterson and Cassidy note (xv). Over the last couple of years, Marić has advanced to one of the most iconic symbols of the ways in which women's contributions to science have often been ascribed to men and been

collectively overlooked by history. “She seemed to be the most prominent and most blatant example of how history has forgotten, even deliberately so, the contributions scientific female spouses and partners made to the great achievements of male scientists” (Esterson and Cassidy xv). According to Troemel-Ploetz, Marić’s “life and her fate [...] is moving to everyone”. She ascribes her story a certain universality as it “touches a deep chord of recognition in readers who know about the silencing of women’s voices and the annihilation of women’s work” (416).

Proponents of the ‘Mileva Story’ base their arguments not only on the love letters, however. Those in favor also refer to an earlier instance of (voluntary) omission of her name. In 1900, Marić and Einstein had published their article on capillarity in *Annalen der Physik*. This article was Einstein’s first scientific paper (Martínez, *Science Secrets* 196). While their respective comments in letters to others suggest a co-authored paper, it was signed only with Einstein’s name. This happened presumably deliberately so, as Marić tried everything to support Albert in making a name for himself as a scientist, so that he could finally secure a position and they could get married (Gagnon). The omission of Marić’s name from the joint publication might also have been due to the sexist gender bias of the time. In early-twentieth-century Germany, women’s intellectual abilities and achievements were often still doubted (Krstić 16). A publication co-written and co-signed with a woman might thus have been regarded as less reputable (Gagnon). This might have led some male-female co-writers to sign their joint work only with *his* name. Gagnon suggests that this might have been the beginning of a continuing practice as “[o]nce started, the process of signing their work under his unique name became impossible to reverse.” It might explain why her name is missing from the publications that came thereafter, including the paper on special relativity (Krstić 16). In this context, reference is often made to another case in which Einstein had “appropriate[d] for himself all the work his wife had done” (Troemel-Ploetz 419) – though apparently once again with her consent. This was a piece of research by Marić, the invention of a so-called ‘influence machine,’ a device for measuring small electrical voltages by means of multiplication, which she had made together with their mutual friend Paul Habicht (1884-1948) (Trbuhović-Gjurić 83). Einstein, who at the time held a position as a minor civil servant in the Bern Patent Office, had the apparatus patented under the name ‘Einstein-Habicht’, and he published two papers on it under his name only (Trbuhović-Gjurić 83). Habicht asked Marić why she had not given her own name in the patent court. “Why?” she replied, “we are both just one stone [Ein Stein]” (Trbuhović-Gjurić 83, translation mine).

An argument that is brought forward in the context of the ‘Mileva Story’ is the Einstein’s divorce decree which awarded all future Nobel Prize money to Marić. Popović writes that some have seen this as an “acknowledgement of his intellectual debt to her” (23). Yet the interpretation that he was giving her “private recognition for her contribution which he had not given her publicly” (Troemel-Ploetz 420) has also been rejected. Martínez, for instance, claims that “the many letters on the matter give no evidence that there was any intellectual debt involved” (*Science Secrets* 204). Other inter-

pretations of Einstein's decision to give her the money are possible, too. Troemel-Ploetz notes that "perhaps he only gave the money to his first wife because for eight years he had hardly supported her and the two children at all financially" (420).

Another element that advocates of the 'Mileva Story' frequently draw attention to are the challenges that Einstein presumably faced vis à vis mathematics. There are some rumors surrounding Einstein's apparent need of Marić's mathematical expertise. According to Troemel-Ploetz, Einstein once admitted: "My wife does my mathematics" (415). The following quote is also often attributed to Einstein: "I need my wife. She solves all the mathematical problems for me" (qtd. in Troemel-Ploetz 418). The claim that Marić had helped Einstein with his mathematics was apparently started by Peter Micheltore's 1962 short, popular biography *Einstein: Profile of the Man*, which Ester-son and Cassidy have dismissed as not "a serious work of scholarship" (108). Here, the Australian journalist wrote that "Mileva helped him solve certain mathematical problems, but nobody could assist with the creative work, the flow of fresh ideas" (qtd. in Martínez, "Handling Evidence" 52). The book is based on interviews that Micheltore conducted with the Einsteins' first-born son, Hans Albert Einstein, but the statement is not a direct quotation from him. We do not know what Hans Albert Einstein told him, the manuscript was apparently never proofread by him, and since the notes of the interview do not exist anymore, we probably never will know it, as Martínez points out ("Handling Evidence" 52-53). Martínez also suggests that Hans Albert could not credibly make any claims based on his own memories about the writing process of the 1905 papers because he was one year old at the time: "Hence, if he actually spoke such words in 1962, he was merely voicing a conjecture or echoing words voiced by someone else" ("Handling Evidence" 53).

Defenders of the 'Mileva Story' also draw attention to the following piece of evidence: Russian physicist Abram F. Joffe (1880-1960) had apparently noted that the signature on the manuscripts of the 1905 papers read 'Einstein-Marity,' the Hungarian transcription of Mileva's maiden name. This argument originated from Trbuhović-Gjurić's biography (97) and can be found in many writings on Marić (see, for instance, Troemel-Ploetz 419, Walker 14-15). However, the original 1905 papers are lost. Not even a \$11.5 million reward offered by the Washington Library of Congress could bring them to light (Trbuhović-Gjurić 90). There have been speculations as to whether Einstein deliberately destroyed the original papers as well as earlier drafts of them to cover up the collaboration with Marić (Asmodelle). It is also possible that he simply lost them (Asmodelle). Martínez investigates the available facts, especially the writings by Joffe himself, and concludes that this assumption is "just false" and "a gross misrepresentation" of historical reality (*Science Secrets* 198-199). He explains: "Joffe did not claim that Marić wrote or collaborated in any scientific papers. He did not claim that her name was on the 1905 manuscripts, nor that he ever saw any such manuscripts. In multiple places throughout his career, Joffe acknowledged Einstein for having authored the famous works of 1905" (*Science Secrets* 199, cf. Martínez, "Handling Evidence" 51-52).

While some have concluded that Marić did secretly and silently contribute to Einstein's work in the period from 1900 to 1905, others have firmly rejected these claims because the statements are vague and ambiguous, mostly based on hearsay and memories, and thus not reliable. John Stachel, physicist, philosopher of science, and one of the editors of *The Collected Papers of Albert Einstein*, notes that there is no denying that Marić had played "a small but significant supporting role in his early work" (207), most likely "that of a sounding board for Einstein's ideas" (213). Not only did she function as "the alter ego to whom he could express his ideas freely while developing them in isolation from the physics community" (Stachel 217). She also likely supported him by "looking up data, suggesting proofs, checking calculations, and copying some of his notes and manuscripts" (Stachel 217). Nonetheless, Stachel states that "a full collaboration between them never developed" (207). In the nearly two decades of their relationship, Marić also never published anything on her own. Stachel thus concludes that it would be wrong to suggest that she ever made a major contribution to her husband's scientific achievements (207). He supports his assessment by noting that while Marić had surely been "an eager, hardworking student," her letters reveal that she had been "without a spark of originality, or more precisely, scientific originality, for she does display flashes of literary talent, catching fire in some descriptive passages rather than in comments on physics" (213).

Martínez also critically examined the 'Mileva Story' and concludes, like Stachel before him, that there simply is not enough reliable proof to support the claims made about Marić's contributions to Einstein's scientific successes: "Personally, I'd be glad to learn that Mileva Marić was Einstein's secret collaborator. I *want* her to be the secret coauthor. But we should set aside our speculative preferences and instead look at the evidence" (*Science Secrets* 193, italics in original, cf. also Martínez, "Handling Evidence"). Esterson and Cassidy come to very similar conclusions. In their book-length study they dismantle and dismiss every single argument that has been voiced about Marić's contributions. They conclude that "her role was invaluable in providing the circumstances that were essential to enable the coming to fruition of the ideas that flowed abundantly from Einstein" (267). They also acknowledge Marić's strong determination to attain an advanced scientific education, so unusual for a woman of her time and place (267). For these achievements, they are convinced, she "merits [...] a permanent place in the history of physics in the early years of the twentieth century" (267). For Stachel, Martínez, Esterson and Cassidy, and others, Marić surely fulfilled the invaluable role of a sounding board for Einstein's ideas. According to them, however, the available evidence does not allow the conclusion that Marić took part in any other meaningful way in Einstein's work. Hence, the debate about Marić's contributions to Einstein's scientific achievements remains inconclusive and will surely continue. Since the original manuscripts as well as the notes that might prove Marić's participation in the work have disappeared, the precise nature of Marić's contributions will most likely never be reconstructed. At some point in the future, scholars might be able to determine the whole truth about her story and give Marić her due place in the history of science.

The question of what role Marić played in her husband's achievements, if she perhaps even was the real genius in the family, continues to fascinate not only (feminist) historians as well as biographers. The still unresolved issues surrounding the historical figure of Marić have also aroused the interest of fiction writers like *New York Times*-bestselling author Marie Benedict. By writing fiction and not history or biography, Benedict can bring a different kind of truth, a biofictional rather than a historical one, to the discussion about her role in the history of science. I will discuss this fictionalization and its effect on the image of Marić and her life story in the following subchapter.

### 3.3.3 “Lost in Albert’s Enormous Shadow”<sup>49</sup>: Bringing Marić from the Darkness of Her Famous Husband’s Shadow into Her Own Bright Light

Like a growing number of biographical studies, Marie Benedict's novel *The Other Einstein* moves Mileva Marić from the margins of the historical narrative to the center of literary attention. Benedict's choice of title, though understandable from a marketing perspective, is not unproblematic from a feminist point of view. For one, it once again casts a woman as ‘other.’ Two, it frames the historical female subject in her relationship to a famous man. However, it also makes clear that this biofictional narrative is not, or at least not primarily, about Albert Einstein but about his first wife Mileva Marić. With its character selection, the literary text at hand forms not only part of a recent boom of biographical novels about women in the history of science; it also belongs to a flourishing strand of herstorical biofictions which seek to reclaim the lost lives of historical women that had long been overshadowed by the famous men they had loved and with whom they had spent (part of) their lives. This connection is also drawn on the back of the book cover, where publishers advertise the novel as being written in “the tradition of *The Paris Wife* and *Mrs. Poe*,” two well-known examples of the genre that shed light on women behind or besides famous men. Indeed, *The Other Einstein* clearly fits into what seems to be a thriving subgenre within the field of female-centered biofiction, namely literary works that feature the wives sometimes also girlfriends or lovers of history's ‘great men’ as their protagonists, who place the women behind or besides the men front and center in their stories (cf. Bird 5, Bergmann, “Historical Biofiction” 310, 320 and “Poe’s Shadow” 249). Herstorical biofictions that recount the often untold and largely unknown stories of the wives, girlfriends, or lovers as well as sisters and mothers of history's ‘great men’ seem to be generally motivated by the feminist desire to rescue the chosen woman from the shadow to which she has been relegated by her famous male partner and/or traditional historiography. They seek to rehabilitate the female subject as a historical person in her own right. In Benedict's case, this is even a stated authorial aim expressed by the novelist in the afterword: “*The Other Einstein* aims to tell the story of a brilliant woman whose light has been lost in Albert's enormous shadow – that of Mileva Marić” (314).

---

49 Benedict 314.

Marić can undoubtedly be called a historically sidelined and long obscured female figure. I would say that of the four historical women in science that feature in this study, Marić, despite her association with Einstein, might be considered the least well known, as her story has been rediscovered comparatively recently. This is changing now, however, due to her presence in works of popular culture like Benedict's novel which has been widely received and translated into several languages. Authorial and readerly interest in historically sidelined figures like Marić is not always (only) rooted in their own life stories, but, at times, "stems from the alternative, privileged, or skewed insights and revelations their narratives provide into the (more) noteworthy personalities," as Marie-Luise Kohlke observes (11). It is therefore not surprising that "retelling men's lives from a female perspective is [...] [a] common literary strategy" in contemporary herstorical biofictions of this kind, as Ina Bergmann notes ("Historical Biofiction" 320). Benedict's narrative setup in *The Other Einstein*, however, does not serve the purpose of (mis-)using the shadowy figure of Marić as merely a 'privileged insider' (Pearson) of her renowned husband's story. The novel does consider the historical person of Albert Einstein, it constructs a new, female perspective on the scientist. It allows for glimpses into his relatively little-known private life, including his family and romantic life, and his younger self, especially his student days and the early years of his academic career and thus enables the emergence of a different image than the one dominating the public imagination. Truly, as I will show later in this chapter, the novel sheds light on the less noble and heroic aspects of Einstein's personality and his biography by means of the chosen perspective. It explores his roles as lover, husband, and father as experienced by Mileva and, in doing so, also discusses his tendency for adultery and fits of rage, which some scholars have attested him in recent years, as well as speculations about domestic abuse both emotional and physical. This certainly allows readers to critically reassess the prevalent cultural narrative of the famous scientist's story. If it were not for the book cover which shows the back of a young woman in period dress, suitcase in hand and facing a city that lies in the mist, presumably depicting Mileva when she first arrives in Zurich to embark on her path to a university education and pursue her dream of a career in science, the title could surely be understood as denoting the "fresh light" (Benedict 312) that the novel sheds on Albert through Mileva's eyes.

While the novel certainly offers a 'look behind the scenes' of Albert's life, Benedict's herstorical biofiction primarily foregrounds Mileva herself: her activities, experiences, and relationships are clearly at the center of the story. Admittedly, to focus on Marić's own life had not always been Benedict's goal. In a *Conversation with the Author*, which is included in the paperback edition of *The Other Einstein*, she discloses that her initial interest in Marić did indeed arise from a desire to show the heroic Einstein from another, so far hidden point of view: "I was drawn to her story because I was interested in viewing this critical period of Albert's life – when most of his revolutionary theories were formed – from a different perspective, one never before explored" (322). From her statement one might conclude that Benedict was originally only drawn to Marić because of her relationship to Einstein. When she began researching Marić's life,

however, and learned about her “astounding rise from the relative hinterlands of the Austro-Hungarian Empire to the foreword-thinking physics classroom of fin de siècle Switzerland, [Benedict] felt honor-bound to write about her own compelling life” (322-323). Digging into her story, Benedict discovered that Marić “was fascinating in her own right” and that she deserved more than being merely “a footnote in Albert Einstein’s story” (311). Hence, the novel does not seek to tell *his* story from *her* viewpoint. It wants to narrate *her* story, and, in doing so, create sympathy for her, make readers care for her, and allow her to be seen as more than Einstein’s student companion, his wife, and the mother of his children. Quite the contrary, Mileva emerges as a woman *and* a scientist in her own right.

The revisionist ambition that drives the literary text manifests in the biographical novel’s character constellation and narrative situation. Mileva clearly is the protagonist of the novel. Albert, while central to the story, is reduced to a secondary figure, though one who is ever-present and essential for the plot. Furthermore, it is Mileva’s viewpoint through which the story is focalized. It is her thoughts, feelings, and perceptions – as Benedict envisions them, of course – that readers have access to in this biofictional account of her life. Everything and everyone is filtered through Mileva’s memories, which might explain the problematic image we get of Albert; but more on that later. In *The Other Einstein*, Benedict uses her narrative privileges as a novelist to imagine her protagonist’s largely unrecorded inner life, which can, if at all, be gotten in rudimentary form from the few letters in her hand that still exist today. In contrast to Einstein, Marić left only few traces in the archives of history which makes it difficult to reconstruct her story. A couple of Marić’s private letters to Einstein as well as to her friend and roommate Helene Kaufler-Savić have survived and were published.<sup>50</sup> These letters certainly give an idea of what mattered to her emotionally and intellectually. Benedict uses her poetic license to fill in the gaps in the historiographical knowledge about her story, especially where private conversations and personal memories as well as some of the unknown facts about her life are concerned. She also employs her fictional privileges to “redistribute narrative power” (Cooper and Short 14). She thus literally “give[s] voice” (Kohlke 9-10) to a woman silenced by historical discourse – a narrative strategy of retrospective emancipation and empowerment that is quite common in herstorical biofiction, as I have explained earlier with reference to Bergmann (“Poe’s Shadow” 251).

*The Other Einstein* is written in the mode of a fictional autobiography or heterobiography, in which Mileva is bestowed with an imagined voice and given the authority to tell her own story from her purported first-person point of view. This narrative choice gives readers a sense of closeness with the biofictional subject and her story, allowing them to bear witness to her experiences, feelings, and perceptions (cf. Kohlke and Gutleben 20). Mileva’s words are, of course, not those of the historical figure; they are Benedict’s. One might thus contend that the novel is in two senses an attempt to “give

---

50 See Renn and Schulmann 1992 for some of her correspondence with Einstein as well as the online resource *The Collected Papers of Albert Einstein*; see Popović 2003 for the personal letters she exchanged with Kaufler-Savić.

voice to the historically voiceless” (Kohlke 9-10): it not only recounts the story of a female figure who had long been obscured and neglected by the traditional male-oriented historical narrative of science, but it also enables the chosen woman to provide her (supposedly) own account of her life through the ethically not unproblematic yet frequently encountered act of ventriloquism or ‘biofictional revoicing’ (Kohlke and Gutleben 19). The voice that Benedict envisions for her protagonist does not sound very authentic when compared to Marić’s actual way of speaking that is perceptible in her remaining correspondence. However, in Benedict’s defense, one must also point to the difficulty of the endeavor of a faithful reconstruction of the voice of an actual historical person. Thus, while readers might expect characters in historical novels to use authentic language, to recreate a suitable voice provides a real challenge for writers, as Chappell points out (12).

*The Other Einstein* gives itself the appearance of being Mileva’s memoir, a personal and intimate recollection of the time she spent together with Albert. Composed of a series of diary entries, the novel allows its reader to hear the story from Mileva’s perspective and in her own voice. The chosen epistolary style adds realism to what is being told while allowing the author to delve deep into the mind and heart of the chosen subject to explore her emotional and psychological depths. To record her story and with that also her view on the relationship to Einstein was a narrative desire apparently already felt by the actual Marić, at least this is suggested by a letter in Einstein’s hand in which he decisively and in a very contemptuous tone dismisses the plans of his then ex-wife to write her memoirs:

However, you did unleash my mirth by threatening me with your memoirs. Does it not enter your mind at all that no one would care one bit about such scribblings if the man that they were about had not, coincidentally, accomplished something special? If someone is a nobody, there is nothing to object to, but one should be truly modest and keep one’s trap shut. This is my advice to you. However, if the devil doesn’t release his grip on you, write what he demands of you, for heaven’s sake. I have already had to endure so much rubbish about myself from friends that I will also face yours with serenity. (Einstein to Marić in a letter dated 24 October 1925; CPEA, Vol. 15, *Writings and Correspondence June 1925 – May 1927*, English Translation Supplement, 116)

Whether Marić ever wrote her story despite this harsh remark from her former husband is unknown. While the historical figure, at least to our contemporary knowledge, remained silent, Benedict’s fictional Mileva chooses to speak – though much later in her life. In *The Other Einstein*, Mileva’s fictional remembrance of her life with Albert, e.g., the key moments of their mutual years, is framed by two fictitious letters in her hand which constitute the novel’s prologue and epilogue. They date from the day of her death on August 4, 1948, suggesting that the protagonist composed these shortly, only a few hours, before her passing from this world. The novel is told from the perspective of Mileva’s impending death, a moment in which she finally feels free to reclaim her life and express herself in writing in the hope that one day “the promising young female scientists” she tutors will “tell [her] story” (Benedict 309).

The motivation for Mileva's memoirs is not a reckoning with her ex-husband, even though the image the novel creates of Albert might suggest otherwise. What drives Mileva to recall their common past in these last moments is a desire to understand a deep-seated trauma that has haunted her for decades, namely the tragic loss of both her own scientific ambitions and her daughter, neither of which she has ever come to terms with. She reveals in the prologue:

The end is near. I feel it approaching like a dark, seductive shadow that will extinguish my remaining light. In these last minutes, I look back. How did I lose my way? How did I lose Lieserl? The darkness quickens. In the few moments I have left, like a meticulous archaeologist, I excavate the past for answers. I hope to learn, as I suggested long ago, if time is truly relative. (Benedict)

It is here, in the way that the novel opens that the tragedy of her life is foregrounded. The prologue and epilogue, and thus the framing of the fictional life story, make the tragedy of her life clear once again, as both show that she has never overcome all this, that it is still the defining theme of her life, even at the very end, when she is about to die. As is to be expected in narratives of this kind, what follows is a retrospective exploration and clarification that aims to show "how the subject 'became what she is' at the moment of her death" (Ní Dhúill, *Metabiography* 205). In accordance with the dominant perception of her story, the novel suggests that the answer to this question lies in her love for Albert Einstein. Recapitulating her life, and using her knowledge of physics – Newton's laws of motion – to understand it, Mileva realizes this herself:

Every body continues at rest or in motion in a straight line unless compelled to change by forces impressed upon it. I find this first law of motion, beautiful and profound, an elegant statement of one of God's truths uncovered by man. In my youth, I perceived the tenet as applying solely to objects; only later did I realize that people operate according to this principle too. My childhood path – mathematician, scientist, loner – continued on a straight line until it was acted upon by a force. Albert was that force that impressed upon my straight path. (Benedict 308)

That it was her fateful encounter with Einstein which was the beginning of the end of her career plans has been suggested by various biographers, as I have pointed out above. Benedict capitalizes on this by featuring their first meeting in the college classroom as the novel's beginning.

As was already alluded to in the introduction to this chapter, it is not Marić's whole life story that Benedict has chosen to focus on. The biographical novel presents its readers with the selective dramatization of a specific period in her biography, namely the years of her life she had shared with Einstein. Divided into three parts and consisting of forty chapters plus the prologue and epilogue, the plot of *The Other Einstein* is concentrated on the almost twenty years that she spent at Einstein's side. This might be expected from the chosen title which clearly links the heroine to Albert, thus suggesting a focus on their relationship. Except for a few analepses in which the heroine recounts key moments in her childhood and youth, which allow the reader to understand her reasons for pursuing a scientific education and a professional life of her own, Marić's life before her encounter with Einstein is not included. Likewise, the difficult later years of her life,

when she lived as a single mother of two boys in Zurich, worked part-time as a math and piano tutor, and had to care for her mentally-ill son, the increasingly difficult-to-handle Eduard, while suffering from severe depression herself, are only hinted at by Mileva in the novel's epilogue. In *The Other Einstein*, Benedict tracks the development of the Einstein-Marić relationship in chronological order. The novel shows their first meeting as fellow students at the Swiss Federal Polytechnical School in Zurich in 1896, their developing friendship and scientific partnership, the beginnings of their romantic relationship and the sudden seriousness of their student life when Mileva becomes pregnant. Their holiday at Lake Como and the resulting unplanned pregnancy is certainly the turning point in the story. It represents not only the beginning of the end of Mileva's career plans but also of the difficult course their relationship takes over time. The novel then focuses on their married life during which they increasingly drift apart, and finally portrays the dramatic ending of their relationship and their eventual separation in 1914 when Mileva departs from their home in Berlin with their two sons to move back to Zurich, leaving Albert with his soon-to-be second wife Elsa behind.

For the strong focus that *The Other Einstein* places on Marić's relationship to Einstein, rather than on her individual life story – of which her time with Einstein is only one, if undoubtedly an important part – Benedict's novel can certainly be described as the biofictional version of what Cairiona Ní Dhúill has termed 'relational biography' (*Metabiography* 175, 192), that is, 'relational biofiction' (Novak and Ní Dhúill 10). Relational biographies, Ní Dhúill explains, "foreground interpersonal connections, networks, or 'constellations,' allowing figures who are shadowy or peripheral in a more prominent biography to come into view and be seen in their own right". They "decentre the prominent subject, highlighting the structures of interdependency within which his work was produced" (Ní Dhúill, *Metabiography* 192). The novelistic interest in Marić and Einstein's relationship is understandable: theirs was one of the most promising and tragically failed scientific partnerships in the history of science, "a passionate affair and magnificent meeting of the minds that devolved rather dramatically over time" (Benedict 323). The fact that the biographical novel remembers Mileva only in relation to Albert Einstein, however, is also problematic. Surely, relational representations of historical women are not uncommon in female-centered biographical fictions, as Stephanie Bird has observed (5) and as Ina Bergmann has underlined ("Historical Biofiction" 310, 320, "Poe's Shadow" 249). Feminist critics of traditional male-oriented biography have often highlighted the potential of relational biographies, which center on two or more figures, to counteract the Carlylean 'great men and their ideas' tradition of history writing (Ní Dhúill, *Metabiography* 175). However, to focus on shadowy female figures by means of their relationships to well-known men also bears some danger for the feminist project. As Ní Dhúill argues, a focus on relationships, especially when that relationship is to a famous man, runs the risk of putting the historical female subject into the inferior and subordinate position which she had always found herself in throughout history (*Metabiography* 194). By portraying notable female subjects by means of their relationships with prominent male figures, narratives like these also perpetuate the problematic

tendency of defining women by means of their relationships to men (Ní Dhúill, *Metabiography* 203). Benedict's approach to Mileva Marić's life, too, runs the risk of reducing this pioneering female scientist to the role she had occupied for much of the past, namely that of Albert Einstein's tragic wife.

### 3.3.4 “The Ideal Bohemian Couple – Equal in Love and Work”<sup>51</sup>: The Cautionary Tale of a Gifted Woman in Love with the Wrong Man

Like many feminist biographies and herstorical biofictions, *The Other Einstein* rejects the courtship or marriage plot that had long determined women's (life) stories in favor of a quest plot, though one with a tragic outcome (cf. Ní Dhúill, *Metabiography* 184). The biographical novel offers its readers a gender-sensitive retelling of Mileva's pursuit for an education which realistically captures the difficulties she must have confronted due to her at the time unconventional desire to make a career for herself in the sciences. While the author does not bestow a modern-day feminist consciousness onto her female protagonist that would allow her to critically reflect upon and perhaps even question traditional gender roles and the underlying patriarchal ideology, the heroine shows herself aware of societal expectations and the limitations they place upon the opportunities that are available to members of her sex. Despite its relatively flat and cliché-laden prose, Benedict's herstorical biofiction effectively envisions some of the prejudices and difficulties Marić most likely faced as an intelligent and educated Slavic female student with a noticeable physical disability who sought admittance to and acceptance in the men's world of science in fin-de-siècle Switzerland. Mileva knows that her academic ambitions and scientific interests strongly contradict societal expectations of her sex, that her dream of a professional career is unheard of for women of her time: “In Zagreb, every other girl near the age of twenty was married or readying for marriage by meeting suitable young men and practicing to run a household in their parents' home. Their education stopped years before, if they ever went to formal schooling at all” (Benedict 6). At the beginning of the twentieth century, traditional gender roles in patriarchal structures prescribe that women should become wives and mothers. That her own mother disapproves of her “unorthodox need for education” and opposes her “decidedly unfeminine path” (Benedict 24, 25) bothers the heroine. The mother, however, has little to say against the father who encourages and supports Mileva in her scholarly activities and professional wishes. Like many biographies of Marić, the novel ascribes his encouragement and support to a concern about his daughter's future, as Mileva is unlikely to ever have a family of her own due to her disability. While Mileva is determined to pursue her scientific career, she still struggles with the idea of not being worthy of marriage and motherhood. “This was to be my future? No husband. No home of my own. No children” (Benedict 48).

As the only woman in her class and one of the very few women in the university, Mileva constantly finds herself in a male-dominated environment in which she is dis-

---

51 Benedict 114.

criminated against by her fellow male students as well as by her all-male professors based on her gender; her “mere presence at the Polytechnic was considered impertinent by many” (Benedict 5). Mileva’s report of her first day in class speaks volumes of the misogynistic climate she puts up with: “Shock and some disdain registered on their pale faces. Nothing – not even rumors – had prepared these men for actually seeing a woman in their ranks” (Benedict 4). Her Slavic roots as well as her disability still increase the level of discrimination she must endure. While Albert accepts her – indeed, is drawn to her because of her independent and intellectual nature – the wider society and institution of the university is far away from recognizing women as equal beings. It seems like Mileva possesses a strong personality. However, being the only woman in the room and constantly facing misogyny from those inside and outside the university system have their marks on her character. She knows that she walks “a fine line between [her] insistence on this untrodden path and the conformity still demanded of [her]” (Benedict 5). She is nervous, insecure, and hesitant vis-à-vis her fellow male students and her male professors. For instance, on her first day of classes, she hopes that her voice does not quaver when Professor Weber asks her for her name (Benedict 5). In class, she is also cautious to raise her hand (Benedict 51). She endures the humiliations by her professor who feigns astonishment that she of all people would know the answer to his questions (Benedict 53). Mileva’s frequent powerlessness does not only manifest in professional settings like the university classroom but also in her private interactions, for instance, when she meets her fellow male students in a café and is worried about having said too much or the wrong thing (Benedict 64-65). Showing the struggles Mileva Marić presumably encountered as a woman who ventured into the male-dominated world of science at the fin de siècle, the hurdles she must overcome to gain access to and acceptance in the all-male school and eventually university classrooms, the author raises important feminist issues, some of which surely remain topical for women in science and academia today.

To contrast these instances of patriarchal oppression, Benedict also focuses on women’s strategies of resistance. The novel places a special emphasis on the female friendships and sisterly support that helps women to continue functioning in a patriarchal world. In crucial moments of her life, she relies upon other women for support and guidance. Mileva states “[h]ow would I have made it through these past months in Zürich without the girls?” (Benedict 8). Mileva never thought of the possibility that she might not be the only woman in her university (Benedict 16). Scarred by “[a] youth of friction from [her] classmates – alienation at best and mockery at worst” she had imagined “a life of solitude and scholarship” (Benedict 9). Instead, she soon finds herself in the company of three other women students from eastern European countries who all board at the Pension Engelbrecht, where she stays as well:

Within days, the girls catapulted me into a life I’d never experienced before. A life with like-minded friends. [...] Friends did matter. Friends like these anyway who were fiercely intelligent and similarly ambitious, who suffered through the same sort of ridicule and condemnation and survived, smiling. These friends didn’t take away my resolve to succeed as I’d feared. They made me stronger. (Benedict 18-19)

Empowered and supported by her female friends, Mileva also begins to question her secret longing for marriage and motherhood. Her friend Helene assures her: “We will be four professional women with busy lives of our own, here in Switzerland with its tolerance of women, intelligence, and ethnic peoples. We will have one another and our work; we need not follow the traditional path” (Benedict 49).

However, it is not Mileva’s success as a student but the tragedy of her later life that is the focus of Benedict’s novel. Marić surely was a remarkable woman. She overcame many obstacles in her determination to receive an education and pursue a scientific career at a time when members of her sex were usually not encouraged to develop professional ambitions. Rather than as a pioneering woman in science, Marić has often been remembered as a tragic female figure, as I have shown above. Despite the good preconditions of an encouraging and supportive family and a network of close female friends, her extraordinary scientific and mathematical abilities, and the promising relationship to a like-minded fellow physicist she did neither achieve the professional fulfilment nor the personal happiness she had longed and worked so hard for. In her biofictional account, Benedict holds on to this tragic image of the woman and her life story. While alluding to her struggles and the support she received from her family and friends to overcome the high hurdles that were put in her way, *The Other Einstein* is not written in the style of a female success story, a tale of feminist victory against patriarchal oppression, even though it might have been framed accordingly. It is her ultimately unrealized emancipation and the dramatic failure of the congenial scientific partnership to Albert rather than her triumph against patriarchal oppression and traditional gender expectations that is foregrounded in the novel. In the author’s note, Benedict herself describes her novel as the story of a scientifically-talented and intellectually-gifted young woman who is on her way to a promising career in science, yet who, after an unwanted pregnancy, exam failure, and marriage, is forced to succumb her own academic ambitions to her husband’s professional ascent (312) and who becomes “the philistine hausfrau [she] never wanted to be” (244). The story is incredibly topical, because to this day it is often women who step back from their careers when it comes to looking after children. The questions about the compatibility of family and career, the sometimes still very traditional role expectations that arise as soon as it comes to care work – all this is timelier than ever and shows once again that biographical and historical novels are usually less about the time depicted than about the time in which the novel is written (cf. Novak, “Feminist to Postfeminist” 224, “Father and Daughter”). The story may be set at the turn of the twentieth century, yet the struggles that Mileva faces, especially when it comes to combining family and profession as well as being the only woman in all-male physics and mathematics classrooms, are far away from being problems of the past.

On the very first pages of the novel, the reader is introduced to a highly motivated and scientifically talented young woman. She demonstrates a strong determination to “master physics and mathematics” (Benedict 4) and to “become one of the very few female physics professors in Europe” (Benedict 16). She is shown as extremely hard-working and focused, refusing to let anything or anyone distract her from her goals of

education and a successful career in science. According to Albert, she is the ideal student: “Always in attendance at class, following the rules, scrupulous in [her] note-taking, toiling for hours in the library instead of whiling them away in the cafés” (Benedict 31). Mileva’s fellow student Albert, however, soon upsets her plans with his romantic advances: ““Miss Marić, I am madly in love with you. I promise that my love will never impede your profession. In fact, my love will only propel you forward in your work. Together, we will become the ideal bohemian couple – equal in love and work”” (Benedict 114). Despite the heroine’s initial resistance, her justified fear of losing everything she has worked so hard for, she falls in love with Albert – and soon becomes pregnant by him. However, his promise of “the ideal bohemian couple – equal in love and work” (Benedict 114) proves untenable. Vividly and comprehensibly, the novel depicts a woman who enthusiastically embraces her chance of higher education, yet who after marriage and the birth of three children which increasingly push her into the role of housewife and mother gradually loses her own identity and her mental sanity. It is the fictional heroine’s constant suffering, the many hardships she must endure, her increasing unhappiness and onsetting depression, rather than her extraordinary achievements that clearly dominate the story. The novel thereby mainly centers on the personal tragedies that befell Mileva and imagines the impact of the unwanted pregnancy on her professional aspirations, the trauma she must have suffered after the dramatic loss of her daughter, the lonely role of housewife, mother, and spouse. It imagines what it must have felt like for her as a woman who sought a very different life of the mind, her increasing desperation regarding the maltreatment through her husband and his failure to live up to his promise of equality in love and work. It also depicts the protagonist’s increasing isolation from the world of learning and scientific research after her marriage as well as the tragic failure of her promising scientific partnership. *The Other Einstein* thematizes the heroine’s sadness about the loss of her career ambitions and the limited ways in which she can be active in science. “Cooking, cleaning, shopping, and mending filled my days [...]. I tried to tell myself that I enjoyed taking care of Albert [...]. [But] in my honest moments, I found the work of caring for Albert and our home mind-numbing” (Benedict 199-200).

The image the novel creates of Mileva conforms to the tragic victim narrative that Benedict constructs here. Mileva is shown as someone overcoming great obstacles on her way into science. However, the image that is more dominant in the novel is that of a victim of her husband. While the protagonist hints at a certain complicity in her own fate when she emphasizes “I allowed him to trim away all the parts that didn’t fit his mold” (Benedict 309), the novel largely presents Mileva as the long-suffering heroine, while Albert clearly is the villain in this story. Estelle Asmodelle describes Marić as a “victim of her time and culture.” In Benedict’s novel, she clearly is a victim of her husband, too. In her relationship with Albert, Mileva is constantly victimized. She is passive, reacting to him rather than being the active agent of her own life. She does not speak or stand up for herself. She allows Albert to push her into a role she never wanted to inhabit. Though Mileva’s powerlessness is understandable in some situations, as it

reveals the gendered constraints under which female lives were lived at the time, twenty-first-century readers might get frustrated and perhaps even angry with her as she endures yet another humiliation silently and submissively. Though Mileva reveals to the reader that she realizes how Albert manipulates her, she does not confront him with his oppressive treatment but simply bears it for the sake of her children, to keep them from the disgrace of a failed marriage. Mileva's constant suffering, her submissiveness, and her silence might be true to the personality of Marić as it has been described by some of her biographers. They also are in accordance with the kind of narrative that Benedict constructs, a woman destroyed by patriarchy. Nonetheless, the way in which Benedict portrays her heroine in the story also reduces the potential the novel would have in terms of providing readers with an inspiring and important role model to emulate. A twenty-first-century and predominantly female readership might experience some difficulties in sympathizing, let alone identifying, with her. Over time, Mileva becomes increasingly desperate and depressed by her declining relationship with Albert, the loss of her first-born child, and the ruin of her professional aspirations. Her best friend Helene does not recognize her anymore. She voices her concerns when she asks Mileva: "Where are you, Mitza? Where is the brilliant girl [...]? You seemed so quiet back then, but you were always ready to lance anyone with your sharp wit when necessary. Where has that girl gone?" (Benedict 298). The protagonist stays with her husband only for "the happiness of [her] children" and to avoid "the reputational stigma emanating from divorce" (Benedict 257). In the end, Mileva finally leaves Albert. This is a rare moment of female empowerment in the story. And yet, that moment is not really an instant of feminist triumph because Mileva, physically and mentally worn out from the years of housekeeping and child-rearing, faces an insecure future, bearing the disgrace of divorce and the burden of being a single parent with no income of her own. The novel reads almost like a cautionary tale, a warning to women not to fall in love with the wrong man.

*The Other Einstein* strongly suggests that Mileva Marić might be known today as a great theoretical physicist had she not met and fallen in love with Albert Einstein. Indeed, Albert plays a defining role in tragic development of Mileva's personal and professional life, he is the main reason why Mileva's plans for her own scientific career fall apart in the first place. It is he personally who is blamed for her fate, not patriarchal structures. While the novel alludes to the misogynistic climate that Marić had lived in, while she is shown to struggle against the male establishment, as a woman with a disability and coming from a Slavic country, it does not ascribe the failing of her educational and professional ambitions to the cultural-historical circumstances. Nor does it suggest that it was the loss of her first child which led Mileva to give up her own academic aspirations, even though the novel does believably render the traumatic effect of this experience on her life. The main reason for her failure seems to lie in her love for Albert who is not who he promised to be. He is shown to abuse her both emotionally and physically (and professionally as I will show in the upcoming subchapter).

The picture of Albert the novel paints through Mileva's eyes is an extremely harsh one. He is an unlikable character for whom many readers might face some real difficul-

ties in feeling sympathy. The novel certainly unsettles the common societal perception that readers might have of him. In recent decades, some historians and biographers have begun to look beyond the icon in search of the man that Einstein truly was. In doing so, they have shown that he was “a human being, one capable – as all human beings are – of behaving in distinctly un-iconic ways” (Overbye x). These looks behind the well-known façade of the famous man became possible only with the eventual and ongoing publication of Einstein’s writings, including many personal letters, which encompass more than 43,000 documents. The release started in the late 1980s “after years of resistance from his executors eager to shield the great relativist’s image” (Golden). With that, the idealized image of Einstein began to crumble: “Einstein is emerging from these documents as a man whose unsettled private life contrast sharply with his serene contemplation of the universe” (Golden). The image that Benedict constructs in the novel through Mileva’s eyes fits this kind of historical revisionism that has of late been purported by some writers. While initially shown as a sympathetically disorganized, hopelessly impractical, and perhaps a bit pushy, yet nevertheless charming and humorous young man, the reader is soon presented with someone who mainly thinks of himself, his career, and his reputation. He lets the pregnant Mileva down by refusing to marry her before he secures a job. He fails to see his daughter once she is born and even gives Mileva a guilty conscience when she decides to travel to Serbia upon receiving notice that her baby is sick. He does not understand his wife’s pain when the baby dies or even shows any kind of sympathy for her suffering. One might get the impression that Lieserl’s death is rather useful to him as he does not have to worry any longer about the impediment this child out of wedlock will pose for his professional prospects. In the novel, Albert constantly neglects his family as he energetically builds his career, moving them from place to place without considering their well-being. He actively pushes Mileva into the role of housewife and mother, even though he promised her a life of like-minded equals. Benedict also shows Mileva’s increasing frustration when Albert acts selfishly and her eventual disillusionment and desperation with his personality. His behavior towards his wife becomes increasingly arrogant and he is indifferent to her. He betrays her with several women.

Recent studies have shown that Einstein had been far away from being an ideal husband and father. Biographical sources suggest that Einstein was a womanizer, an adulterous husband, and a neglectful father who showed little interest in his children after he left the family. One such example is Roger Highfield and Paul Carter’s less-than-flattering, provocative biography *The Private Lives of Albert Einstein*, which was published in 1993. Works like these have allowed readers “to see him for the very human, and humanely flawed, figure that he was” (Popović 28). Einstein’s conduct towards the end of his marriage to Marić was brutal. The letter he wrote to her in which he dictates the conditions under which he would continue living with her can be found among the *Collected Papers of Albert Einstein*. It highlights the exploitative ways in which he treated his first wife when their relationship fell apart.

Conditions.

A. You make sure

- 1) that my clothes and laundry are kept in good order and repair
- 2) that I receive my three meals regularly in my room.
- 3) That my bedroom and office are always kept neat, in particular, that the desk is available to me alone.

B. You renounce all personal relations with me as far as maintaining them is not absolutely required for social reasons. Specifically, you do without

- 1) my sitting at home with you
- 2) my going out or traveling together with you.

C. In your relations with me you commit yourself explicitly to adhering to the following points:

- 1) You are neither to expect intimacy from me nor to reproach me in any way.
- 2) You must desist immediately from addressing me if I request it.
- 3) You must leave my bedroom or office immediately without protest if I so request.

D. You commit yourself not to disparage me either in word or in deed in front of my children. (Einstein to Marić in a letter dated July 18, 1914, CPAE, Vol. 8, Part A: *The Berlin Years: Correspondence 1914–1917*, English Translation Supplement, 32-33)

Previously often portrayed as “saintly both in his private life and public life” (McAuliffe 20), this letter shows that Einstein was by no means the saint that some people have imagined him to be. Benedict does not reprint the letter in her novel, but she has Mileva recall it and reflect on its contents:

It was a contract for my behavior. As I read the barbaric agreement term by term, I grew more outraged. The document enumerated the household duties I *must* perform for Albert: his laundry; the preparation of his meals, to be served in his room; and the cleaning of his bedroom and study, with the requirement that I never touch his desk. Even more incredible was his list of his requirements I must ‘obey’ in my personal dealings with him. He demanded that I renounce all interaction with him at home; he would control where and when I spoke and what sorts of statements I could make to him and in front of the children. In particular, he mandated that I forgo all physical intimacy with him. The document would indeed turn me into Albert’s chattel. (Benedict 303, italics in original)

That Benedict is not making this “barbaric agreement” (Benedict 303) up can be verified by anyone who cares to have a look at the original memorandum referred to above.

In other instances, Benedict exaggerates Albert’s treatment of Mileva beyond what is historically verifiable. There is one scene in the novel when Albert strikes Mileva. Mileva has just found a letter from his cousin (and eventually second wife) Elsa to Albert which reveals their affair. Mileva confronts him with it and the situation escalates:

Hands and arms flew until I felt the force of his hand fully upon my face. Like a slap. Whether accidental or intentional, I didn’t know. All I could think about was the pain. I sunk to my knees, hands on my face. The pain was nearly as intense as the childbirth that had wrecked my body. It seared so badly I could barely breathe, let alone sob. Warmth

tickled down my cheeks. I looked at my palms. They were crimson with my blood. (Benedict 274-275)

While Highfield and Carter suggest that Einstein might have domestically abused Marić during their marriage (153), Martínez strongly disagrees. To him, Benedict clearly exaggerates when she portrays Albert not only emotionally but also physically hurting Mileva in the story (“Book Review” 211). Given Einstein’s cultural status as a “cosmic saint, whose only peer was God” (Overbye xi) presenting a view of him at odds with the common myth is a daring move, as Benedict knows: “I almost didn’t write *The Other Einstein* because I found the notion of fictionalizing the iconic Albert Einstein incredibly daunting!” (321). Benedict herself seems to be aware of the overtly critical stance that her novel adopts towards him. In the paratexts, she reveals that she “had to muster [her] courage to share a side of Albert’s personality that wasn’t always flattering and that very likely contradicted the more widely held understanding of him, even though [her] depiction is fictional” (321). However, justifying and legitimizing her approach to his personality with the biofictional truth she wants to present about Marić’s (and not Einstein’s) life, Benedict does not shy away from attributing another vicious and exploitative streak to the already “evil version of Einstein” (Martínez, “Book Review” 210) she has created. In the novel, she chooses to portray him not only as a lousy father and adulterous husband, which is true to fact, but, moreover, as a man who steals scientific ideas from his wife and sells them as his own, which is speculation.

### 3.3.5 Distorted Facts or a Fictional Truth? Exploring the ‘What Ifs’ in Her Story

The revisionist agenda underlying Benedict’s herstorical biofiction is not limited to the project of illuminating the tragic life of a woman who had usually been depicted as little more than an “incidental shadow” (Renn and Schulmann xi) in the life story of her famous husband. Its feminist effort manifests visibly in the very challenges the biographical novel brings to the popular idea of Albert Einstein and the official historical narrative of science. *The Other Einstein* deconstructs “the Einstein myth of the loveable scientific genius” (McAuliffe 15), showing how this image of Einstein has been created and continued over time at the expense of Mileva Marić. The conception of individual male genius is (still) widely circulated in literature and the media and surely a cultural myth – not only in terms of Einstein but many other men in the history of science represented as such. Benedict challenges this perception by showing the more collaborative nature of science, the creative partnerships between men and women, and the ways in which the contributions of women have all too often been rendered invisible by patriarchal notions of historical notability in favor of an image of scientific creativity and invention as the work and result of single male genius.

The novel closely follows the available biographical evidence about Marić and Einstein’s intertwined lives, thereby imaginatively filling in what has not been recorded. In many regards, *The Other Einstein* is quite faithful to the story of their lives as we have come to know it. In the paratexts accompanying the narrative itself, the author herself assures her readers that she is “an exhaustive researcher” (321) and that “when-

ever possible, in the overarching arc of the story – the dates, the places, the people – [she] attempted to stay as close to the facts as possible, taking necessary liberties for fictional purposes” (312). To underline the accuracy of what is being presented in the novel, Benedict lists some of the sources that she relied upon during her research (313-314). In his book review published in *Physics in Perspective*, Martínez points to some errors – not strategic but sloppy ones it seems – made by the author regarding historical facts. For instance, Benedict writes in the novel that Einstein was from Berlin, when in fact he was born in Ulm and grew up in Munich (“Book Review” 208, cf. Benedict 32). He claims that *The Other Einstein* has various mistakes like these, though he does not cement his point with any further examples (“Book Review” 208). Sloppy mistakes surely make readers familiar with the details question the author’s self-characterization as “an exhaustive researcher” (Benedict 321).

There are also strategic alterations of facts which, as was pointed out earlier, are common in biographical fiction. While the alterations that Benedict makes are largely minor ones (and to the non-expert reader probably barely noticeable), the novel also undertakes one rather dramatic departure from the established historical narrative of science. It depicts Mileva not only as the one who provided the familial and domestic circumstances which permitted Albert to develop his scientific ideas and build his academic career, a crucial if historically invisible role that scholars have largely credited to her. It also portrays her as Albert’s equitable scientific partner and, furthermore, as the true originator and rightful author of what is considered his most famous work, namely the theory of special relativity. As it is typical for writers of biofiction, Benedict dutifully reveals the liberties she took in recounting Marić’s story in the author’s note. This is done to prevent libel action and for the sake of transparency. After all, “readers of *The Other Einstein* may be curious as to precisely how much of the book is truth and how much is speculation” (Benedict 312). The proposition that Marić was in fact the ‘mother of the theory of relativity’ – which, as I have alluded to above, Benedict is not the only one to make – is hypothetical and unprovable. Yet there are certain historical facts that also make it not unlikely and perhaps even credible, as was discussed earlier on. It is precisely these speculations that prompted the writing of *The Other Einstein*, as Benedict declares in her author’s note. Therein, she writes that she became intrigued with Marić’s story because of the debate in the physics community about whether she had contributed to Einstein’s achievements:

I confess to beginning this book with only the most commonplace knowledge of Albert Einstein and hardly any knowledge of his first wife, Mileva Marić. In fact, I had not even heard of Mileva Marić until I helped my son Jack with a report on the wonderful Scholastic children’s book *Who Was Albert Einstein?* and it mentioned briefly that Albert Einstein’s first wife was also a physicist. I became intrigued. Who was this unknown woman, a physicist at a time when few women had university education? And what role might she have played in the great scientist’s discoveries? [...] Was Mileva simply a sounding board for his brainstorms, as some scientists insisted? Did she only assist him with the complicated mathematical calculations, as others claimed? Or did she play a much more critical role, as a few physicists believed? (311, italics in original)

The question who Marić really was and what role she had played in her husband's academic work and scientific accomplishments will have to remain unanswered for historians and biographers – unless some previously lost or hidden documents suddenly appear as evidence for one theory or the other. However, speculations like these are rich material for the writer of fiction who is not bound to the provable but can also imagine the (im-)possible.

As a novelist Benedict can use her artistic freedom not only to give her protagonist a voice and to imagine aspects that have not been handed down in historical records, especially when it comes to Marić's inner life as well as the lost details about her life story. Writing biographical fiction and not factual biography, the author is also free to envision what she believes to be a possible, even probable, if not historically provable "fictional truth" (Lackey, *American Biographical Novel* 35) about her chosen subject. The goal of biofiction, Lackey reminds us, is not to depict with as much accuracy, precision, and objectivity as possible what has happened, as it is the case in historiographical and biographical writing. According to Lackey, it "is the novelist's vision of life and the world, and not an accurate representation of an actual person's life" that is of central concern to the writer of biofiction ("Locating and Defining" 7). In an interview she gave for a personal web blog, Benedict shows herself convinced that Marić contributed substantially to her husband's scientific achievements:

While I think we will never know the full extent of her participation in his theories, we do know that Mileva was well-educated and extremely bright and that she and Albert had long been research and study partners. Given Mileva's background and the nature of her relationship with Albert, shouldn't the onus be on others to prove that she played no role in his scientific breakthroughs? (Qtd. in Rose)

For Benedict, then, Marić's involvement in her husband's science does not merely seem like a possibility but a probability.

*The Other Einstein* might thus not be considered a kind of alternative history narrative. Rather, it is the fictionalization of a hidden and unacknowledged truth, an attempt to set the record straight through the lens of literature where history and biography (must) fail to pay Marić her due because of lacking evidence. While there is no conclusive proof that she contributed any original ideas of her own, Esterson and Cassidy argue that Marić's academic education and scientific interests make it not only possible but probable that she assisted Einstein in his work taking over tasks such as proofreading his papers, reviewing of research literature, checking his calculations, and discussing his ideas (266). After his graduation, Einstein, who had already been frequently ticked off by professors as a student because he had missed classes as he had chosen to study on his own, had a difficult time establishing himself as an academic. Most of his week he spent working full-time as a patent clerk, so supporting him and his academic endeavors to enable him to finally set foot into the scientific community might have been in Marić's own interest. Without a degree, she herself could not have started a scientific career of her own, nor pursue her own doctoral work. However, a tandem in which the wife sup-

ports the husband in his career by reading his notes, correcting his work, supporting his ideas, and being an active listener is not what the novel suggests has happened.

Relational biographies, and I suggest this to be equally true for relational bio-fictions, “resituate prominent (male) figures within familial and social relationships, showing how individual achievement is enabled by divisions of labour along class and gender lines” (Ní Dhúill, *Metabiography* 193). In showing the ways in which Mileva supported Albert, the novel makes the “occluded domestic labour visible” (Ní Dhúill, *Metabiography* 191). Yet the corrective ambition driving *The Other Einstein* is directed towards more than that, as Benedict also seeks to reconstruct what Stephan describes as suppressed “female creative potential” and “women’s hidden productivity” (16). In the novel, Mileva continues to be scientifically active in her marriage, despite the failure of her studies and the abandonment of her doctoral thesis, struggling to maintain her identity as a scientist which should not be submerged in the role of mother and (house-)wife. In various scenes, the novel shows the close intellectual partnership between Mileva and Albert, their ongoing cooperation on various theories and their co-authorship of scientific papers. At night, when Albert comes home from his day job, Mileva works on some of the most pressing questions of physics with him. And then she even discovers a new law of physics, namely “that time is relative to the observer’s speed” (Martínez, “Book Review” 210, cf. Benedict 212-213). When Mileva tells Albert about her idea, he is thrilled: “‘That’s brilliant, Dollie. Brilliant.’ [...] ‘Shall we write a paper on your theory?’ [...] ‘Together we could change the world, Dollie’” (Benedict 217-218). Since she has no degree, Mileva knows that she is dependent on her husband, even if it is *her* theory, his name must be on the publication as well.

In the novel, Mileva not only has the idea for the special theory of relativity but indeed collaborates with Albert on all the revolutionary 1905 papers.

For the past eighteen months, we’d been working on three papers, although the relativity paper was largely my own. The others – an article on the quantum of light and the photoelectric effect, and another article on Brownian motion and atomic theory – were co-authored by both of us. On those two, Albert primarily drafted the theory while I handled the mathematics, although I was familiar with every word and idea. (Benedict 221)

What she believes to be their miracle year becomes only Albert’s *annus mirabilis*, the year that would cement *his* reputation as a scientist – but not *hers*. Her husband’s promises about a congenial scientific partnership and a joint publication bearing both their names fade away as soon as the scientific community makes inquiries about her credentials. Mileva realizes that Albert, only interested in his own career and without fighting for her in the least, has simply removed her name from the shared research, including her paper on special relativity, erasing any hint of their cooperation and co-authorship, and presents it as his work alone. Pycior, Slack, and Abir-Am have noted that instances of plagiarism, in which the established scientist husband would strategically sign the joint research only with his name, often happened with the consent and complicity of the wife (4). However, this is not what the novel suggests to be the case in the relationship of the Einsteins. The plagiarism committed by Albert in *The Other Einstein* does

not happen with Mileva's knowledge or consent. When she learns about this act of betrayal and intellectual theft committed by her husband, she is shocked though not totally surprised:

'Did they ask you to remove my name?'

'No,' he said slowly.

'*You* asked them to remove my name?' I was incredulous. But only in part. I suddenly remembered another time he'd removed my name from an article we'd coauthored. [...] Never losing his grip on my arms, he nodded.

'How could you do that Albert? For the other articles, I wouldn't have been happy, but I would have understood. But not for the relativity article. That was for Lieserl. You should have insisted.' (Benedict 235, italics in original)

Mileva's strong emotions in this scene do not spring from the lost opportunity to make a name for herself in the world of science. They come from the missed chance of memorializing her daughter, an aspect I will come back to in a moment. This occasion echoes another, earlier instance of plagiarism in the novel where Mileva, albeit reluctantly, agrees to list only Albert's name on their joint work so that he can advance his career:

The thought of being expunged from the paper's authorship bothered me; we had worked on it as equals. But if he was only showing it to the new Professor Weber to impress him and if we'd later submit it to journals with both our names, I could agree. Anything to speed along Albert's ability to secure a permanent job. (Benedict 158-159)

Years later, when a Nobel Prize nomination for her relativity paper arrives, Albert even has the audacity to pretend to be the paper's sole creator in front of Mileva: "'So the old boys are finally recognizing me'" (Benedict 256). To him and the world of science, she has vanished as part of this scientific success; her contributions are erased from public acknowledgement and apparently even her husband's memory. Mileva does not know what to say: "Had he really just said that? As if he'd forgotten my authorship of the paper now in contention for the Nobel Prize. As if he'd rewritten history in his own mind such that he'd actually created the article himself" (Benedict 256). To him (and to herself) she has fully merged into the traditional role of wife and mother. "I realized then I had become only a hausfrau to Albert. Mother of his children. Cleaner of his home. Launderer of his clothes. Preparer of his meals. There would never be anything more" (Benedict 256). Thus, the novel does not suggest that it were strategic reasons or stereotyping which made her not receive the credit she would have deserved; it rather suggests that this was only due to her husband's questionable character.

That a scientific couple might successfully work together and even share a Nobel Prize is proven by the counterexamples that the novel cites. Benedict underpins the tragedy of Mileva's failed career plans and scientific partnership with Albert with a comparison with Marie and Pierre Curie, unquestionably "one of the most successful marital collaborations" (Lewin Sime 93) in the history of science. In the novel, the reader witnesses a friendly yet entirely imagined conversation between Mileva and Marie, taking place in 1913 in Marie's home in Paris. There is no evidence that a talk like this ever

happened, but it very well might have, since the Einsteins and the Curies are known to have been not only professional colleagues but also personal friends who spent many holidays together (Trbuhović-Gjurić 122-123). Trbuhović-Gjurić writes of an amicable relationship that existed between Marić and Curie (123). The women apparently had many sincere conversations about contemporary science but also domestic affairs (Trbuhović-Gjurić 123). Though undocumented, the fictitious scene thus seems credible. Intimidated by the prospect of “a private discourse with a scientific legend” over a cup of tea in the garden, Mileva feels the need to assure Marie that she, too, received an academic education: “‘I studied physics at university as well’” (Benedict 287). Marie asks her why she gave up working in science:

‘Mrs. Einstein, I’m familiar with your extensive education and your intellect. And I know you completed your coursework in mathematics and physics at the Zürich Polytechnic. But I wonder why you never returned to work. Your mind must be so active, so full of science. How can you squander it on the home?’ (Benedict 287)

Fearful of Albert’s reaction should she speak up and reveal her ongoing scientific activity in their marriage, including her involvement in and authorship of some of the now-famous 1905 papers, Mileva offers the only explanation she can think of that would not infuriate her husband or harm his reputation: “The children have made it challenging” (Benedict 288). In Marie’s response, the reader senses doubt about this being the real reason, though:

‘Mileva, I’m frequently questioned, especially by women, on how I reconcile family life with a scientific career. Well, it hasn’t been easy. But nothing is easy for people like you and me. We are eastern Europeans living in countries that look down upon people from our lands. We are women, who are expected to stay in the home, not run labs or teach at universities. Our expertise is in physics and math, exclusively male fields until now. And on top of it, you and I are shy in a scientific realm that requires us to speak publicly. In some way, managing a family has been the easiest part.’ (Benedict 288)

Continuing their conversation, Marie compares their lives which share many overlaps: “‘You and I are not so different except in the choices we’ve made.’ She chortled. ‘And the husbands we chose, of course’” (Benedict 288). Marie then elaborates on the kind of personal and professional relationship that she shared with Pierre, who is already deceased in the scene:

‘I have no idea how the division of labor works between you and Albert, but my husband fostered my career from the start. When the Nobel Prize committee was being petitioned to remove me from consideration in 1903, Pierre publicly lobbied for me. He insisted to influential people on the committee that I had originated our research, conceived the experiments, and generated the theories about the nature of radioactivity, which was indeed the fact. But many a lesser man wouldn’t have made that effort.’ (Benedict 289)

By comparing Mileva and Albert to Marie and Pierre, the novel shows how much the ‘Matilda Effect’ in science depended on the kinds of relationships that scientific couples had with one another, especially how the husband would see and support his wife. In view of the misogynistic system of science at the time, both women depend on their

husbands for receiving the kind of recognition by the male-only establishment they undeniably merit. Yet their husbands are very different in the level of respect and support they offer to their wives. While Pierre (when he was still alive) always treated Marie as his equal and defended her publicly in front of other men of science, thus making sure that she obtained the credit that is her due, Albert does not go to such lengths for Mileva. Rather, he claims his wife's achievements for himself and relegates her to the role of a quiet and unseen assistant and eventually merely a bystander to his rising career. Publicly, he reduces her to the role of wife and mother, not acknowledging openly that she was part of his work. The depiction of the Curies' relationship is consistent with historical evidence: "Unlike many wife-collaborators, [Marie] was not Pierre Curie's silent and invisible co-worker, nor even his second author very often: more frequently she was the sole author of important papers or first with him second" (Rossiter 327). While the novel thus proves its point that Albert is the one to blame for the failing of Mileva's career plans and of their promising scientific partnership, I find this comparison also a bit unfair to Albert as it lacks a consideration of the very different realities of the Einsteins' and the Curies' respective situation. What I believe to be problematic about this comparison is that it fails to see the structural problem of gender inequality which is at the heart of the issue, instead suggesting that it depends entirely on the personality of the people involved, especially the husband. Pycior, Slack, and Abir-Am point to a couple of significant differences between someone like Albert Einstein and someone like Pierre Curie which might explain why Einstein could not or would not "cultivate the collaborative potential of [his] marriage" the same way that Curie did (18). Pierre Curie had been an established scientist when he met his wife; Einstein by contrast was still in need of proving himself, in fact, he did not have a steady and suitable employment at the time (Pycior, Slack, and Abir-Am 17). Furthermore, he was also devoid of the academic or institutional connections that Curie enjoyed (Pycior, Slack, and Abir-Am 18). Thus, to support his wife in the same way that Pierre Curie did when Einstein himself was not yet accepted in the scientific community might be seen as a questionable demand. The passage in the novel seems to suggest that a different life would have been possible for Mileva with a different man, one that accepted another genius in the family besides him, as Pierre Curie evidently did. This comparison once more underpins what Benedict seeks to show: that it was less of a structural issue with the Einsteins and more one that had to do with Einstein's personality, which did not tolerate another genius in the family thus preventing Marić from becoming a scientist in her own right.

*The Other Einstein* is thought-provoking in its fictional exploration of Mileva's involvement in and contributions to Albert's work. It raises questions about the gender bias of the accepted narrative of the history of science, the ways in which female contributions have all too often been claimed by men (with or without their consent), made invisible as part of husband-and-wife efforts in which only the male partner received the credit. But is such a questioning of Einstein's achievements and his reputation as a scientist, even if undertaken through the lens of fiction, permissible? Scholars of biofiction have pointed to the difficult ethical questions that accompany novels of this kind. Un-

doubtedly, *The Other Einstein* is unambiguously subtitled ‘a novel’ and the author herself emphasizes the fictional nature of her literary work once more when she notes in the afterword that “certainly, speculation exists in *The Other Einstein* – the book is, first and foremost, fiction” (313). Despite being clearly marked as fiction, Benedict’s decision to make Mileva Marić the ‘mother of the theory of relativity’ and to portray Albert Einstein as a plagiarizing and thieving scientist who, without batting an eye, removes his wife’s name from their joint research work presenting Mileva’s intellectual achievements as his own raises serious questions about the ethical line between fact and fiction as well as the moral responsibilities of biographical novelists towards their historical subjects. Indeed, Benedict’s Albert Einstein even goes so far as to justify his patriarchal appropriation with the words “Why does it matter, Dollie? Aren’t we Ein Stein? One stone?” (Benedict 235).

Surely, to creatively embellish, supplement, or even change historical facts is the biographical novelist’s privilege. Unlike biographers, authors of biofiction are not bound to the narrative conventions that guide the writing of lives in historiographical discourse, as Julia Novak emphasizes (“Notable Woman” 85). Lackey stresses the creative freedom of biographical novelists who take liberties with established facts and sometimes also strategically misrepresent a life to make a more substantial truth claim about the chosen life (*Biographical Fiction* 10). But when it comes to ethics, how far can authors take their creative liberties with important historical figures like Einstein? When have they gone too far with their fictional privileges? Benedict stresses that “the purpose of *The Other Einstein* is not to diminish Albert Einstein’s contributions to humanity and science but to share the humanity behind his scientific contributions” (314). However, given the biographical novel’s undeniable potential “to shape popular perceptions of the past” (Kohlke and Gutleben 3) and indisputable power to impact on the afterlives of the historical subjects it uses (Novak, “Notable Woman” 85, “Experiments” 11-12), this deliberate misrepresentation of history, even if presented through the lens of fiction, might raise some serious doubts about Einstein’s ‘genius’ as well as his professional integrity and runs the risk of damaging his reputation and scientific legacy. Reservations about the ethicality of this depiction, as shown, for instance, by Jenni Ogden in her review of the novel, are therefore understandable and perhaps even justified.

The way in which readers of *The Other Einstein* respond to this deliberate if fictional deviation from the historical record certainly depends on their specific understanding of the genre and the poetic liberties and ethical responsibilities which they grant it to possess. As I have shown earlier on in this study, there are two dominant ways in which biographical fiction is seen. Those who understand biofiction as a mode of biography that is engaged in the fictional representation of a real-life story might argue that “authors have an obligation to represent biographical and historical fact with as much precision and accuracy as possible, so strategic deviations from the truth are simply not acceptable because they could easily mislead readers” (Lackey, “Ethical Benefits” 6). Those who see the genre as not engaged in biographical representation but in the crea-

tion of a story based on the life of a real-life human being might feel more at ease with the changes that authors make when recounting the life through the lens of fiction. To them, the genre is, after all, “first and foremost fiction” (Lackey, “Locating and Defining” 5), even if it is firmly rooted in the biography of an actual historical person. And yet, Novak has also shown that biofiction, despite its claims of being fiction – not history or biography – influences the cultural memory of the person(s) depicted in the story (“Notable Woman” 85, “Experiments” 11-12). It might thus evoke (strong) feelings of misrepresentation and misuse in readers.

In her review of *The Other Einstein*, Susan Newman provides a very different assessment of the novel, one that sees its value as a work of fiction rather than biography. Responding to Jenni Ogden's above-mentioned criticism of its portrayal of Albert Einstein, she writes that “[f]iction writers don't need absolute facts to support an idea of what might have happened. Rather, fiction is a vehicle for interpreting, exaggerating or coloring what may or may not have been fact.” Thus, one might also see the possibility in this portrayal. Given the lack of evidence about Marić's role in Einstein's scientific achievements, what choice do we have but to speculate and imagine what might have been, yet went unrecorded? If not in (biographical) fiction, where else can we explore and discover the history hidden from official records and public archives? “Answering through fiction the seemingly unanswerable questions in Mileva's life – exploring the ‘what ifs’ – is what makes writing *The Other Einstein* so interesting to me,” Benedict explains (313). Scholars of biofiction such as Lackey ask us to look beyond the narrow questions of how far we can ethically go and what is appropriate in biofiction regarding the facts provided by the historical-biographical record, towards the more substantial and nuanced questions raised by these deviations from the known realities, namely what they mean, what kind of truth they entail and tell us about the chosen subject, her life, or the world. As I have shown earlier, Lackey claims that authors of biographical fiction intend to “use rather than represent the biographical subject,” that they “appropriate the life of the biographical subject in order to express their own vision of life and the world” (Lackey and Avery 1, emphasis added). As he explains: “The biographical novelist's goal is to give readers fictional truth, which is based on and rooted in the life of an actual historical figure but is then converted into a literary symbol that could be used to illuminate much more than just the individual subject's life” (*American Biographical Novel* 67-68).

Thus, what kind of truth does Benedict seek to tell us here? While Marić never publicly claimed to have written or even co-authored any of the papers that are credited to her former husband, one might argue that in *The Other Einstein*, Benedict uses her story as a plausible if not historically accurate reminder of the different evaluations of men's and women's work in science and the so-called ‘Matilda Effect,’ of the denial of recognition for women's contributions to science, of the ways in which women's contributions continue to be overlooked and misappropriated by a male-dominated scientific establishment. Making Mileva the ‘mother of the theory of relativity’ in her story allows Benedict to explore still relevant questions about women's authorship as well as the disregard of women's scientific contributions then and now. Perhaps it also does not

really matter if Benedict unraveled Mileva's actual role in Albert's science. What matters is that she got us thinking about the very nature of history, of how it is told by those in power. *The Other Einstein* contains a story about the very mechanisms in which women's contributions have vanished from the records, have been appropriated by their husbands. The power of the novel lies in the many similar untold stories, the unknown accomplishments which have been forever lost to history that it conjures up. It functions almost like a metahistorical comment on the ways in which women's contributions get overlooked until today. Fiction works here at the service of a feminist critique of the role of women in science in the past and in the present.

However, the novel runs the risk of creating a problematic image not only of Albert Einstein but also of Mileva Marić, one that counteracts the herstorical ambitions of this novel. Topping the image of the betrayed wife with that of the betrayed researcher undoubtedly fits the narrative of the tragic victim who is caught up in a destructive marriage that Benedict constructs. It adds to the tragedy of Marić's story, the ways in which she is shown to have sacrificed her own scientific ambitions to support her husband's stellar career. Stephan has called this "Frauenopfer" [women's sacrifice], which has often been a necessary precondition for male productivity (14). Still, one might argue that by making Mileva the 'mother of the theory of relativity', Benedict also runs the risk of overshadowing the real tragedy of her life: Marić most likely never reached her full potential as a scientist. In the novel Mileva accomplishes academic success, although it is not acknowledged and appreciated by her husband and the scientific community of her day. What Holton says about scholarly attempts at proving Marić's scientific contributions is also true for Benedict's fictional exploration of Mileva's achievements:

Ironically, the exaggeration of Mileva's scientific role, far beyond what she herself ever claimed or could be proved, only detracts both from her real and significant place in history, and from the tragic unfulfillment of her early hopes and promise. For she was one of the pioneers in the movement to bring women into science, even if she did not reap its benefits. (191)

What the novel suggests about Mileva as a scientist is also problematic from a feminist perspective, as are the gender stereotypes the author uses in the recreation of her scientific abilities and achievements. Throughout the story, Mileva is depicted as a talented and intelligent woman. There is no question about her intellectual abilities. Her father describes her as "a genius with math and science" (Benedict 46). Albert notes that she is "the smartest in our class – by far the best at math" (Benedict 30). She is shown as someone who seeks to understand and uncover the "secretive rules about the workings of the world" (Benedict 23-24). And yet, the novel undermines this characterization of Mileva by connecting her great scientific achievement, the discovery of the special theory of relativity, with her female gender. That Einstein apparently had the sudden inspiration for the theory of relativity, his 'Eureka moment,' by staring at the medieval clock towers in Bern which he passed by every day on his way to work is a well-known popular myth (Martínez, *Science Secrets* 206). Benedict, too, constructs such a myth of

origin for Mileva when she decides to have her protagonist discover of the theory of special relativity as a response to the sudden death of her baby: “Given how Mileva saw the world and how desperately she must have loved her daughter, isn’t it possible that the loss of Lieserl could have inspired Mileva to create the theory of relativity?” (Benedict 313). Right after the death of her child, Mileva finds herself at the train station wishing to be able “to freeze time or change it” and feeling “stuck with Newton’s rigid laws of the universe” (Benedict 212). She asks herself whether there was “a rule of physics as yet undiscovered? One that would help [her] with [her] pain and suffering over the loss of Lieserl” (Benedict 212). She sees the clock and suddenly has an epiphany:

In a rush, it came to me. What would happen if the train left the station not at sixty kilometers an hour but at close to the speed of light? What would happen to time? I ran through the calculations in my mind, roughing out a solution. If the train left the station at rapid speeds approaching the speed of light, the clock’s hands would still move, but the train would be moving so quickly that light could not catch up with it. The faster the train accelerated, the slower the hands would move, ultimately freezing once the train reached the speed of light. Time would effectively freeze. And if the train could go faster than the speed of light – an impossibility, but for argument’s sake, assumed – then time might roll backward. There it was. The new rule was so simple and natural. Newton’s laws about the physical universe only applied to inert objects. No one needed to be bound by the old rules anymore. Time was relative to space. Time was not absolute. Not when there is motion. (Benedict 212-213)

From a feminist perspective, the linking of the loss of the child with the idea of relativity can be considered one of the novel’s greatest weaknesses. Even though it is supposed to show Mileva’s extraordinary talent and scientific ability, it is not an intellectual effort but an emotional experience that leads her to the theory of relativity. The novel thus consolidates gendered clichés about women’s sensitive, relational approach to science, all the while suggesting that female science is different from male science. It also draws a problematic link between personal loss and professional achievement. The novel therefore acknowledges Mileva’s scientific creativity, but it represents it in clearly gendered terms, it qualifies it as domestic, even maternal. She is the *mother* of the theory of relativity, indeed.

The stereotypical portrayal of Mileva’s science also emerges in the ways in which she handles the scientific epiphany she experiences. Mileva tells Albert about her discovery of a new law of physics only to make their marriage work again, for she is pregnant with another child (Benedict 216). She does not care about the significance of her discovery even though her theory is in her husband’s words “brilliant” and “extremely important” (Benedict 217). She does not want to advance science, even though she had “spent the better part of [her life] trying to uncover God’s hidden rules for the universe through the language of physics” (Benedict 212). Mileva is hesitant about Albert’s enthusiasm about her theory and his eagerness to bring it out into the world in the form of a co-written paper. After all, “it was [her] daughter’s death that inspired the insight and allowed [her] to see God’s patterns in science” (Benedict 218). Reluctantly, she agrees to publish her theory – but not for the sake of advancing knowledge or gaining ac-

ceptance in the scientific community and possibly embarking on a research career for herself. She agrees only as a memory of and tribute to her daughter “so that her death was not in vain” (Benedict 218). When her name is not included in the publication, she appears desperate only because of Lieserl’s lost honor and not because of the missed opportunity to show her scientific acumen to the world. She also seems to not really care when she learns that her paper on relativity is nominated for the Nobel Prize. The only thing she thinks about is her daughter and how she might use this news to calm Albert, to save her marriage.

I lowered myself to the couch, my hand trembling. My paper was being nominated for the Nobel Prize? No matter how many accolades the paper had already garnered, this tribute was beyond my wildest speculation. Even if no one ever learned of my role in the creation of the relativity theory, I felt a certain sense of peace that Lieserl’s death yielded this unanimous laurel. Admittedly, a tiny part of myself smarted that no recognition would fall on me. But when I realized that this award might be exactly what I needed, I tucked away my disappointment. Perhaps the Nobel Prize nomination would soften the loss of the Prague position and make staying in Zürich more palatable for Albert. Maybe he would realize that to climb to scientific heights, he didn’t need to leave Zürich. (Benedict 255)

This depiction does a disservice to Mileva Marić and is even harmful to her reputation as a pioneering woman in science. It denies Mileva, who fought very hard to enter and stay in the world of science for the better part of her life, a will to seriously participate in it – a will that she is shown to possess at least in the beginning of the story when she still seeks “answers to the greatest questions about our existence” (Benedict 24). That it is the death of her child that inspires her and that she feels betrayed not so much as a woman in science but as a wife and mother clearly speaks for the fact that Benedict wanted to use the speculation about Marić’s contributions to Einstein’s achievements to enhance the tragedy of her story, rather than depicting her as an important and inspiring woman in science who made a ground-breaking discovery. I agree that biographical novelists are not bound to historical accuracy and can use fiction to illuminate what they consider to be a “fictional truth” (Lackey, *American Biographical Novel* 67) about the lives of their historical subjects. But the truth that Benedict seeks to portray is that Mileva Marić was a tragic figure. This is something she could have shown without a fictional exploration of the ‘what ifs’ in her story, and thus without damaging Einstein’s reputation as a scientist and Marić’s reputation as a woman in science. For me, the novel is both ethically and gender-politically highly questionable. The liberties it takes with the historical record mainly serve the purpose of vilifying Einstein and pitying Marić. The fictional exploration of the ‘what ifs’ in her story might also be seen as potentially harmful to the cause of feminist historians of science as speculative exaggerations of female contributions to science are grist for the mills of those supportive of sexist ideas that question women’s achievements and abilities.

### 3.3.6 Conclusion

It is a popular saying that 'behind every great man stands a great woman,' and this was also true for Einstein. *The Other Einstein* achieves what it sets out to do: with her biographical novel, Benedict draws attention to a hitherto little-known female figure in the history of science. It paints an interesting and believable, if not historically accurate, fictional portrait of Marić that uses both documentary evidence as well as creative invention to rescue her from the dustbins of history and the shadow of her famous husband. In doing so, it employs its poetic license not only to reconstruct the largely unrecorded interiority of Marić and to fill in some of the lost details about her biography but to speculate about the role she had in her husband's scientific achievements offering her readers the fictional exploration of a 'hidden truth,' a version of history in which the fictional Mileva adopts the role that scholars can only speculate about and literally becomes the 'mother of the theory of relativity'. Despite this, I have revealed in this chapter, Benedict's story does not really seem interested in showing her as an important and inspiring example of female accomplishment in the history of science. In fact, what seems to make her a particularly attractive character for Benedict is not her achievement as a woman in science but the tragic failure of her early promises. It is more a story of her suffering than it is a story about her successes (something that is not uncommon in biofiction about women). Rather than as a pioneering physicist, the image we get of her is that of her as a surviving victim of patriarchal oppression, of her husband's abuse both personally and professionally. It is even in the ethically and gender-politically highly questionable reconstruction of her scientific productivity and intellectual brilliance that the tragedy of her life is emphasized. The novel creates a rather problematic image of its heroine, rooting its portrayal of Mileva in a tragic-victim-of-the-patriarchy story, rather than focusing on her scientific genius. Her proven extraordinary accomplishments are barely mentioned. It is overall less her achievements than the tragedy of her life for which she is remembered here. What one recalls is a woman systematically exploited by her husband, not one who was a great scientist and a pioneer for women in science. The next and last case study, Ada Lovelace, can also not escape the shadow of a famous man, not her husband but her father. His life and legacy have not only determined the historical memory and cultural perception of her story but also strongly influence her portrayal in Jennifer Chiaverini's *Enchantress of Numbers: A Novel of Ada Lovelace*, as I will show now.

### 3.4 Math, Poetry, and the Legacy of a Famous Father: Recovering Ada Lovelace, the ‘World’s First Computer Programmer’, in Jennifer Chiaverini’s *Enchantress of Numbers: A Novel of Ada Lovelace* (2017)

“I do not believe that my father was (or ever could have been) such a Poet as I shall be an Analyst (& Metaphysician); for with me the two go together indissolubly.” Ada Lovelace in a letter to Charles Babbage dated August 1, 1843 (qtd. in Toole, *Ada*, *Selection* 215, emphasis in original)

A popular saying goes ‘You can’t be what you can’t see.’ It certainly applies to female underrepresentation in science, technology, engineering, and mathematics, the so-called STEM fields. When it comes to efforts intended to raise the number of girls and women and thus close or at least narrow down the still existing gender gap in STEM, one cannot overemphasize the importance of female role models, Suw Charman-Anderson points out (“Simple Solution” 2). Studies have shown that exposing girls and women to positive same-sex role models is vital for allowing them to become interested and engaged in STEM education, training, and employment and thus is key to eventually achieving gender equality (see for example the studies by Plant et al. 2009, Herrmann et al. 2016, Van Camp et al. 2019, González-Pérez et al. 2020). Positive female role models can inspire and enable girls and women to move beyond patriarchal constraints, to free themselves from the prescriptive roles and limited opportunities that current societies often still envision for them, and to enter and remain in the male-dominated world of science. At the same time, positive female role models can work against male stereotypes; they can show that girls and women are very well capable of scientific creativity and work and help remove negative connotations around women and/in STEM (Charman-Anderson, “Simple Solution” 2, cf. Schiebinger, *Feminism* 21). In doing so, these role models can help improve girls’ and women’s self-identity as scientists and their sense of belonging in these fields (Charman-Anderson, “Simple Solution” 2). Not only contemporary women in STEM can and do serve as influential role models to emulate for modern-day women and girls. Many also consider accomplished women in history as important and inspirational role models that help girls and women today see what they can be, since these women found their ways into the sciences and forged careers for themselves despite the barriers they encountered. In fact, because their struggles and successes in the male-dominated world of science took place in even more unyielding (misogynistic) times, their stories might even be seen as more reassuring than the stories of contemporary women in STEM.

In addition to Polish-French researcher and two-time Nobel Prize winner Marie Skłodowska-Curie (1867-1934), the English mathematician and science writer Augusta Ada Byron King, Countess of Lovelace (1815-1852), or Ada Lovelace as she is commonly referred to,<sup>52</sup> has certainly advanced to one of the most frequently used female

---

52 Lovelace had three different titles during her lifetime: She was born in 1815 as Augusta Ada Byron to her parents, George Gordon Byron, 6<sup>th</sup> Baron Byron and Anne Isabella, commonly known as Annabella, Milbanke, and 11<sup>th</sup> Baroness Wentworth. In 1835 she

role models from the past for present-day girls and women in STEM. Like many women in (science) history, Lovelace had long remained in the shadow of a 'great man,' in this case her father, George Gordon Byron, 6<sup>th</sup> Baron Byron (1788-1824), or simply Lord Byron. In recent decades, however, Lovelace is becoming increasingly famous in her own right and for something that clearly distinguished her from the eminent Romantic-era poet, namely mathematics and especially computer science. Lovelace's posthumous renown and reputation thereby range around her translation of and extensive commentary on a paper entitled "Sketch of the Analytical Engine invented by Charles Babbage" (1843), especially the much-discussed Note G, in which she describes the algorithm for the computation of Bernoulli numbers. Many consider this algorithm the first computer program, one developed long before the first computer to run it existed. Affectionally and admirably dubbed by British inventor, engineer, and polymath Charles Babbage (1791-1871) himself as the 'enchantress of numbers' (Babbage in a letter to Lovelace dated September 9, 1843, qtd. in Toole, *Ada, Selection* 236), the self-proclaimed 'bride of science' (Lovelace in a letter to Andrew Crosse dated most likely November 16, 1844, qtd. in Toole, *Ada, Selection* 296) who never wanted to be known just as Byron's daughter, is today celebrated as the world's 'first female programmer' (Beauclair qtd. in Hoffmann 62) or even the 'mother of computer science' (Coe and Ferworn 48). In this capacity and despite some recent attempts at downplaying or denying altogether her abilities and achievements, Lovelace has become a compelling feminist heroine in contemporary popular and scientific culture. Prizes and medals, conferences, exhibitions, festivals, scholarly journals, biographies, literary narratives, books for children and young adults, a musical, a programming language, a crypto currency, even a yearly worldwide celebration of female accomplishments in STEM have been dedicated to and/or named after her. All this is proof of her now-iconic status as "a key figure in the development of the computer" (Lewis 389), a powerful symbol for women's achievements in science.

A closely researched yet also highly imaginative biographical fiction, Jennifer Chiaverini's *Enchantress of Numbers: A Novel of Ada Lovelace* (2017), hereafter *Enchantress of Numbers*, forms part of the various ways in which Lovelace is remembered in recent years. Written in the style of a fictional autobiography or autofiction in which the female scientist protagonist is shown to recount key moments in her short yet eventful life from her supposedly own first-person viewpoint, the novel presents its readers with the vivid, richly detailed and in many regards historically accurate portrait of this noteworthy (pre-)Victorian woman and her fascinating story. Chiaverini is a prolific

---

married the English nobleman William, 8<sup>th</sup> Baron King (1805-1893) and was subsequently named Lady Augusta Ada King. When he became Viscount of Ockham and the first Earl of Lovelace in 1838, she became the Countess of Lovelace. For reasons of convenience and because it seems to be commonly done so by those writing about her, including Chiaverini herself, I will refer to her as Ada Lovelace throughout this chapter regardless of the specific moment in her life I discuss. I will proceed accordingly with other historical figures that feature in the novel, such as her mother and her father, who I will refer to as Annabella Milbanke and George Gordon Byron, also to avoid confusion about which member of the Byron family I mean.

and popular writer of herstorical (bio-)fiction whose efforts at telling women's so far hidden stories manifest in an ever-growing number of frequently biographically-rooted historical novels. To her, telling Lovelace's life and keeping her scientific legacy alive serves a clearly feminist purpose: "When we remember and celebrate Ada's contributions to computer science, we contradict all of the negative voices that insist STEM fields aren't for girls. [...] Young women today have many more opportunities to pursue careers in STEM fields than Ada Lovelace did, but obstacles remain" ("Seven Questions"). Chiaverini shows herself convinced that narrating the stories of extraordinary and exemplary women in science history like Lovelace and thus promoting their aptitudes and accomplishments is vital in counteracting problematic stereotypical beliefs and prejudices about women and/in STEM which continue to influence female participation and retention in these fields in harmful ways ("Seven Questions"). Following the example of Lovelace, who defied the gender role expectations of her time and place in her pursuit of advanced scientific knowledge and meaningful intellectual work, Chiaverini seeks to "encourage young women to study whatever it is that fascinates them, whatever provokes their curiosity, and never to be dissuaded by other people's negativity" ("Seven Questions"). At the same time, by telling Lovelace's life in *Enchantress of Numbers*, Chiaverini wants to set the record straight and "give Ada long overdue recognition for her achievements, which far too many people have wrongly attributed to Babbage" ("Seven Questions"). Today, Lovelace is not only widely considered a prominent counterexample of women's apparent lack of interest or ability in STEM as well as their often-assumed missing history in these fields. Her life also illustrates the ways in which female contributions to STEM have frequently been undervalued, denied, or ascribed to men, in this case her scientific partner Babbage. For Chiaverini, Lovelace is "yet another example in a very long list of occasions where men have taken credit for women's achievements and discoveries" ("Seven Questions"). Thus, in recounting her story, Chiaverini also seeks to rescue Lovelace from the shadow of a 'great man,' in this case Babbage not Byron, and to reclaim for her subject her rightful place in our still male-dominated cultural memory of the scientific past. For her, telling her story to a contemporary readership serves the purpose of securing and cementing the well-deserved place of Lovelace as an early computing visionary in the history of science.

Considering these clearly articulated feminist goals, it feels surprising, perhaps even ironic, that Chiaverini's extensive, more than four-hundred-pages-strong bio-fictional account of Lovelace's life devotes comparatively little page space to the unique abilities and extraordinary achievements that make Lovelace such an interesting and inspiring woman in science for many people today, including Chiaverini herself if we keep in mind the above-made statements. The present novel covers Ada's whole life from even before cradle to almost grave. It thus also comprises her passionate and pioneering work on Babbage's Analytical Engine, the creation and publication of her now-famous paper, and thus her "all-too-brief 'moment' as a successful woman and scientist" (Finch) that was cut short by her unfortunate early death from ovarian cancer at the age of thirty-six. However, the novel is more concerned with the influence that her genetic

inheritance and familial environment had on her life and the development of her abilities and achievements, than with the range and relevance of the aptitudes and accomplishments that earned her titles like 'world's first computer programmer' and 'mother of computer science' in present-day scientific and popular discourse. Indeed, the literary text at hand seems most interested in the question of how Ada's parentage in the sense of both 'nature' and 'nurture' contributed to her becoming the 'enchantress of numbers' of the book's title.

The lengthy prologue at the beginning of the novel relates the story of the courtship, marriage as well as soon-thereafter permanent separation of Ada's father and mother, George Gordon Byron and Anne Isabella Milbanke. It sets the scene for what is undoubtedly the central theme of this fictional narrative, namely Ada's lifelong emotional and intellectual struggle to accept and appreciate both parts of her parental heritage: the artistic temperament and inventive passion of her world-famous poet father and the scientific understanding and moral sensibility of her mathematically minded wealthy heiress mother. Using both historical fact and creative invention, the novel illuminates the many challenges Ada faces growing up as she tries desperately to satisfy her mother by denying the fatherly half of her lineage. The marriage between her parents lasts not even a year. The incestuous romantic relationship between Byron and his half-sister as well as Annabella's fear that her husband might be mentally ill, perhaps even outright insane, are presented as the cause of their eventual breakup. Fearing scandal and, more crucially, for her life and that of her daughter, Annabella leaves the family home within just a few weeks after having given birth with a newborn baby Ada in tow never to return. Severely traumatized from the short-lived marriage to the scandalous poet, Annabella does everything she can to drain the "bad Byron blood" (Chiaverini, *Enchantress* 87) running through her daughter's veins. She fears that her child might turn out as morally corrupt, mentally unstable, and romantically excessive as the father who is depicted as a 'bad boy' and quite literally "mad, bad, and dangerous to know," as one former lover of his is often cited to have once put it (qtd. in Hurt 25). As a remedy against the influence of the in her eyes most dangerous character trait of her ex-husband, his powerful imagination, Annabella implements and enforces a strict mathematical and scientific education. At the same time, she enacts a ban on everything that would indulge Ada's fantasy, including poetry, fairy tales, and games of make-believe. She also forbids anything that would make her child too sentimental and jealously dismisses every nurse, governess, and teacher Ada likes too much. Annabella's approach to childrearing includes not only a strictly adhered-to curriculum but also constant surveillance, social isolation as well as emotional and corporal punishment. Nevertheless, Ada develops from a lonely, neglected, and illness-plagued bright and widely interested fatherless girl into a spirited, confident, and highly intelligent woman. Coached by a series of tutors, she becomes the very image of her mother in her interest and talent for science and mathematics. However, she is never able to eradicate the paternal influence on her life, which despite her own and her mother's tireless efforts at rejecting it always lurks in the background. Nor can she ever forsake her natural curiosity about her father, this man

she was never able to know let alone meet. As time progresses and Ada grows older and leads her own married life with a supportive husband, children, and a circle of like-minded friends, her feelings about her family become more complex and conflicted. She begins to seriously question her mother's beliefs in the destructive character of her Byron blood and with that her creative and inventive faculties. Eventually, she overcomes the well-intended oppressive maternal overprotection and learns to embrace the fatherly influence, also thanks to encouragements she receives from people like Babbage who value Ada's intellect as much as "the powers of [her] imagination" (Chiaverini, *Enchantress* 255). Ada's struggle to reconcile the distinct parts of her genetic heritage culminates in her collaboration with Babbage and her 'Great Work,' which becomes her moment of discovering her own talents. Writing her paper on the Analytical Engine, she understands that there is no need for her to "choose between [her] mother and [her] father," that "[her] genius resided in [her] ability [...] to marry the intellect and the imagination into a new kind of insight," that she "was nothing without both" (Chiaverini, *Enchantress* 384). By reuniting the qualities that she had inherited from her parents, she discovers her own unique aptitudes and makes the visionary accomplishments that so many people admire her for today.

The goal of this chapter is to take a closer look at Chiaverini's *Enchantress of Numbers* and the ways in which it (re-)envisioned Ada Lovelace and narrates her story to a twenty-first-century readership. In doing so, this chapter offers the first critical examination of the literary text at hand. While amateur readers in personal web blogs and online reviews have discussed Chiaverini's herstorical biofiction extensively, there is little professional media criticism available so far. To date there is also no scholarship existing. In fact, there seems to be no academic discussion of any of Chiaverini's literary works until now. As in the previous chapters, the central question guiding my examination of *Enchantress of Numbers* is what image the present novel creates of the historical woman, her life story as well as her scientific aptitudes and accomplishments, and how it presents her struggles and successes in the male-dominated world of nineteenth-century science. I will direct the analytical focus especially upon the parent-centered framework that Chiaverini uses in this account of Ada's life and the ways in which it relates to (or not) the revisionist intentions expressed by the author in the paratexts. To do so, I will read the fictionalized version of Lovelace's story from a gender-sensitive perspective and against the background of the chosen female figure's biography and reception history. My argument is that despite its clearly articulated feminist goals of giving Lovelace her due place in the history of science and using her story to inspire and reassure contemporary girls and women to enter STEM, *Enchantress of Numbers* creates a rather stereotypical image of Ada and her life story. This is the case especially because of the strong emphasis the novel places on the heroine's inner struggle to unite the distinct parts of her parental heritage. Though it would be going too far to claim that her novel cares more about Byron than it does about Lovelace or that Chiaverini attempts to create a double biofiction of father and daughter here, the novel is largely concerned with the various ways in which his life and legacy have shaped the lives of Ada and her mother

– both when he was alive and after his death. This ultimately and unfortunately repeats, even reinforces, the long-standing impression sometimes still expressed in the present day, namely that Ada Lovelace, despite her original and from today's perspective revolutionary achievements in computing, is a memorable historical person mainly because she was Byron's daughter and not because she was a pioneering woman in science history, as for instance Claire G. Jones, Alison E. Martin, and Alexis Wolf have claimed (6).

### 3.4.1 “The Most Famous Woman in Computing”:<sup>53</sup> Ada Lovelace, Pioneer in Computer Science and Feminist Icon for Women in STEM

Ada Lovelace's scientific legacy stems from her close collaboration with mathematician, inventor as well as designer Charles Babbage and her contributions in furthering and understanding his (theoretical) prototype mechanical calculating machine, the Analytical Engine. Crucial to her posthumous renown and reputation is her translation of and extensive commentary on a paper entitled “Sketch of the Analytical Engine invented by Charles Babbage” (1843), which discusses the construction principles of the machine. The Analytical Engine (1834), the successor model of the Difference Engine (1822) and the more advanced of Babbage's inventions, is today widely considered the first programmable general-purpose computer ever to exist, a nineteenth-century forerunner of the electronic computers of the twentieth century. For technical as well financial reasons Babbage's Analytical Engine had unfortunately never been built and only existed on paper as a “hypothetical construct” (Hollings, Martin, and Rice, “Mathematical Correspondence” 229). Lovelace had first met Babbage in 1833 upon her entrance into society; she was seventeen, he was forty-two years old at the time. Ever since their first meeting, he and his work had fascinated her (Toole, *Ada, Selection* 13) and she had dreamt of contributing to it one day (Swade 159). Eventually, an opportunity arose “to serve Babbage and show her talents” (Isaacson, *Innovators* 25). In 1840, Babbage gave a presentation on his proposed Analytical Engine and its functioning at the Academy of Sciences in Turin. Italian military engineer, mathematician, and later prime minister Captain Luigi Federico Menabrea (1809-1896) had attended the meeting and, based on Babbage's explanations as well as with Babbage's help, he had written a technical description of the Analytical Engine (Isaacson, *Innovators* 24). Menabrea's paper, which constituted the first known explanation of Babbage's machine, was published in 1842 in the Swiss academic journal *Bibliothèque Universelle de Genève* as “Notions sur la Machine Analytique de M. Charles Babbage” (Dotzler 53). Lovelace wanted to support Babbage's endeavor, to promote his work, and help secure the financial support that he needed to build the Analytical Engine (Toole, “Analyst” 9). A fluent speaker of French, she decided together with or was encouraged by, depending on the source material, English scientist and inventor Charles Wheatstone (1802-1875), a close friend of both Lovelace and Babbage, to produce a translation of the Menabrea paper (Hartmann 26, Fuegi

---

53 Abbate 4.

and Francis 18). She certainly was an ideal candidate for the task. From the many soirées she had attended at her close friend and scientific mentor's home as well as her regular correspondence with him, Lovelace was intimately acquainted with Babbage's inventions. In 1843, a time when members of the female sex would usually not publish scientific papers (Isaacson, *Innovators* 25), a twenty-seven-year-old Lovelace did so nevertheless. She had worked on it from 1842 to 1843 in constant and close collaboration with Babbage. Surviving letters suggest an "almost email-like" (Fuegi and Francis 19) correspondence flying back and forth between Lovelace and Babbage several times a day. Lovelace pursued her time-consuming work on the Analytical Engine despite her duties as (house-)wife and mother of three small children. She had married William King in 1835 and born three children, Byron (1836-1862), Anna Isabella (1837-1917), and Ralph Gordon (1839-1906), within the short time span of four years. Lovelace signed the paper only with her initial A.A.L. to conceal the gender identity of the author. It took five years, until 1848, before the public recognized her as the author of the *Translation and Notes* (Aurora 232). Her "Sketch of the Analytical Engine invented by Charles Babbage Esq. By L.F. Menabrea, of Turin, Officer of the Military Engineers," which appeared in Richard Taylor's *Scientific Memoirs, selected from the Transactions of Foreign Academics of Science and Learned Societies, and from Foreign Journals*, was more than a mere English version of Menabrea's paper, however, as Bernhard Dotzler points out (53). Rather, it was an extensively annotated translation encompassing seven Notes labelled alphabetically from A to G. These Notes included not only corrections but also various calculations and her own insightful ideas about the machine's working, its possibilities, and limitations. They had been so wide-ranging to double the length of the original article (Dotzler 53). It is precisely these Notes, which were "clarifying, elaborating, extending, and, occasionally, correcting the translated portion" (Stein, "Notes" 49), on which Lovelace's fame is based today. Throughout her life, Lovelace had entertained numerous scientific and social interests (Hollings, Martin, and Rice, *Computer Scientist* viii). She had planned a variety of further research projects and publications (Holmes, "Computer Science" 31). However, due to her premature death, her ambitions were "tragically thwarted" (Swade 171) and the paper remains her only contribution to science. Neither Lovelace nor Babbage ever saw what their work led to as the full realization of the machines only happened long after their deaths.

Over the last couple of decades, various scholars have emphasized the importance of Lovelace's paper for the public understanding of Babbage's versions of the engine. According to Bertram Vivian Bowden, due to Lovelace's great competence as a mathematician, she provided the public with the best account of Babbage's Engines (xi). She was the one, who thanks to her "profound understanding of the principles of the machine" "made it possible for us to appreciate Babbage's genius" (Bowden 18, 23). John Fuegi and Jo Francis come to a similar conclusion when they say that Lovelace's Notes constitute "the single most comprehensive description of the more advanced capabilities of the Analytical Engine [...] and the main conduit through which Babbage's extraordinarily advanced engineering ideas influenced future generations" (17). Though her con-

tribution had initially been seen as mainly a communicative one, Lovelace had done more than just make Babbage's invention accessible and understandable to a general and scientifically-minded audience. In her Notes, Lovelace explores different concepts like computer program, general-purpose computer, and artificial intelligence, concepts that would have true resonance only hundred years later in the context of the building of the first computers, as Walter Isaacson notes (*Innovators* 25). Today, people know Lovelace especially for the much-discussed Note G, in which she describes the algorithm for the computation of Bernoulli numbers. This algorithm, which remained a merely theoretical one as the machine it was designed for did not exist, is today considered the first computer program making Lovelace the arguably first computer programmer (Isaacson, *Innovators* 29). While Babbage had written computer programs, too, Lovelace's was "more elaborate and more complete" (Charman-Anderson, "Simple Solution" 1). It was also the first one to be published (Charman-Anderson, "Simple Solution" 1). Without seeking to diminish her scientific achievements, Thomas J. Misa carefully qualifies the idea that Lovelace was indeed the first computer programmer since no computers existed yet (29). Lovelace's algorithm was for a prototypical general-purpose computer, Babbage's Analytical Engine, a machine that only existed on paper. The first computer to run the program written by Lovelace would be built over a hundred years later in the mid-twentieth century. Considering the historical context, the notion of the first computer programmer might thus be a misleading one, Misa cautions (29). Perhaps Catherine Siemann puts it better when she refers to Lovelace as "proto-computer programmer" (183). In any case, whether the retrospective characterization of Lovelace as the first computer programmer is truly accurate, the publication of the first computer program does not represent her most noteworthy achievement, Charman-Anderson claims ("Simple Solution" 1). Even more important than her now famous set of instructions for the Analytical Engine was her ability to see and describe the real capacity and potential uses of it as more than a calculating machine – which far surpassed Babbage's own ideas for his Analytical Engine (Charman-Anderson, "Simple Solution" 1). "Her true breakthrough," Charman-Anderson explains, "was recognizing that any machine capable of manipulating numbers could also manipulate symbols" ("Simple Solution" 1). One might thus use the Analytical Engine not only to process figures and do mathematical calculations but, for instance, also to compose music. In her paper, Lovelace writes that "[s]upposing, for instance, that the fundamental relations of pitched sounds in the science of harmony and of musical composition were susceptible of such expression and adaptations, the engine might compose elaborate and scientific pieces of music of any degree of complexity or extent" (Lovelace 1843, Note A; qtd. in Toole, "Analyst" 9). "This insight," Isaacson clarifies, "would become the core concept of the digital age. Any piece of content, data, or information – music, text, pictures, numbers, symbols, sounds, video – could be expressed in digital form and manipulated by machines" (*Innovators* 27). He claims that Lovelace basically projected the modern computer (*Innovators* 25). The fact that Lovelace had been able to understand the Analytical Engine even better than its own inventor has often been ascribed to her approach, which

has been described as “poetical science” by means of a phrase that Lovelace herself once used in an undated letter to her mother (Lovelace 1845, qtd. in Toole, *Ada, Selection* 320). Betty A. Toole claims that Lovelace was deeply interested in a synthesis of scientific and artistic ways of knowing. According to Toole, her “greatest strength was her metaphysical ability, her ability to see wholeness, i.e., to take what appeared to be disparate approaches of poetry and science and to integrate them” (*Ada, Selection* 320).

There is another important aspect that Lovelace addressed in her Notes, namely the question of whether machines can think, which is according to Isaacson, “still the most fascinating metaphysical topic involving computers” (*Innovators* 29). For Lovelace the answer to this question was no. “The Analytical Engine has no pretensions whatever to *originate* anything,” she wrote dismissing the idea that a computer could create anything on its own while putting some clear limits on the creative possibilities of the machine thereby showing its inherent restrictions (Lovelace 1824, Note G; qtd. in Toole, “Analyst” 10, italics in original). She argued that “[i]t can do whatever we know how to order it to perform. It can follow analysis; but it has no power of anticipating any analytical relations or truths” (Lovelace 1824, Note G; qtd. in Toole, “Analyst” 10). More than a hundred years later, Lovelace’s early thoughts on what is today known as machine learning and artificial intelligence would be called ‘Lady Lovelace’s Objection’ by pioneering British computer scientist and mathematician as well as wartime code breaker Alan Turing (1912-1954) in his paper “Computing Machinery and Intelligence” (1950), as Valerie Aurora points out (232-233). Thus, one might refer to her as a fore thinker of machine learning and artificial intelligence, even if she did not believe it to exist.

Today, many consider Lovelace’s work on the Analytical Engine a major accomplishment. During her own lifetime, however, this was not the case. While some of her contemporaries thought very highly of her, her now-famous paper on the Analytical Engine did not receive much attention at the time. “In all probability my reign (if ever I have one) over mankind will be chiefly after my death,” Lovelace wrote to her mother in a letter dated March 3, 1841 (qtd. in Toole, *Ada, Selection* 156). History would prove her right. As the daughter of one of history’s ‘great men,’ though, Lovelace never fell completely into historical oblivion. Indeed, Byron’s scandalous life and his difficult legacy determined Lovelace’s existence long after his death and continued to influence the public memory of her story even after the end of her own life and well into the mid-twentieth century (cf. Aurora 231-232, Stein, *A Life* iix). While her family heritage brought her fame even before she was born, it took more than a hundred years after her untimely death for her to be officially recognized for her scientific abilities and achievements and to be known because of them and not only because of her association with her prominent father. Soon after her death, her paper had largely though never entirely been forgotten and “her achievements lay buried for many years” (Huskey and Huskey 299). The same is true of Babbage. His contributions, too, “would go unrecognized for close to a century,” Kristine Blair notes (17). It was not until the mid-twentieth century and “the dawn of the digital age” (Aiello 58) that people began to appreciate the intel-

lectual contributions she (and Babbage) had made (Hollings, Martin, and Rice, "Mathematical Education" 223). Alongside Babbage, Lovelace was rediscovered in the 1950s when the first computers were being developed and "the modern era of computers stimulated an interest in their history" (Huskey and Huskey 299). Scholars have dated the rediscovery of Lovelace and Babbage to 1953, when Bowden made their stories available to a wide public with the book *Faster Than Thought* (cf. Hammerman and Russell 1). While Babbage, the "mathematical and technological genius" (Toole, "Analyst" 7) and "one of the most important scientific figures of the nineteenth century" (Stein, "Notes" 34), is set front and center, stylized as the 'father of computer science,'<sup>54</sup> the role and place first accorded to Lovelace by scholars in the field is a clearly secondary one. Parallel with the image of Babbage as the 'father of computer science,' an image of Lovelace as his translator emerges, quasi as its counter-model, as Ute Hoffmann notes (57-58). Translator here means both literally the interpreter of Menabrea's work but also figuratively a disseminator of Babbage's ideas, a popularizer of his work for a general audience. The role of Babbage's translator in the sense of both interpreter as well as disseminator and popularizer is very harmonious with traditional nineteenth-century gender roles, Hoffmann explains: "The bold, energetic, and creative inventor and his sensitive, understanding, and modest translator appear as a couple in which the gender definitions of the nineteenth century are personified and the feminine is presented as the complement of the masculine" (61, translation mine). While this reductive yet gender-conform image of Lovelace had dominated the cultural perception of her for some time, a new idea of her gained popularity in the 1970s, namely that of Lovelace as the first computer programmer, Christa Klein clarifies ("Conceiving Ada" 278). According to Hoffmann, the image of her as 'the world's first (computer) programmer' first appeared in literature in 1968 in Wilfried Beauclair's study *Rechnen mit Maschinen. Eine Bildgeschichte der Rechentechnik* [*Computing with Machines. A Visual History of Computing Technology*]. Here the author writes that "[a]lready Babbage had to 'program' the arithmetic operations and his collaborator, Lady Lovelace, Lord Byron's daughter, should be celebrated as the first female programmer" (qtd. in Hoffmann 62, translation mine). This new image of Lovelace emerged in the context of the divergence of hardware and software into distinct fields of computer science (Rauch, "Ada Lovelace" 51) and a stronger focus on her Notes than merely on her Translation (Hoffmann 62-63, 69). She is now seen not only as someone who described the work of somebody else, e.g., Babbage, but also as someone who herself contributed original thoughts and concepts to scientific discourse; she has collaborated with Babbage and not merely contributed to his work (Hoffmann 64). According to Hoffmann and Rauch, Lovelace's elevation to first computer programmer results at least in part from this cultural shift in the historiography of computer science. Janet Abbate shows how a traditional focus on hardware

---

54 There are various scholars who have placed Babbage and his Difference and Analytical Engine at the origins of modern-day computers and who subsequently see him as the 'father of the computer.' In his 1970 biography, Daniel Stephan Halacy uses the notion of the 'father of the computer' in the very title of the book.

in the past has led to an obscuration of women's achievements in the history of computer science (4). She argues that if women had been active in the field of computer science, it was usually in what one now calls software development, for women usually did not have the resources and training needed to invent machines, and thus work on hardware (4). Thanks to a stronger historiographical focus on programming and other areas and roles that had been occupied by women in the past, female contributions to computer science are now finally coming into view (Abbate 4). That Lovelace was chosen as namesake for a universal programming language (ADA) by the United States Department of Defense in 1979 cemented the perception of her as 'the first computer programmer,' Christa Klein argues ("Conceiving Ada" 278). Thus, her place in the history of computing had been fixed. There is no doubt that Lovelace, like Babbage, has become part of the accepted canon of computing history. Both their names are today inextricably linked to the invention of the precursors of the first computers (Keitel 168). As the mother of software and the father of hardware, Lovelace and Babbage have both entered the family album of computer science (Hoffmann 33, Rauch, "Ada Lovelace" 51). Toole calls her "one of the most colorful characters in computer history," "a contributor to the birth of the computer revolution" ("Analyst" 4, 11). Luigia Carlucci Aiello refers to her as the "software engineer of the Analytical Engine" (62). Imogen Coe and Alexander Ferworn characterize her as "the first computer scientist" and even 'the mother of computer science' (46, 48). Henry Ledgard says she was 'the midwife of modern-day computer technology' (iiv). Abbate is convinced that in addition to Grace Hopper (1906-1992), Lovelace has become "the most famous woman in computing" (4).

"A figure of romance and fascination within her own lifetime" (Stein, *A Life* iix), Lovelace made her literary debut in Lord Byron's own poetry, *Childe Harold's Pilgrimage*, where he lamented the parting from his daughter. Benjamin Disraeli is said to have based the eponymous heroine in his novel *Venetia* (1837) on Lovelace (cf. Stein, *A Life* iix, Klein, "Conceiving Ada" 277). According to Richard Holmes, Lovelace may have been a source of inspiration for the figure of Princess Ida in Alfred Tennyson's poem *The Princess* (1847) ("Computer Science" 31). There are a couple of biographies, mainly about Byron and his circle in which she features prominently, among them Leslie Marchand's *Byron: A Portrait* (1971) or Malcolm Elwin's *Lord Byron's Family: Annabelle, Ada, and Augusta, 1816-1824* (1975). Though some earlier fictional and factual portrayals exist, it was in the latter half of the twentieth century that scholarly and public interest in Lovelace's life and scientific legacy grew significantly – and it has not waned since. Numerous biographies dedicated to her personal and professional achievements including those by Doris Langley Moore (1977), Dorothy Stein (1985), Joan Baum (1986), Betty Alexandra Toole (1992 and 1998), Benjamin Wooley (1999), and James Essinger (2013/2014), to name but the major ones, have appeared. She features as a central character in various histories of science, among them James Gleick's 2011 *The Information* and Walter Isaacson's 2014 *The Innovators*, as Holmes notes ("Computer Science" 32). From the 1990s onwards and possibly as result of the growing scholarly interest in her, Lovelace also increasingly entered the popular imagination. Christa Klein

shows that she acts as German inventor Konrad Zuse's muse in Friedrich Christian Delius' novel *Die Frau, für die ich den Computer erfand* [*The Woman Who I Invented the Computer for*] (2009) ("Conceiving Ada" 278). There are various fictional homages to Lovelace's story, for instance, the novels by Jennifer Chiaverini, *Enchantress of Numbers: A Novel of Ada Lovelace* (2017), Shanee Edwards, *Ada Lovelace, the Countess who Dreamed in Numbers* (2019), and Julia Gray, *I, Ada: Ada Lovelace: Rebel. Genius. Visionary* (2020), as well as Lauren Gunderson's theater play *Ada and the Engine* (2018) and Lynn Hershman Leeson's feature film *Conceiving Ada* (1997). Other biographical fictions about Lovelace include the German novels *Die Schatten ferner Jahre* [*The Shadows of Distant Years*] (2007) by Anita Siegfried, Sienna David's *Ada und die Gleichung des Glücks* [*Ada and the Equation of Happiness*] (2022) as well as Agnes Imhof's *Die geniale Rebellin* [*The Brilliant Rebel*] (2022). Lovelace has become a key figure and popular literary character especially in the genre of steampunk literature, where authors stylize her as the forgotten 'ur-mother' of modern technology (Klein, "Conceiving Ada" 278). Examples include William Gibson and Bruce Sterling's *The Difference Engine* (1991) as well as Sydney Padua's *The Thrilling Adventures of Lovelace and Babbage: The (Mostly) True Story of the First Computer* (2015), to name but a few (see also examples provided by Orlofsky and Siemann). She features as a heroine in countless books for children and young adults, such as *Dreaming in Code: Ada Byron Lovelace, Computer Pioneer* by Emily Arnold McCully (2019). Holmes points to claims made about Lovelace as an inspiration for the nineteenth-century math prodigy, Thomasina Coverly, in Tom Stoppard's 1993 theater play *Arcadia* ("Computer Science" 32). Examples like these reaffirm her status as an icon of the cultural imagination. With the wave of reception that began in the second half of the twentieth century, Lovelace was elevated to the status of a symbol of female abilities and achievements in STEM, Christa Klein says (278). Lovelace's modern presence can also be seen in conferences, for instance, the *Ada Lovelace Symposium*, held in 2015 at the University of Oxford in honor of the bicentenary of her birth. There are exhibitions (*Am Anfang war Ada* – Heinz Nixdorf Stiftung), distinctions (*Ada Lovelace Award* or the *Ada Lovelace Medal*), a scholarly journal (*Ada: A Journal of Gender, New Media, and Technology*), and even a programming language (ADA), a crypto currency (ADA), a non-profit school for women (Ada Developers Academy), a statue (at the site of the former Ergon House in the City of Westminster, London), and a musical (*Ada's Algorithm – The Ada Lovelace Musical*) dedicated to her life and scientific legacy and/or named after her. Most notably perhaps, she has become the figurehead of a worldwide yearly celebration of women's achievements in STEM, the *Ada Lovelace Day*. Started in 2009 by Suw Charman-Anderson, a British social technologist, journalist, and writer, society observes the *Ada Lovelace Day* (ALD) in October. On this day, people around the world celebrate female achievements in the fields of science, technology, engineering, and mathematics to increase the profile of women in STEM and create new role models to encourage girls and women into respective education, careers, and positions. With this honoring gesture, Lovelace has advanced to perhaps the most frequently used role model in STEM – not even Marie

Skłodowska-Curie has a whole day named after her. What makes Lovelace such a suitable role model for present-day girls and women in STEM is not only her great talent for science, especially mathematics, and the relevance of her pioneering work on the Analytical Engine. Lovelace's story is stimulating and timely because of her successful struggle against the obstacles that the traditional gender role expectations of her time and place put in her way. "She didn't let the conventions of her day slow her down, and she certainly wouldn't let modern prejudices get in the way either," Charman-Anderson points out ("Computing Visionary"). Like many women in the history of STEM, Lovelace faced misogyny and often saw her intellectual abilities and scientific achievements played down or denied altogether. To Charman-Anderson, the discrimination and disregard Lovelace encountered during her lifetime and which she sometimes still faces posthumously makes her story relevant and relatable to girls and women today. She argues that "[a]lthough much has changed in the last two hundred years, many women still find that their contributions to our understanding of the world are either ignored or the accolades go to their male colleagues" ("Computing Visionary"). Lovelace broke down barriers and boundaries of gender – something that resonates with contemporary women and girls who still face hardships when venturing into this male-dominated world. Despite all the adversities of the day, she managed to gain access to advanced scientific knowledge and even publish a scientific paper. That Lovelace, as compared to other women in the history of STEM, has become such a frequently used role model in the present day might also be connected to statistics, as women hold a relatively low percentage of degrees and jobs in computer science, much lower than in other STEM areas. Indeed, despite pioneering efforts of women like Lovelace, the fields of information and communication technology remain today highly gendered ones – at least in Western industrialized countries such as the United States and most of Europe as opposed to many Arab and Southeast Asian countries, Corinna Schlombs points out (307-311). Undeniably, there is still much need for influential role models like Lovelace today.

### 3.4.2 A Scientific "Genius" or a Delusional "Charlatan"<sup>55</sup>? Diverging Perceptions of Lovelace's Contributions to and Her Legacy in Computer Science

Today, Lovelace has become an 'iconic figure' in the fields of information and communication technology (Klein, "Conceiving Ada" 277). However, scholars have also disputed this image. Hollings, Martin, and Rice note that "[i]n the two hundred years since her birth, opinions of Lovelace's ability have ranged from 'genius' to 'charlatan'" ("Mathematical Education" 222, cf. "Mathematical Correspondence" 203). Some of her peers evidently held Lovelace in high regard. In a letter to Michael Faraday (1791-1867), Babbage described her as "that Enchantress who has thrown her magical spell around the most abstract of Sciences and has grasped it with a force which few masculine intellects (in our own country at least) could have exerted over it" (qtd. in Hartmann 24). In

---

55 Hollings, Martin, and Rice, "Mathematical Education" 222, cf. "Mathematical Correspondence" 203.

his autobiography, Babbage shows himself convinced of her abilities and achievements. He claims that Lovelace “has entered fully into almost all the very difficult and abstract questions connected with the subject” (102). Her mentor and teacher Augustus De Morgan, who is, as Toole says, “the best judge of [her] mathematical expertise” (“Analyst” 7), thought very highly of her, too. In a letter to Lovelace’s mother, he wrote that he believed Lovelace to have the power to become “an original mathematical investigator, perhaps of first-rate eminence” if only she had been a man (qtd. in Hartmann 24). More people have sung her praise posthumously, especially after the rediscovery of her work in the mid-twentieth century in the context of the upcoming computer revolution, as I have shown above. As has been the case with other women in (science) history, recent scholars have also downplayed Lovelace’s accomplishments or denied and dismissed them altogether. A more critical examination of her abilities and achievements has followed the growing interest in Lovelace’s life and legacy and the feminist-motivated reappraisal of her work and role in computing. Some scholars have voiced serious doubts and concerns about her abilities and the authorship of the paper on Babbage’s Analytical Engine generally credited to her. A controversy about her mathematical aptitude and a subsequent “gender-charged debate” (Isaacson, *Innovators* 25) about the ‘real’ nature of Lovelace’s contributions to science and her deserving of a posthumous title like the ‘first computer programmer’ has ensued especially since the 1980s among a small yet clearly audible group of historians and biographers. They have painted problematic pictures of her and present not only highly critical assessments and negative assertions of her scientific abilities and accomplishments but tend to emphasize the more personal and often not so flattering aspects of her biography. Schlombs notes that some have discharged Lovelace as “mathematically incompetent, psychologically unstable and addicted to opiates” (311). “It is an irony of computer history that just as ‘the first computer programmer,’ Ada, has achieved a secure place in the ‘family album of computing,’ this interpretation is being challenged and with authority,” writes Hoffmann (66, translation mine).

One of the first to contest Lovelace’s abilities and achievements was her biographer, the psychologist and former computer programmer, Dorothy Stein. In her 1985 biography *Ada. A Life and a Legacy*, which constitutes one of the earliest accounts of her life and the first to study Lovelace’s scientific work in detail, Stein questions, in fact, rejects “the conventional assessment of Lady Lovelace’s contributions” (*A Life* xi). To Stein, Lovelace is a figure in the history of computing “whose achievement turns out not to deserve the recognition accorded to it” (*A Life* xii). She writes that Lovelace’s great mathematical aptitude is a “legend” that started with Babbage’s “generous tribute and its even more generous implications” in his autobiography (*A Life* ix, x). Stein dismisses Babbage’s autobiography as “a polemic on behalf of his machines,” “the most important piece of propaganda concerning his masterpiece” (“Notes” 43). Concerning Lovelace, she argues “that Ada Lovelace’s addition – her ‘Notes’ – were more a reflection of the mathematical uncertainty of the author, the political purposes of the inventor, and, above all, of the social and cultural context in which it was written, than a blueprint

for a scientific development” (“Notes” 34). Stein claims that Lovelace had been mathematically weak and that at twenty-eight years of age, when she published her Translation and Notes, she still was at best “a promising ‘young beginner’” (*A Life* 84, 89-91). She attests Lovelace several mistakes and a tendency for exaggeration. To underline her arguments, Stein details her psychological and physical problems, as if attempting to prove that Lovelace did have neither the mental nor the bodily constitution to do what scholars have ascribed her (“Notes” 281-297). Hollings, Martin, and Rice have recently shown that Stein’s line of argumentation and her analysis of Lovelace’s mathematical aptitude is based upon an “erroneous dating” of some of the letters from Lovelace to her teacher De Morgan (“Mathematical Correspondence” 207). Before Stein, Anthony Hyman, while acknowledging her achievements, had already questioned Lovelace’s scientific abilities in his biography *Charles Babbage – Pioneer of the Computer* (1982). Hyman writes that Lovelace had “worked under Babbage’s careful guidance” and that she never “attempted original mathematical work” (198). He concludes that even though “mathematicians all over Europe thought her a splendid addition to their number [...] her importance was as Babbage’s interpretess” (198), not as a mathematician in her own right. In their negative assessment of Lovelace’s scientific abilities and achievements, Hyman and Stein were soon joined by others who voiced similar criticism, for instance by computer scientist Alan Bromley. Bromley is convinced that Lovelace wrote the Notes under Babbage’s supervision, that all work had been done by Babbage, that the Notes give an excellent account of *his* understanding of computing not *hers*. He writes:

Ada Lovelace has sometimes been acclaimed as the ‘world’s first programmer’ on the strength of her authorship of the notes of the Menabrea paper. This romantically appealing image is without foundation. All but one of the programs cited in her notes had been prepared by Babbage from three to seven years earlier. The exception was prepared by Babbage for her, although she did detect a ‘bug’ in it. Not only is there no evidence that Ada Lovelace ever prepared a program for the Analytical Engine but her correspondence with Babbage shows that she did not have the knowledge to do so. (88-89)

One of the strongest criticisms of Lovelace and her scientific abilities came from Babbage historian Bruce Collier. He writes dismissively that

Ada was as mad as a hatter, and contributed little more to the ‘Notes’ than trouble... I will retain an open mind on whether Ada was crazy because of her substance abuse... or despite it. I hope nobody feels compelled to write another book on the subject. But, then, I guess *someone* has to be the most overrated figure in the history of computing. (Qtd. in Swade 168, italics and omissions in original)

Collier also states:

It would be only a slight exaggeration to say that Babbage wrote the ‘Notes’ to Menabrea’s paper, but for reasons of his own encouraged the illusion in the minds of Ada and the public that they were authored by her. It is no exaggeration to say that she was a manic depressive with the most amazing delusions about her own talents and a rather shallow understanding of both Charles Babbage and the Analytical Engine. (Qtd. in Swade 168)

These claims strongly contradict Babbage's own renderings in his autobiography. In *Passages from the Life of a Philosopher: The Autobiography of Charles Babbage* (1864), Babbage clearly acknowledges Lovelace as the author of the Sketch and the Notes, which she had written in collaboration with him and based on the material that he had provided her with:

We discussed together the various illustrations that might be introduced: I suggested several, but the selection was entirely her own. So also was the algebraic working out of the different problems, except, indeed, that relating to the numbers of Bernoulli [sic], which I had offered to do to save Lady Lovelace the trouble. This she sent back to me for an amendment, having detected a grave mistake which I had made in the process. (102)

Babbage had been surprised that given her knowledge of the Analytical Engine, Lovelace had not written a scientific paper on her own. He had encouraged her to add her own thoughts and observations in the form of (foot-)notes to Menabrea's text. In his autobiography, he writes:

Sometime after the appearance of his memoir on the subject in the Bibliothèque Universelle de Genève, the late Countess of Lovelace informed me that she had translated the memoir of Menabrea. I asked why she had not herself written an original paper on a subject with which she was so intimately acquainted? To this Lady Lovelace replied that the thought had not occurred to her. I then suggested that she should add some notes to Menabrea's memoir; an idea which was immediately adopted. (102)

Babbage also noted that she had corrected a mistake he had made (102) – someone with no or very little understanding of mathematics would certainly not have been able to do so. Misa adds that by the time Babbage wrote his autobiography, he did not have any reasons to exaggerate Lovelace's contributions to the Analytical Engine, for instance, to receive patronage, since she had already passed away several years earlier (24).

Less harsh than Collier but no less critical of the mythologization and lionization of Lovelace is Doron Swade in his Babbage biography. Swade acknowledges that Lovelace did something unique which is to publish the most substantial English-language account of Babbage's work on the Analytical Engine and that her work might be called visionary from today's perspective (169). Yet, he is convinced that Lovelace's part in Babbage's work "has been both exaggerated and distorted," also due to feminist efforts at finding suitable role models from the past that would inspire contemporary girls and women in STEM (166, 169). In his view, the existing evidence shows that Lovelace was at best "a talented beginner, a precocious novice" but not an inspirational contributor to Babbage's Analytical Engine (167). He gives all the credit to Babbage claiming that "[t]he conception and major work on the Analytical Engine were complete before Lovelace had any contact with the elementary principles of the Engines" (167). Swade shows that Babbage had written programs for the Analytical Engine much earlier than Lovelace had, which contradicts the claim that Lovelace was the first programmer. Still, he credits her with seeing the possibilities and potentials of computers beyond calculating numbers – something that Babbage could not (169-170). Swade writes that "it is regrettable that disputes over Lovelace's 'greatness' continue to mask the study of her ideas and the

contributions she made to our understanding of contemporary thinking” (171). Though he accepts her as a pioneering woman in the history of computer science and a visionary at that, the title of the ‘world’s first computer programmer’ does not apply in his assessment of her work.

Pointing to Babbage’s recollections about the writing of the Sketch and the Notes in his own autobiography as well as the surviving correspondence between Lovelace and Babbage, other scholars have strongly rejected these negative views of her contributions to computing as well as the critical assessments of her mathematical abilities and scientific aptitude. Computer scientist Bertram Vivian Bowden described her as “a mathematician of great competence” (xi). According to him, Lovelace possessed “a profound understanding of the principles of the machine” and was “one of the very few people who understood what Babbage was trying to do” (23, xi). “There is no question that the Notes were a collaborative effort (as most proposals are today), since it is based on Babbage’s Analytical Engine,” says Toole, “however, the actual authorship, its forethoughts and foreseeings, were a result of Ada’s talent” (“Analyst” 8). She opposes those who present her as Babbage’s ‘secretary’ rather than as a scientist in her own right. Using Lovelace’s own words, she prefers to describe Lovelace as “an analyst and a metaphysician” (“Analyst” 10) rather than a computer programmer though. To Toole, she was a creative, critically thinking, and collaborative pioneer (“Analyst” 5), “a synthesizer and a visionary” (*Ada, Selection 2*). To Isaacson, Lovelace was a computer pioneer and a scientific visionary who’s “contribution was both profound and inspirational” (*Innovators* 33). He agrees with some of the criticism voiced above in that she overestimated herself and developed an exaggerated image of her own talents and considered herself a genius (*Innovators* 17). Nevertheless, he is also convinced that “more than Babbage or any other person of the era, she was able to glimpse a future in which machines would become partners of human imagination, together weaving tapestries as beautiful as those from the Jacquard’s loom” (*Innovators* 33). Though he sees definitional problems in describing Lovelace as the first computer programmer, Misa clearly acknowledges her role as a pioneer in computing, especially in programming. He argues that “[t]he evidence is reasonably clear that Lovelace created the first step-by-step elemental sequence of instructions – that is, an algorithm – for computing the series of Bernoulli numbers that was intended for Babbage’s Analytical Engine” (14). Blair agrees when she argues that “a review of the notes suggests a level of manual computation and algorithmic thinking that earn Lovelace her contemporary and well-deserved status as the first computer programmer” (18). Hollings, Martin, and Rice have also challenged the negative views of Lovelace as a woman in science by providing detailed assessments of her mathematical competencies and knowledge as well as her potential for doing scientific research and work (see “Mathematical Education,” “Mathematical Correspondence”).

### 3.4.3 Byron's Only Legitimate Daughter – The Role of Lovelace's Parentage in the Cultural Narrative of Her Story

When studying biographical portrayals of Ada Lovelace, one will immediately notice another aspect that dominates her story, and that is her parentage. Lovelace was the only legitimate daughter of the most (in-)famous of all Romantic-era poets, notoriously 'mad, bad, and dangerous to know' George Gordon, 6<sup>th</sup> Baron Byron (1788-1824), or simply Lord Byron, who is best remembered perhaps for his popular book-length lyrical travelogue *Childe Harold's Pilgrimage* (1812-1818) and his epic poem *Don Juan* (1819-1824).<sup>56</sup> Her mother was the intellectually gifted British aristocrat and wealthy heiress Anne Isabella, nicknamed Annabella, Noel Byron, 11<sup>th</sup> Baroness Wentworth and Baroness Byron (née Milbanke) (1792-1860), also known as Lady Byron, who became a renowned educational and social reformer as well as a prolific activist in the abolition movement. Due to her parentage, Lovelace had already been "an object of public fascination" (Swade 156) at birth. This public fascination did certainly increase with the events leading to the scandalous separation of her parents after not even a year of marriage and the various rumors that surrounded it which encompassed not only infidelities but also incest, perhaps even insanity on the husband's side (Hartmann 18-20). Swade notes that Byron and Milbanke's relationship has been described as "one of the most infamously wretched marriages in history" (156). The reasons and circumstances of the separation were and still are subject to wide speculations. Historians and biographers often allude to Byron and Milbanke's very different (educational) backgrounds and their vastly diverging views of life. Toole, for instance, describes Lovelace's mother as "the archetype of the new industrial age who could use analysis, facts and objectivity to gain her clearly defined goals" whereas her father "took life as it came without predetermined goals, [...] used imagination to view the world through a subjective lens and died fighting for the independence and liberation of a foreign nation" (*Ada, Selection* 10). But there are other possible reasons which might explain the end of their marriage. Apparently, Byron was not only famous for his outstanding poetry but also for his excessive drinking and indiscriminate affairs by means of which he compensated his financial difficulties (Hartmann 18). Others have alluded to domestic violence in the marriage including (attempted) sexual abuse (Swade 156). There have also been rumors about a possible incestuous love relationship between Byron and his half-sister which resulted in the birth of a mutual daughter (Keitel 157). Many also blame Byron's behavior. Some have ascribed him a bipolar disorder or, at least, some severe psychological problems. Milbanke herself seems to have suspected mental issues and had sought medical advice on his behalf (Keitel 157). In any case, by consequence of her parents' parting and her

---

56 Byron had three daughters from three different women: Augusta Ada, the only legitimate child, born during his brief marriage to Milbanke. Clara Allegra (1817-1822), an illegitimate daughter born as the result of a brief affair with Clara Mary Jane (Claire) Clairmont (1798-1879). While these daughters have been confirmed as his, there is another child that is speculated to have been fathered by him: the third daughter of his half-sister Augusta Maria Leigh (née Byron) (1783-1851), Elizabeth Medora Leigh (1814-1849).

mother's efforts to avoid ever having to see her former husband again, Lovelace never truly met her father. Apparently, her mother had not even allowed her to read his poetry or see his image until she came of age (Hartmann 19). Following the separation, after reaching a settlement, a publicly shunned Byron voluntarily self-exiled himself first to Italy and then Greece. He never returned to his country and died of a fever while fighting in the Greek War of Independence when his daughter was about eight years old (Hollings, Martin, and Rice, *Computer Scientist* 1). Lovelace grew up in a single-parent household in the care of her mother and her maternal grandparents. Milbanke eventually obtained sole custody of her daughter, certainly a sensation given the gendered constraints of Victorian-era Great Britain in which members of the female sex could not even own property (Schlombs 312). To secure her foothold on her daughter, Milbanke apparently threatened Byron with exposing his incestuous relationship to his half-sister should he enforce his claim against her (Keitel 158-159). Though Ada Lovelace never saw her father again, he remained a constant formative presence in her life. Perhaps because she never truly knew him and could learn only little about him from her mother, she developed a strong fascination with her father. According to Toole, her mother and later her husband and children were at the forefront of Lovelace's life, yet "dreams and curiosity about her father and his life were [always] in the background" (*Ada, Selection* 320). Judith S. Lewis says that "[h]is absence, if not his memory and reputation, haunted her" (391). Only in later years and mainly through others did she gradually obtain more information about him (Hartmann 18). She was a grown woman, herself married and a mother of three, when she learned about the reasons for the separation of her parents (Toole, *Ada, Selection* 14). Despite her eventual knowledge of her father's behavior and much to her mother's irritation, she arranged for a grave next to him. She died the same age her father had been when he passed away (Hartmann 18, Keitel 180).

In the study *Telling Women's Lives. The New Biography*, Linda Wagner-Martin problematizes the 'daughter stereotype' (24). She alludes to an ongoing biographical practice of representing achieving women as somebody's daughter which "underscores the fragile position of women who work in fields that historically belong to men" (22). This problematic tendency clearly marks biographical portrayals of Lovelace. Certainly, Lovelace is no longer just Lord Byron's only legitimate daughter. Because of her interest in and work on Babbage's Engines, she has developed an identity of her own as a pioneering woman in (computer) science. Toole claims that "[m]ore people know Ada's name through her association with the computer revolution than as Byron's daughter" (*Ada, Selection* 18). I would agree in so far as that the various ways in which she is being commemorated and celebrated in recent years clearly emphasize her role as a pioneering woman in science. Yet, while scholarship and society recognize Lovelace now for her own achievements and abilities and while they see her as a noteworthy historical person in her own right, her relationship to Byron is still an essential aspect of the idea and image we have of her in our cultural memory. A rather cursory look at some of the biographical, historical, and literary works dedicated to her life reveals that even at the height of interest in her own accomplishments, Lovelace cannot escape being described

and defined in terms of her role as “Byron’s only legitimate offspring” (Stein, “Notes” 37). Even in the present day, when people finally acknowledged her for own abilities and achievements, she seems still trapped in the ‘daughter stereotype.’ In the flood of historical-biographical studies as well as literary fictions dedicated to her, writers continue to mark her by her paternal relationship. There is not one account written about her that I came across in my research which does not mention her being Byron’s daughter in one of the first sentences. Benjamin Woolley’s biography, for instance, begins as follows: “Ada Lovelace was the daughter of one of the world’s first true celebrities, a man whose poetry was read and likeness seen by everyone – except by her” (1). To some, this part of her identity seems of such importance they must even use it in their respective work’s titles: Betty A. Toole, *Ada, the Enchantress of Numbers: A Selection from the Letters of Lord Byron’s Daughter and Her Description of the First Computer* (1992), James Essinger, *A Female Genius: How Ada Lovelace, Lord Byron’s Daughter, Started the Computer Age* (2013) and *Ada’s Algorithm: How Lord Byron’s Daughter Ada Lovelace Launched the Digital Age* (2014), Benjamin Wooley, *The Bride of Science. Romance, Reason and Byron’s Daughter* (1999) (emphasis added). Admittedly, a certain progression from Doris Langley Moore’s first Lovelace biography *Ada, Countess of Lovelace, Byron’s Legitimate Daughter* (1977), which in its title described and defined Lovelace *solely* by her role as Byron’s daughter, is noticeable. Still, current authors cannot or will not free her from her father. Judging from the emphasis that many writers place upon her association with Byron, the amount of page space they devote to his biography and the ways in which they continue to mark Lovelace in book titles as well as chapter headings as his daughter, clearly shows that her association with him still is an indispensable part of the contemporary narrative of her story and her notability. Some appear to still need his name to justify and legitimize cultural interest in her. Others might simply use him to boost the sales of their books, for even now, his name may still raise more immediate attention than hers, at least when it comes to a broader and more general audience.

However, there is more to it. Many also consider her roots as Byron’s daughter indispensable to understanding her personality and, more surprisingly, also her scientific legacy. Though it might seem oxymoronic since her father was a poet and not a scientist, to some historians and biographers Lovelace’s identity as Byron’s daughter is vital for explaining and evaluating her unique abilities and extraordinary achievements as a woman in early nineteenth-century science. Indeed, when looking at representations of Lovelace one will immediately notice how contemporary writers use her roots as Byron’s daughter as a means of explaining how she became interested and engaged in science and mathematics in the first place. Thanks to her noble birth and the financial means of her elite and titled family, Lovelace grew up in very privileged conditions. Her mother enabled her an excellent and quite extensive education that far surpassed the usual superficial ‘feminine’ instruction provided to girls and women of her class whose sole purpose it was “to make them as marriageable as possible” (Coe and Ferworn 46). In addition to ‘ornamental’ or ‘decorative’ accomplishments like music, painting, sing-

ing, riding, and playing various instruments, Lovelace obtained a rigorous scientific and mathematical training which ran counter to the gendered conventions of the day (Keitel 165-166). Milbanke herself was exceptionally well educated for a woman of her period, having received an in-home schooling that included the classics and philosophy as well as subjects like science and mathematics (Stein, *A Life* 2). Because of her fascination with mathematics, Byron had once referred to her as ‘Princess of Parallelograms’ during their courtship; later, after their separation, he gave her the less flattering title of ‘Mathematical Medea’ (Toole, “Analyst” 5). Toole notes that in thinly veiled form he also featured her in his poem *Don Juan* in the character of Donna Inez, whom he describes as follows: her “favorite science was... mathematical... her thoughts were theorems, her words a problem... she was a walking calculation... in short... a prodigy” (“Analyst” 5, omissions in original). Lovelace’s social and familial background allowed her the privilege and benefit of a solid education (at home) through governesses and many renowned tutors, among them intellectuals like clergyman and social reformer William Frend (1757-1841), mathematician and logician Augustus De Morgan (1806-1871), later also polymath Mary Somerville (1780-1872), and inventor Charles Babbage (1791-1871) (Stein, “Notes” 41). Nonetheless, she did not have the same opportunities for intellectual stimulation, exchange, and interaction that her male contemporaries of similar rank enjoyed. As a member of the female sex, she, too, faced exclusion, prejudice, and stereotyping (Coe and Ferworn 47). “As a woman, she was outside the male intellectual network formed and reinforced by attendance at universities and membership in learned societies,” Stein writes (*A Life* 278). In the first half of the nineteenth century, the doors of institutions of learning and advanced study, e.g., schools, universities, scientific academies, and societies, were still closed to women in England. Members of the female sex were barred from proper study in higher education; access to libraries as well as scientific meetings, lectures, and exhibitions was restricted (Hollings, Martin, and Rice, *Computer Scientist* 7). Because of these invisible gendered barriers of appropriate feminine behavior, women did also often not have the resources and equipment they needed for their scientific work (Hoffmann 48). Though her gender prohibited her from many of the things her male contemporaries could do, Lovelace became well prepared and was intellectually well equipped to participate in the scientific circles of her day, which she eventually did, as I have shown above. Although one might attribute the science- and math-oriented upbringing to her mother’s own educational background and intellectual activities – after all, she herself had been “a fine mathematician” (Toole, “Analyst” 5) – it is a different narrative that dominates here. While there is no clear evidence for this, as Hollings, Martin, and Rice note, many writers have attributed Lovelace’s mathematical and scientific education to her mother’s urgent desire to prevent the child from developing the artistic characteristics she may or may not have inherited from her father (“Mathematical Education” 226). Isaacson, for instance, writes that “Lady Byron wanted to make sure that Ada did not turn out like her father, and part of her strategy was to have the girl rigorously study math, as if it were an antidote to poetic imagination” (*Innovators* 13). She wanted her to become “a mathematician and scientist, not a

poet like her father” (Toole, *Ada*, *Selection* 11). Lovelace thus owes her mathematical and scientific training to her mother, who provided her with this for a girl of her time unusual education. However, writers regularly place the reasons behind it with the father; while her interest and ambitions in science and mathematics clearly distinguished her from the Romantic-era poet, they were and still are closely connected to her paternal heritage. The problem here is not only that it spreads the common idea that any woman owes her achievements in the end to some man in her life (cf. Wagner-Martin 23), but that it gives laurels to someone who had in fact little to nothing to do with her accomplishments. Lovelace’s achievements as a woman in science were not only remarkable on their own terms but are perhaps even more so because they were made possible by another woman, her mother, who had been a mathematician herself. Byron had played no part in Lovelace’s education and her later accomplishments in science and mathematics. It was her mother who had a much stronger influence on her life and who is the one responsible for her education before and at the time she had met Babbage (Fuegi and Francis 17). However, not only the development of her initial scientific and mathematical curiosity, also her later passion about Babbage’s Analytical Engine is attributed to her roots as Byron’s daughter, Blair observes (17-18). As I have pointed to earlier, Lovelace’s greatest achievement, in addition to the first computer program, was her visionary ability to understand the revolutionary character of the Analytical Engine as a general-purpose computer. In this, she surpassed Babbage the inventor who mainly saw it as a calculating machine. This, too, she apparently inherited from her father. It is only when “aligning head and heart” (Blair 17), e.g., when combining the creative and imaginative faculties which her mother had sought to extinguish all her life with her mathematical and scientific expertise that she was able to see what Babbage could not. For Lovelace, “imagination was the key,” Toole writes (“Analyst” 8). She considered it “useful not only to poets but to scientists as well” (Toole, “Analyst” 9). This shows how much “[s]he was her father’s, as well as her mother’s, daughter: the role of imagination was critical to her understanding of science” (Toole, *Ada*, *Selection* 134). This implies that in a way he had been instrumental for her successes. Lovelace’s story is indeed a prime example of the ways in which biographies often still frame women’s achievements in terms of male influence, “as if responding to the unasked question, What man is responsible for this woman’s accomplishment” (Wagner-Martin 23). While the interpretation of Lovelace’s scientific abilities and achievements as the consequence of her poetical heritage, the power of imagination she had inherited from her father, still dominates the cultural narrative of her story, scholars have also made other suggestions. The (computer) scientists Coe and Ferworn present a different theory when they argue that Lovelace’s visionary powers, her aptitude to see beyond traditional frameworks to understand and communicate what the Analytical Engine was and could do, were “the unintended consequence of her exclusion from the standard approaches to learning and teaching” (46). While Lovelace never met her father, he continues to determine the cultural reception of her story, also in Chiaverini’s biofictional account of her life.

### 3.4.4 “And Why Should I Not Write My Life?” Bringing Lovelace from “the Margins and Footnotes” of the Historical Narrative “to the Forefront of the Story”<sup>57</sup>

Encompassing more than thirty novels, Chiaverini’s literary work includes many (bio-) fictional narratives which herald individual or collectives of important and influential women neglected or marginalized by traditional androcentric history and which seek to bring their stories to life and make them accessible to contemporary and general readerships.<sup>58</sup> Chiaverini has found her new literary passion in writing about the contributions that women have made to history throughout the centuries, in revealing the stories of the many unsung heroines whose struggles and successes have never been adequately represented. “I really enjoy writing novels about women who have made extraordinary achievements or who are extraordinarily gifted in some way but maybe in the present day we have forgotten their stories or they weren’t really told beyond their own lifetimes,” Chiaverini explains in an interview (qtd. in Leahy). *Enchantress of Numbers* forms part of Chiaverini’s revisionist project of bringing “little-known or forgotten historical figures” from “the margins and footnotes” to “the forefront of the story” (Chiaverini, *Enchantress* 427). Announced in the blurb on the dust cover as the story of “a largely unheralded pioneer of computing,” *Enchantress of Numbers* is clearly marked by the desire to shed light on the life of a woman (too) long overlooked by traditional male-centered history. As I have pointed out in the introduction of this chapter, Chiaverini’s herstorical desires are twofold: Aware of the scholarly debate surrounding Lovelace’s role in the history of computing, she wants to set the record straight, as she explains to her readers in the author’s note:

Many scholars believe that the algorithm Ada wrote instructing the Analytical Engine to generate a table of Bernoulli numbers should be considered the first computer program, making her the first computer programmer. Others dispute this characterization, or they agree that the algorithm is indeed an early computer program but they give all the credit to Babbage. Either way, it should not be denied that Ada possessed a vision of what calculating engines could do that far surpassed that of any of her contemporaries, including Babbage himself. (*Enchantress* 426)

---

57 Chiaverini, *Enchantress* 40, 427.

58 Among them are several novels based on the life of first lady Mary Ann Todd Lincoln (1818-1882) and those around her, *Mrs. Lincoln’s Dressmaker* (2013), *Mrs. Lincoln’s Rival* (2014), and *Mrs. Lincoln’s Sisters* (2020), and one about first lady Julia Grant (1826-1902) entitled *Mrs. Grant and Madame Jule* (2015). Other examples include: *The Spymistress* (2013) about American abolitionist, philanthropist, and Union loyalist Elizabeth Van Lew (1818-1900), *Resistance Women* (2019) about a circle of Berlin women friends waging a clandestine battle against Adolf Hitler during the Nazi regime in Germany, *The Women’s March* (2021) about women active in the 1913 women’s suffrage movement. Most recently, she published *Switchboard Soldiers* (2022) about a group of women serving as telephone operators in the US Army Signal Corps during World War I, and *Canary Girls* (2023) about women and girls working in munitions factories in Great Britain in WWI to build weapons for the front.

The self-declared goal of the author in the present novel is to give her chosen female protagonist long overdue recognition for her intellectual aptitudes and scientific accomplishments. Chiaverini opposes those who dismiss or deny the pioneering contributions Lovelace had made to computer science by giving all the credit to Babbage (*Enchantress* 426). In her view, many rightly revere Lovelace's contributions to computer science. In addition to appreciating Lovelace's abilities and achievements, presenting her (female) readership with a positive female role model that disproves girls' and women's apparent lack of interest in technology is another goal she is pursuing with her biofictional account of Lovelace's life, as was already alluded to ("Seven Questions"). Indeed, her efforts are not only driven by a sense of justice, but also by the urgent need to create role models and break down stereotypes which, to this day, often prevent girls and women from entering the sciences in the first place. The importance of female role models is also thematized in the novel itself by means of Ada's relationship with Mary Somerville. The fictional Ada explains that "Mrs. Mary Somerville was a renowned mathematician and astronomer, and [she] had long worshipped her from afar. Her mathematical papers revealed true genius, a marvelous insight and depth of understanding that rendered [her] awestruck. [She] absolutely revered her as the model of the sort of mathematician and scientist [she] hoped to become" (*Enchantress* 182-183). This relationship is paralleled by history. The Scottish mathematician Somerville had been a role model that Lovelace had looked up to. According to Hoffmann, Somerville, the 'Queen of Science,' was the kind of mathematician whose achievements Lovelace had hoped to emulate one day (40). Like Somerville had been an important and inspirational role model for Lovelace, so Lovelace is seen by Chiaverini as a role model for present-day girls and women in the sciences. Hence, for Chiaverini, Lovelace deserves the spotlight put on her with *Enchantress of Numbers* not only because of her groundbreaking contributions to computing but, furthermore, because of her part as an important and inspiring female role model, a significant counter-example of historical women's often denied or downplayed achievements and abilities in STEM.

To captivate the lived experience of Lovelace's life, Chiaverini blends factual knowledge with creative invention. "*Enchantress of Numbers* is a work of fiction inspired by history," the author notes in the acknowledgements alluding to both the fictional nature of the literary work at hand and its rootedness in historical facts and the biographical details of her chosen heroine's life and times (*Enchantress* 427). *Enchantress of Numbers* imitates the conventions of the genre of autobiography; it pretends to be Ada's authentic life story. However, various (para-)textual elements inform the reader about the referential status of the presented story as fiction. For instance, the subtitle and indication on the front cover which mark the work at hand as *A Novel*, as does the author's very own definition of the narrative in the acknowledgments section. *Enchantress of Numbers*' cover, Margaret Sarah Carpenter's oil-painting Portrait of Ada Lovelace from 1836 and thus an actual image of the chosen historical figure, reinforces the novel's rootedness in the biographical details of a real-life character. Indeed, despite its status as a work of creative art rather than historiography, Chiaverini's *Enchantress*

*of Numbers* is well-sourced and based upon a great deal of solid research and historical evidence into the heroine's biography and the historical circumstances of her existence. Judging from the extensive list of sources the author provides in the acknowledgements, Chiaverini's research into Lovelace's life and times was truly voluminous. She lists many of the major biographies on Lovelace herself as well as the people around her, especially her parents and Babbage (*Enchantress* 431-433). Chiaverini even appears to have familiarized herself with the locations and visited some of the places where Lovelace used to live, immersing herself even more fully into her chosen subject's life ("Seven Questions"). The amount of research she put into her chosen heroine's life is not only visible in the accurate ways in which she presents Lovelace's life but also in the way in which she makes the culture of Lovelace's time, early Victorian-era England, come to life in her biofictional narrative. Like many writers of historical biofiction, Chiaverini is keen on emphasizing the authenticity, reliability, and thus information value of the presented story. While the novelist admits to having made use of her poetic license, to have taken some liberties "with lesser-known historical figures and situations," she assures her readers that "where significant events and people are concerned" she tried "to adhere to the historical record as closely as [she] can" (*Enchantress* 427). Like all authors of biographical fiction, Chiaverini respects the documentary evidence available while also feeling free to involve her imagination from time to time to enhance the narrative with additional plot lines, invented characters, and possible events and thus present her readers with her own view on and interpretation of the chosen subject's life. She also promises her readers that "Whenever I invent such scenes, I do my best to remain true to what I know of the real, historical people while scripting imagined lives to depict all that I don't know" (*Enchantress* 427). Writing fiction and not history or biography allows her to fill in with creative invention the existing gaps in the historical record which are often especially pervasive in the case of female figures as "women's documents were often not seen worthy of preservation" (Charman-Anderson, "Simple Solution" 3). Admittedly, in contrast to other women featuring in this study, like Anning or Marić, Lovelace's life is comparatively well recorded, even though only "a fraction of Lovelace's documents" still exists today, as Charman-Anderson points out ("Simple Solution" 3). Toole notes that Lovelace "wrote thousands of letters, enough to fill many volumes" (*Ada, Selection* 16). Some of her writings have survived and can be found as part of the 'Babbage Papers' which are now on deposit in the British Library in London, the 'Somerville Papers,' and the 'Lovelace Papers' which are both on deposit in the Bodleian Library at the University of Oxford (Stein, *A Life* xi). While she evidently does not belong to those historical women who have left behind few or no traces in the archives of history, even in a well-recorded life like Lovelace's there are some blank spaces that need to be filled with artistic imagination. As is common among writers of historical and biographical fiction, Chiaverini uses the acknowledgements section to live up to the "ethical responsibility for disclosure and transparency" (Chappell 14) and untangle some of the artistic liberties she took in recounting Lovelace's story (Chiaverini, *Enchantress* 427). Since Lovelace's life is well documented, her motivation in

combining fact and fiction stems less from a need to compensate for a lack of material. Her desire is to access her subject's mind and heart, to use fiction to enrich the agreed-upon facts with emotional and intellectual detail, to evoke a sense of the protagonist's inner life. This biographical fiction might also be termed a 'fictional biography' à la Schabert as it appears to use fiction mainly to compensate for lack of facts to obtain a comprehensive and complex image of its subject. In *Enchantress of Numbers*, Chiaverini uses her poetic license and allows her readers to delve into her protagonist's mind and heart, which is not always possible despite the vast amount of existing material and surviving letters in her own hand as well as those of her relatives. After all, "the historical record is especially incomplete where intimate conversations and private thoughts are concerned," she explains in the acknowledgements defining (and perhaps defending) the use of fiction in this fact-based account of her subject's life (*Enchantress* 428).

Chiaverini's herstorical ambitions of giving voice to a woman rendered voiceless by history clearly manifest in her chosen narrative situation. Blurring the genres of history and biography with fiction, Chiaverini does tell her story not only from her chosen heroine's (alleged) perspective but with her (alleged) voice. The preposition 'of' in the subtitle of the novel "A Novel of Ada Lovelace" might be read as suggesting that *Enchantress of Numbers* is not only about her as a subject but also written and/or told by her. As I have pointed out earlier in this study, in herstorical biofiction, women's marginalization in and at times even complete exclusion from traditional male-centered historiography is not only redressed by their centralization as protagonists of the presented stories and their subsequent move from the margins and footnotes of the historical narrative into the center of literary attention. The employment of the chosen female protagonists as the narrators of their own stories frequently supports the feminist goal of rewriting androcentric history from the neglected and omitted perspectives of women in female-centered biographical fictions. The revisionist ambitions underlying the genre of herstorical biofiction are often apparent on the level of both story and discourse. The narrative privileges of the novelist as opposed to historians and biographers allow Chiaverini to not only reimagine her chosen heroine's personal memories, secret desires, and undisclosed longings, but also provide the opportunity to have readers see the world through the chosen subject's eyes and even listen to her voice. Structured into thirty-two chapters, including a prologue and epilogue, this character-driven biographical novel is largely written in the style of an intricate and intimate fictional autobiography, apart from the opening which chronicles the events preceding and leading to her birth which is the meeting, courtship, and marriage between her parents from a third-person viewpoint. Here, the protagonist retrospectively recounts, from the hindsight awareness of the narrating I, the story of her own life from her supposedly own viewpoint and with her supposedly own words. Neumann and Nünning point out that "[i]n fictional autobiographies (which often display generic features of the bildungsroman), the first-person narrator looks back at his/her life and tells the story or crucial elements of the younger experiencing I" (84). Of course, the words spoken are not Ada's; they are Chiaverini's, even if the author bases them upon letters written by Lovelace. Readers who are familiar

with Lovelace's letters will notice that she at times quotes from them verbatim.<sup>59</sup> The ways in which Ada thinks and speaks in the novel reflects the style of her letters; the author does a good job in mimicking the subject's voice, there is no break between invented and actual words in the narrative.

Chiaverini's feminist intention of making sure that her chosen heroine receives her due is also the fictional Ada's own motivation for writing the memoir about her life. For Ada, this memoir seems to be a way of inscribing herself into the historical narrative, into scientific discourse, and cultural memory to not be forgotten, to secure her scientific legacy: "This narrative will survive me, as will my Notes, and when Mr. Babbage finally realizes his magnificent dream, my contributions also will be celebrated" (Chiaverini, *Enchantress* 421). This act of self-representation is feminist in nature. One can read the novel as an act of empowerment for a woman silenced and sidelined by historical discourse, perhaps an act of emancipation from the many negative voices that have been put forth about her achievements and abilities. Ada here reacts against the official biographical record, which has defined her story thus far reclaiming her story. In and with *Enchantress of Numbers*, Chiaverini gives Ada the chance to claim historical visibility and cultural notability for her life. Nonetheless, the chosen genre of fictional autobiography with its focus on Ada's inner life, her transformation, comes with one major difficulty and that is that it often suffers from an emphasis on telling rather than showing. And such is the case here as Ada reports what happened, but readers never really witness it unfolding on the page. There is little action in the novel and more Ada's reflection and contemplation of her life. This also means that there is no building climax in the story and little tension.

Compared to other examples of herstorical biofiction discussed in this study, *Enchantress of Numbers* includes moments in which it departs from the realist narrative flow. Calling it a 'fictional meta-autobiography' (Nünning, "Meta-Autobiographien" 35) would clearly be going too far. However, this 'classical' or 'traditional' fictional autobiography includes elements of metaization in which the protagonist and first-person narrator is shown to reflect upon the conventions and conditions of autobiographical writing, the process and problems of the retrospective reconstruction, recreation, and narrative representation of the course of a life, especially the origins and reliability of as well as gaps of (one's own) memories (Nünning, "Meta-Autobiographien" 41). The passage in which Ada comments on the difficulties of recollecting one's own past, espe-

---

59 In *Ada, the Enchantress of Numbers – A Selection from the Letters of Lord Byron's Daughter and Her Description of the First Computer Program* (1992), Betty A. Toole has published some of her letters. Based on selected examples of the writings by her and to her that are now housed in various public libraries or private collections, this is an invaluable source for all those in search of her thoughts, feelings, and perceptions – as well as her voice. Chiaverini herself relied on Toole's publication, as she reveals in the list of her most important sources in the acknowledgements section at the end of the novel (*Enchantress* 431-432).

cially when it comes to narrating one's baby- and childhood, a time far removed from the moment of writing, exemplifies this:

Obviously, I have no firsthand experience of the years that preceded my birth, and I will not pretend to remember the contentious events of my infancy. Instead, this account of my parents' courtship, marriage, and separation and my own earliest years is comprised of facts I learned later: tantalizing details revealed by my mother, Lady Byron; glimpses of unattended papers not meant for my eyes; servants' gossip overheard in the corridors of my grandparents' palatial home at Kirkby Mallory; and detailed accounts Lady Byron painstakingly composed for her lawyers. (Chiaverini, *Enchantress* 39)

Although the novel is self-reflexive at this point, the problems of remembering, reconstructing one's own past, and the need to draw on different sources are not addressed further in the novel. Overall, the desire for a linear, realistic narrative representation of the past dominates, not the thematization of the difficulties that accompany this endeavor. Asides like these are mainly used by the narrator to justify and legitimize what is a problematic aspect in this novel, namely the heroine's ability to recall, in very exhaustive ways, various moments from her earliest infancy and childhood and even events preceding her birth, which despite attempted explanations like these just do not always ring true. A telling example here is, for instance, the memory she has of a cathedral she visited with her mother when she was but a few months old. Though she is aware that readers "may protest that at six months of age I would have been too young to recall it," she provides a detailed account of the tour she took around the premises (Chiaverini, *Enchantress* 47-48). Another, even more problematic case is Ada's memory of how the breastmilk of her mother suddenly tasted differently after she left Byron: "I discovered that my mother's milk was sweeter, richer, and more abundant than ever, and as I regained my strength, I, too, flourished" (Chiaverini, *Enchantress* 41). How could she possibly remember this, or, if she relies upon other people's memories here, whose could it possibly be? Though instances like these are few and therefore do not really bother one, they make one wonder if Chiaverini would not have preferred using a third-person rather than a first-person viewpoint in this novel.

Chiaverini's fictional narrative covers almost the whole life story of the female figure presenting it chronologically year by year until arriving in the present day, the moment of writing her life. While *Enchantress of Numbers* covers Lovelace's entire life, there is a strong focus on her early life, her childhood and youth, while her later life, her adult years, only contribute a smaller part of the storyline. In keeping with the convention of autobiographical writing that one cannot tell the story of one's own passing from this world, the novel ends shortly before Lovelace's death which the reader only learns about in the afterword. Despite "uncanny powers of perception, understanding, and synthesis," which Ada claims to possess, like any mortal being, she cannot look "beyond the frame that encloses [...her] own life" (Chiaverini, *Enchantress* 39). Boldrini notes, "[a]utobiography, by its own nature, is always incomplete, because the only autobiographical statement that would complete it, 'I am dead,' is the one impossible assertion that cannot be uttered as a literal, autobiographical statement" (*Autobiographies of Others* 3). While it is true that the heroine could not have narrated the story of her own

demise, also the last months, which she spent bed-ridden with pain in the care of her family, are left out here. The story cuts off rather suddenly for those familiar with its entirety. The intention behind this narrative decision to close the novel shortly before her death might reveal the author's wish to give her subject a moment of triumph in the end of her life, to end in the moment when she finally discovers her own self and frees herself from her mother's oppression, which is an aspect I will discuss in the last subchapter. A heroine who "suffered agonizing pain that not even high doses of laudanum could entirely assuage" (Chiaverini, *Enchantress* 423) might also be seen as counterproductive to the feminist goal of providing her readers with a positive female role model. This novel does not want to portray her as a tragic character though she certainly might be considered one due to her early death and the fact that "she never had the chance to discover the fullness of [her] energy and power," as Chiaverini laments in the author's notes (*Enchantress* 426). Though unaware of the imminence of her passing from this world, in the novel a thirty-five-year-old Ada feels compelled "to take pen in hand now rather than wait until [...] [she is] white-haired and wizened" and "set down this memoir" (Chiaverini, *Enchantress* 40). While "[her] health has not been particularly worse than usual," she claims to have "been plagued by disturbing suspicions that [she] may draw [her] last breath sooner than [her] doctors will admit" (Chiaverini, *Enchantress* 40). Chiaverini's intention to make Ada an inspiring role model that present-day girls and women can identify with might very well be the reason why *Enchantress of Numbers* also largely glosses over or just briefly alludes to some of the more problematic and unflattering aspects of Lovelace's story, which make her more difficult to like. Her "'dark side' of alcohol and drug use, gambling addiction, debt, and love affairs," which according to Hartmann so many of her critics have often stressed (17, 20), barely surfaces in the story. Ada fleetingly refers to her "dangerous habit" (Chiaverini, *Enchantress* 398) of gambling, especially her penchant for horseracing, and the subsequent financial problems, such as debts, that befell the family (Chiaverini, *Enchantress* 398-399). She also briefly mentions her illness-driven addiction to chemical substances, mainly the opium-based medication laudanum (Chiaverini, *Enchantress* 364, 395-396, 421). What Chiaverini omits completely from her biofictional narrative is the scandal around the rumored infidelities and extramarital affairs Lovelace apparently entertained. She supposedly confessed these on her deathbed (Swade 171). Including these aspects would have meant presenting the reader with a heroine who faced serious troubles in her life and who had many weaknesses. Chiaverini's authorial decision to at best hint at these aspects of her life in passing (some are briefly mentioned in the author's notes) might be understandable given her feminist intention to celebrate her chosen heroine and use her story to counteract negative voices about women and/in science. However, this selectivity certainly evokes a sense of incompleteness with readers who are familiar with the whole story, and it ultimately prevents its audience from obtaining a full picture of her life.

### 3.4.5 “A Mathematical Fairy Weaving Magic with Numbers and Words”<sup>60</sup>: Rightening the Record about Her Scientific Abilities and Achievements

When it comes to Lovelace's scientific achievements and abilities, descriptions of her fall into different extremes, as I have alluded to in the previous subchapter. To some, she is “the most overrated figure in the history of computing,” “a manic depressive with the most amazing delusions about her own talents and a rather shallow understanding of both Charles Babbage and the Analytical Engine” (Collier qtd. in Swade 168). Others have stylized her as “a female genius” (Essinger, *Female Genius*), “the enchantress of numbers” (Toole, *Ada, Selection*), “the bride of science” (Wooley), “prophet of the computer age” (Toole, *Ada, Prophet*), “computer wizard of Victorian England” (Lethbridge), the person who “launched the digital age” (Essinger, *Ada's Algorithm*) (cf. Klein, “Conceiving Ada” 278, Hammerman and Russell 2). *Enchantress of Numbers* presents the idea that Ada did make a substantial contribution to science in the form of the world's first computer program ever written and published. Though only briefly, as less than twenty pages of this over four-hundred-pages-strong novel are devoted to her now-famous paper, from its conception to its completion, and relatively late in the story, *Enchantress of Numbers* details Ada's collaboration with Charles Babbage, including the idea formation as well as writing and publication of her paper on the Analytical Engine. Early in the novel, Ada falls in love with the Difference Engine and then later the Analytical Engine, which she considers “a marvel of technology” (Chiaverini, *Enchantress* 379). She is convinced of the significance of Babbage's invention, that “the Analytical Engine was too important, too revolutionary, to let it remain merely a brilliant but unrealized idea, merely ink on a page” (Chiaverini, *Enchantress* 380). Recognizing its revolutionary character, Ada wants to help Babbage secure government funding to build it and offers her support if ever he should require her services. Eventually, Charles Wheatstone suggests that she could help Babbage in his dream of building the Analytical Engine by translating the Menabrea paper into English, an idea that Ada immediately welcomes. When she tells Babbage about her translation of Menabrea's piece, he puts forward the idea that Ada should write an original paper on the subject based on her own observations as she is “so intimately acquainted” with the Analytical Engine (Chiaverini, *Enchantress* 375). After some hesitation given that women did not usually publish scientific papers of and on their own at the time, she takes on the challenge. Feverishly, she begins to work on her Notes sending them daily to Babbage for commenting who has only praise for her.

In presenting Ada's writing process, Chiaverini frequently and freely quotes from the many letters that Lovelace and Babbage wrote to each other at the time (see Toole, *Ada, Selection* for some of their actual correspondence). She also includes passages from the actual Translation and Notes. The narrative strategy of making use of the chosen subject's very own words, here and there fusing the fictional Ada's narrative with the actual voice of the historical Lovelace, certainly adds layers of authenticity and accuracy

---

60 Chiaverini, *Enchantress* 380.

of what Chiaverini presents through the lens of literature. However, this feeling of authenticity and accuracy might only arise in readers who are familiar with Lovelace's personal and professional writings and who thus recognize Chiaverini's use of verbatim quotes in the story. The author marks these passages in the narrative using quotation marks. Nonetheless, she does not provide any foot- or endnotes in the novel or explanations in the acknowledgments section that would direct the readers' attention to the original sources not to mention raise their awareness for these passages not springing from the author's own mind in the first place. In presenting her work in her own words in two ways, from the fictional Ada's first-person viewpoint and, from time to time, in the historical Lovelace's actual voice as emerging from her letters and her scientific publication, the novel leaves no doubt about its chosen subject's abilities and her authorship of the Translation and Notes. Babbage helps her; he encourages her to add her Notes to the mere Translation of the text. However, there is no doubt that she is the sole author of this paper and the algorithm for the computation of Bernoulli numbers. She is also the one who thinks of the Analytical Engine as more than a mere calculating machine. In an interview, Chiaverini explains that she derived her assessment of Ada's accomplishments from the available historical evidence:

A lot of her achievements have been overshadowed by Charles Babbage, the inventor of the machine. And some people attribute her achievements to him. But if you go back and look at their letters – which I did – it's very clear that Ada is the one who came up with this algorithm, and she imagined potential for these devices that Charles Babbage himself marveled at. (Qtd. in Leahy)

With *Enchantress of Numbers*, Chiaverini strongly contradicts the negative assessments that some have voiced about Lovelace's abilities and her achievements.

What is disappointing is that Chiaverini does give readers only a very superficial idea of Ada's scientific aptitudes and accomplishments. While the level of detail Chiaverini puts into the depiction of Ada's everyday life is high, this level of detail is clearly missing when it comes to Ada's mathematical ideas and insights. One might explain this with the audience the novel targets. Roslynn Haynes has written about the challenges that authors of novels about science, and this includes biographical science novels about real-life scientists from the past, face in terms of balancing scientific thoughts and theories and the creation of an engaging story for a non-scientific readership (127-148). Haynes characterizes the genre of the science novel as ideal "to convey the felt experience of scientific research" (129). Writers of novels can delve deep into their scientific characters' inner world, revealing their feelings, thoughts, and perceptions. In doing so, they can show "the excitement of pursuing an idea, the physical and mental risks that may attend that pursuit, the long periods of frustration, boredom and inactivity; the not infrequent sense of failure when one's research or theory is rejected or, worse, ignored, and the subsequent depression or madness" (Haynes 145-146). However, novelists must present the scientific aspect in a way that is appealing to a non-specialist readership, a readership that might have little knowledge of and perhaps little interest in the actual scientific work performed by the chosen subject (Haynes 129). This may result in the

author's decision to reduce the science and instead focus on a different part of her story. Bethany Layne has observed this for the (sub-)genre of 'literary biofiction.' She notes that there is an "incongruity of writing about a highbrow subject in a popular form" ("Biofiction and Writers' Afterlives" 6-7). Some writers resolve this by "flattening the literary aspect of their narratives" and instead emphasizing other aspects of the chosen person's life for instance the personal life (Layne, "Biofiction and Writers' Afterlives" 7). The lack of scientific detail might also have to do with the fact that Chiaverini is not a scientist herself. Norbert Schaffeld points to how the depiction of science in fiction does not only depend on the intended readership but also on the scientific competence of the author ("Science Novel" 122). While this is pure speculation, Chiaverini might not have felt comfortable with delving too deep into the mathematical ideas and insights of her chosen subject.

However, Chiaverini does provide her readers with a sense of what it was like for Ada to do mathematics and science. Readers surely get an idea of the excitement and curiosity that Ada feels towards science, mathematics, and especially Babbage's engines – though here again the novel clearly suffers from too much telling rather than showing. At various instances, Ada expresses her great love of science, especially her devotion to mathematics, how she "delighted in solving problems," which to her "are entertaining little puzzles" (Chiaverini, *Enchantress* 129). She also expresses her exhilaration and exhaustion in writing her paper. Later, the readers also hear of the frustration and disappointment she experiences when the scientific community rejects her paper once they learn of the female gender of its author (Chiaverini, *Enchantress* 394). Ada also reports her sense of betrayal and loss when Babbage refuses to continue their scientific partnership after their disagreement resulting from his attempted abuse of her name and work for his personal vendetta against the British government (Chiaverini, *Enchantress* 386-395). However, readers of *Enchantress of Numbers* never see Ada in the act of *doing* mathematics, to perform the intellectual labor involved in the writing of her paper and the calculations she does. While its chosen perspective structure and narrative situation would have made it possible for the readers to witness Ada's mind at work, to integrate what Haynes calls the "'science experience'" (129) into the story, the novel clearly lacks moments in which its female protagonist engages in scientific thinking and the performance of mathematical activities, e.g., calculations or the like. They do not really witness her *at work* as a mathematician and scientist despite science and mathematics being her favorite occupations. Moreover, the novel keeps her insights at a very basic level. The author does give the reader little in terms of the science itself. As professor of mathematics Alex Kasman points out in his online review of *Enchantress of Numbers*, "it is not possible to learn any specific mathematical ideas or results from reading this book [...]. (A reader will know no more about the uses of or mathematics behind Babbage's 'engines' after reading this book than before.)" This is disappointing especially for a novel that seeks to celebrate an unheralded pioneer in computing, that wants to encourage girls and women to consider entering the fields themselves.

What is more is that, given its perspective structure, the importance and influence of her paper for the computer revolution of the mid-twentieth century remains naturally under-discussed. While the first-person-narrative situation allows readers to share Ada's experiences and perceptions, to imagine what it must have felt like to be her, this perspective structure is rather limiting when it comes to assessing the significance of her work since her Translation and Notes and Babbage's machine would only become truly relevant a hundred years later. Ada suspects this in the novel saying that "[o]urs was a false dawn, a soft, brilliant glow that swiftly faded, but eventually day would break in truth, and our sun would rise and it would shine more brightly than either of us could imagine" (Chiaverini, *Enchantress* 421). Ada is convinced of the importance of their work on the Analytical Engine which is quite ahead of their time. She hopes that sometime in the future people will recognize its true meaning. Nonetheless, readers who are curious about the course that Babbage's inventions and Lovelace's observations and ideas about it would take and the influence they would have on the present-day computer revolution will have to turn to other sources of information than this biographical novel. Despite these shortcomings, it seems beyond dispute that Chiaverini seeks to honor Lovelace as the first programmer and an early visionary in computer science with this literary portrait.

The title of the novel goes back to a statement by Babbage: "[...] forget this world and all its troubles and if possible its multitudinous Charlatans – everything in short but the Enchantress of Numbers," Babbage wrote about Lovelace in a letter to her dated September 9, 1843 (qtd. in Toole, *Ada, Selection* 236). This letter is included in the novel and the endearment flatters Ada (Chiaverini, *Enchantress* 392). Though apparently meant as a compliment, it places Lovelace into a clearly gendered role reiterating other representations of women in the cultural narrative of science history, as briefly alluded to in Patricia Fara's *Nature* paper entitled "Weird Sisters?" (2013) where she refers to a continued existence of stereotypes in biographical portrayals of historical female scientists – often already in the given titles (43-44). The image of Ada emerging from this herstorical biofiction is that of a woman of imagination and intelligence, a curious and hard-working girl with an unquenchable thirst for knowledge and eagerness to learn. Thanks to the privilege of her birth and the first-class education she receives and despite constant setbacks by frequent periods of illness, during which she is advised to cease studying, Ada develops into a profoundly talented female scientist. Chiaverini's Ada is mathematically gifted and possesses a spark of scientific genius, which finds expression in her 'Great Work.' Though self-confident and proud, she is not delusional, as some of her critics have claimed. She is very ambitious with professional aspirations of her own, in fact, she longs for "a true mathematical career," to be "the next Mrs. Somerville" (Chiaverini, *Enchantress* 374, 194). With her paper, she wants to help Babbage secure funding for building the Engine. Her efforts at helping Babbage's cause are not completely altruistic in nature, however. She also longs to make a name and set off a scientific career for herself by means of her contribution to his work. She is aware that no one, in some aspects not even Babbage himself, professes a greater understanding of

the Analytical Engine than she does (Chiaverini, *Enchantress* 384). Established male scientists do not only believe her to be “the most qualified person to translate [Menabrea’s paper] into English” (Chiaverini, *Enchantress* 373) but to enrich it with her own thoughts and observations. Nevertheless, there is a clear hierarchy in her relationship to Babbage. Though he treats her with respect and while he is shown to appreciate and admire her abilities, he also assumes that she would submit her own career aspirations to his ideas and, especially, his political views. While Ada is always on his side and supports him, when he threatens her own professional ambitions because of his problems with the government she stands up for herself. She speaks up to Babbage when he intends to add to her publication an unsigned preface in which he criticizes the lack of governmental support for his Analytical Engine. She does not let herself be put to his use here, she does not let him endanger or even jeopardize her career during his personal problems. She holds her ground against an established male scientist, as she did in history. Ada is characterized in the novel by her high level of mathematical competence. She emerges as a woman who does not let the gender conventions of her time restrict her in her dreams of finally achieving “the Great Work that would advance human understanding and enshrine [her] name among those of the greatest scientists, philosophers, and mathematicians of [her] generation” (Chiaverini, *Enchantress* 376). However, she always positions herself in a secondary role. To Babbage, she describes herself as “a mathematical fairy weaving magic with numbers and words,” “the high priestess of his Analytical Engine” (Chiaverini, *Enchantress* 380, 395), defining their relationship as unequal: he the genius inventor, she the fairy supporter. While such descriptions result from the historical figure’s very own writings (cf. Toole, *Ada, Selection* 202, 204) and while they might simply reflect that Ada had internalized the patriarchal thinking of her time and place, this makes it certainly more difficult to see her as a role model, a woman who did not take herself seriously but described herself as a fairy and priestess. With reference to Hoffmann, I have already pointed out that women sometimes did this consciously, that it was a strategic placement in the academic structure that enabled women to appear gender-conforming or at least more gender-conforming than they were with their ambitions and activities (53-54). But this is not what the novel shows. We do not see any strategic reflection here in the sense of a questioning of gender role expectations, although the format of the fictional autobiography would certainly have allowed for this. This should not suggest that Ada is unaware of the gendered constraints of her life. Ada’s awareness of social conventions and her strategic questions regarding her gender and her opportunities to participate in scientific discourse are shown by her considerations regarding the question of how she should publish her article, i.e. under which name, to let it shine in its scientific quality without her name diminishing its value. The concern is fed by two sources, the surname Byron and her first name as a marker of her female identity. As a woman she is not granted the same kind of “authority and credibility” (Troemel-Ploetz 423) as her male colleagues, which is why she decides to only use her initials in the first place to avoid discussions about the author’s gender and to

protect from be regarded as a curiosity because it had been written by Byron's daughter (Chiaverini, *Enchantress* 383).

Portraying her enormous talent for mathematics and her eventual collaboration with Babbage, Chiaverini's biographical novel does not fail to expose the challenges and constraints an upper-class woman like Lovelace faced venturing into the male-dominated world of nineteenth-century British science. *Enchantress of Numbers* addresses several gendered obstacles encountered by the protagonist providing its twenty-first-century readers with a sense of what life must have been like for a scientifically inclined woman in Lovelace's day. As is typical in the other female-centered biographical novels selected for this study, Chiaverini displays her chosen heroine as determined by the gender conventions of her time and place. Ada knows her interest in science and mathematics is something that "another less intellectual, less progressive family would have encouraged in a son but disapproved of in a daughter," that "many consider it a peculiar interest for a young lady" (Chiaverini, *Enchantress* 86, 233). It was "the learning of languages as well as sewing, cooking, painting, and playing the pianoforte, which were considered the usual assortment of feminine accomplishments" (Chiaverini, *Enchantress* 238). Ada comes to appreciate how forward thinking her mother is who encourages her to study and learn: "[N]o one in my family had ever insisted that certain subjects were better suited for boys than girls" (Chiaverini, *Enchantress* 239). Even though Ada enjoys many privileges thanks to her family background, she is severely constrained by her female gender when it comes to scientific endeavors. The gender bias existing finds expression in the (pseudo-)scientific theories used to keep women away from serious study and especially science. Lovelace lived in a time and place where people believed that rigorous study was too demanding for the female mind and body (Swade 156). The novel refers to some of the ideologies that questioned women's capabilities for scientific creativity and work. It shows Ada being confronted with from today's perspective clearly sexist medical discourses that saw rigorous intellectual activity as potentially dangerous to women's physical and mental well-being. The fictional Mary Somerville explains why her parents refused to let her study: "[My father] and my mother both worried that my health would suffer if I spent long hours poring over books, because at the time, it was believed that the strain of abstract thought would injure the tender female frame" (Chiaverini, *Enchantress* 239). Ada encounters these ideas once again with her own tutor Augustus De Morgan who is reported telling her mother his fear "that [she] was studying too vigorously, and that it might prove injurious to [her] health" (Chiaverini, *Enchantress* 343). He is concerned "that her constitution might not be robust enough to endure the study of mathematics" and worries that she might "collapse beneath the weight of too much laborious cogitation" (Chiaverini, *Enchantress* 343, 344). Though he continues to work with her (and she with him), the novel's De Morgan is not an advocate of advanced education for women, with one exception:

The sixteenth-century mathematician Maria Agnesi, who had been appointed to the University of Bologna by Pope Benedict XIV, might have been – might have been – one remarkable exception, but otherwise such advanced studies were dangerous to the fragile female form. 'No other female mathematician throughout history had wrestled with dif-

faculties and shown a man's strength in getting over them,' he explained. 'The reason is obvious: the very great tension of mind which they require is beyond the strength of a woman's physical power of application.' (Chiaverini, *Enchantress* 344)

Even successful women in science like her role model and mentor Mary Somerville, whom Ada describes as "the greatest female mathematician and astronomer of [her] time" (Chiaverini, *Enchantress* 241), are convinced of the limits of the female sex – much to Ada's frustration:

'I am conscious that I have never made a discovery myself, that I have no originality,' she wrote. 'I have perseverance and intelligence, but no genius.' Later, she added that she suspected that this 'spark from heaven is not granted to our sex. Whether higher powers may be allotted to us in another existence God knows, but original genius – in science at least – is hopeless in this world.' Those words of defeat and resignation, coming from the woman I admired more than any other, dismayed me beyond measure. If she believed she had no genius, no originality, then what hope was there for the rest of us? What hope was there for me? (Chiaverini, *Enchantress* 397-398)

The fictional memoirs' emphasis on the still prevalent discourses that see women, femininity, and math as a contradiction, make Ada's struggle against traditional gender roles and concepts of science undoubtedly relevant for a twenty-first-century (female) readership.

The novel's present-day applicability is equally true when it comes to the challenges Ada faces balancing marriage, motherhood, and mathematics. Her mentor, teacher, and role model Mary Somerville advises the young Ada to make a careful choice when it comes to selecting a future husband, as she herself had not done so. Mary's first husband, even though he "had been well aware of her intellectual interests, after they married, [...] expected her to abandon her mathematical pursuits and devote herself entirely to the duties of wife and mother" (Chiaverini, *Enchantress* 242). When the moment comes for the heroine to fulfill the "duty [...] of all young ladies of rank," namely "to marry and to produce an heir" (Chiaverini, *Enchantress* 267), Ada, keeping in mind the warning from Mary, is keen on choosing a candidate who does not only meet her mother's expectations regarding family title, social rank, and economic situation. She also seeks to find someone who "approve[s] of education for women" (Chiaverini, *Enchantress* 243) and who therefore would be supportive of her intellectual pursuits and scientific interests and not expect her to put them aside upon marriage and dedicate herself entirely to her 'womanly duties.' Luckily, she finds these qualities in William, Lord King, whom she considers "the ideal husband for a mathematical young lady such as [herself]" (Chiaverini, *Enchantress* 283). Like her, "he revered Mrs. Somerville [...] and he denounced it as 'an outrage and a travesty' that the Royal Society proudly celebrated – and tacitly laid claim to – her scientific accomplishments by displaying her bust by Chantry in their Great Hall, and yet would not allow her to become a member or use their library because she was a woman" (Chiaverini, *Enchantress* 279). The novel does suggest a romantic attachment between Ada and William, but it refuses to overstate the case of marriage and motherhood as a source of personal happiness for her. In fact, it shows that Ada does not find fulfilment in the role of mother and wife,

that she longs to be relieved of her duties to study, to have a professional career of her own much like her idol Mary. While marriage frees her from the rules imposed on her life by her mother, married family life comes with other constraints and restrictions, as the heroine soon learns. “[D]omestic cares had made it nearly impossible for me to delve into my intellectual pursuits. Every month I vowed to resume my studies [...] but one by one the days came and went, every hour filled with more immediate distractions, while my books and papers remained untouched,” Ada realizes resignedly (Chiaverini, *Enchantress* 330). Though her status as heiress and the number of servants that come with it certainly put her in a privileged position compared to other women, the socially expected gendered roles of (house-) wife and mother form a hindrance to scientific creativity and work for Ada despite the supportive attitude of her husband. Through its gender-sensitive approach to Ada’s life, Chiaverini shows that she was a woman who overcame great social and personal obstacles in her pursuit of scientific involvement and recognition. Due to its narrative situation and perspective structure, the fact that Chiaverini lets Ada tell her own story, which ensues the need to create a believable voice and perspective for a nineteenth-century female subject, the biographical novel’s degree of critical reflection about the inequality of the sexes is limited, however. Moreover, while Ada’s struggle to reconcile societal expectations of appropriate feminine behavior with her mathematical interests and professional desires are undeniably present in the novel, the identity problem of being a scientifically inclined aristocratic woman in early Victorian Great Britain and with that a critique of the inequality of the sexes in science and society does not represent the main conflict of this biofictional account of her life. *Enchantress of Numbers* is more interested in the influence that her father had on her life and her scientific legacy than in the hurdles she had to overcome on her path to scientific participation, as I will show now.

### 3.4.6 “To Rise from My Own Achievements, Not My Father’s”<sup>61</sup> – Forever Entrapped in the Daughter Stereotype

While the novel questions the critical assessment of her work, it does little to destabilize the cultural memory of her as the daughter of a famous man. In the blurb on the dust cover, *Enchantress of Numbers* is announced as the story of “a young woman who stepped out of her father’s shadow to achieve her own laurels and champion the new technology that would shape the future.” In the novel, the desire for ‘stepping out of her father’s shadow’ and ‘achieving her own laurels’ becomes a strong driving force of the heroine, indeed. The novel dramatizes several moments in which Ada emphasizes that she wants to overcome the unwanted fame cast over her life by her father. She wants to make her own mark in the world, to be known for her own achievements and abilities, not only for being the daughter of a famous man: “I have won no accolades of my own. My only accomplishment so far has been to be cleverly arrange to be sired by the greatest poet of the age” (Chiaverini, *Enchantress* 177). She exclaims, for instance, “I don’t

---

61 Chiaverini, *Enchantress* 233.

want attention simply because of my father” (Chiaverini, *Enchantress* 173). Though she does not reject her identity as Byron’s only legitimate child and, in fact, embraces it at the end of the novel, she longs for public attention and intellectual recognition for her own merit: “I had not earned my small measure of fame for any of my own accomplishments. Mine were borrowed laurels, and they rested uncomfortably upon my brow. I hoped that someday I might earn my own,” she says in the novel (Chiaverini, *Enchantress* 109-110). Aware that as Byron’s daughter she will never escape fame, she wants to be famous in her own right, “to rise from [her] own achievements, not [her] father’s” (Chiaverini, *Enchantress* 233). Against the background of statements like these, it appears surprising that Chiaverini gives Byron such a strong focus in this (auto-)bio-fictional account of her life – much larger than seems suitable given the rather small part he played in the historical figure’s life. Chiaverini admits to a strong fascination with Byron, whom she describes as “a wonderfully compelling and charismatic figure” (“Seven Questions”). In keeping with the historical record, Byron never appears in the story apart from the prologue, which chronicles the events leading to Ada’s birth, namely the courtship, marriage, and soon-thereafter-separation of her parents. However, despite him never again appearing as an acting character, “his presence,” as Chiaverini herself notes, “infuses the entire novel” (“Seven Questions”). Part of the reason for Byron’s strong presence certainly is the author’s (and thus Ada’s) decision to use verses from poems like *Don Juan* and *Childe Harold’s Pilgrimage*, among others, as titles for the thirty-two chapters that structure this fact-based fictional memoir, as readers familiar with Byron’s literary oeuvre will immediately notice. Chiaverini informs readers who are not familiar with his works about the origins of the chapter headings in the acknowledgements section. Here, Chiaverini transparently reveals the exact source behind each line of Byron’s oeuvre that she used in the novel (*Enchantress* 428-431). For Ada, these literary allusions to her father’s poetry function as a filter through which she understands her own life and makes sense of her experience in the world. One might also interpret the use of lines from Byron’s oeuvre in the narrative of her own life as an act of rebellion against her mother. After all, in keeping with the dominant historical narrative, Chiaverini’s Annabella denies Ada to study her father’s poetry for much of her life. “Ada shall not read Byron’s poems when she is able, they shall not be read to her, and they will not be discussed in front of her,” she instructs everyone in whose care she placed her daughter (Chiaverini, *Enchantress* 59). That Ada uses lines from Byron’s poetry in the narrative of her life might also be seen as a gesture of acceptance and perhaps even appreciation of her father who left her and her mother when she was a baby and whom she never met. Chiaverini takes verses mainly from poems in which Byron addresses family affairs. Apart from the poetical brilliance of Byron that is surely reflected in the given lines, this narrative decision unavoidably includes his perspective and perception, his thoughts and feelings about the loss of his daughter and the separation from his wife, into the story. One might also argue that Ada defines herself through her father’s poetry; or rather, that Chiaverini defines her and her life by means of these intertextual references. The inclusion of these literary allusions to her father’s poetry certainly reinforces

the cultural view of her as Byron's daughter. However, it is not only on the level of the paratext that Byron is omnipresent in this novel; it is also on the level of the text itself. In direct opposition to the above-mentioned expression from Ada stand her ongoing thoughts about her father. He is constantly on her mind, even when she is about to embark on her career in science: "I would be an author, I realized, and I could not suppress a smile at the thought. I wondered if my father had felt this same glow of expectation when he learned that his first poem would be published" (Chiaverini, *Enchantress* 374). She is even shown to do her work for him:

I resolved to become as great a mathematician as my father had been a poet, so that I could in some way compensate for his misused genius. If he had passed on to me any portion of that genius, I would use it to bring out great truths and principles. I felt very strongly that he had bequeathed this task on me, and I felt a surge of confidence and satisfaction when I thought that I was performing a sacred, redemptive duty on his behalf. (Chiaverini, *Enchantress* 364)

The main reason why Byron never leaves the page is Chiaverini's decision to make Ada's emotional and intellectual struggle "to reconcile the two distinct parts of her genetic heritage – her mother's logic and reason and her father's brilliant passion" ("Seven Questions") – the central conflict of this biofictional account of her life. The novel introduces this conflict by means of its prologue. Presenting the story of her parents' relationship, the novel shows what has already been stated by some of Lovelace's biographers, namely that Annabella and Byron, "though both members of the British aristocracy, could not have been more different in background, temperament and point of view" (Toole, *Ada, Selection* 3). Having "received an excellent classical education in mathematics, science, and languages," Annabella is viewed as "a prodigy," "fonder of numbers and geometry than passion and poems" (Chiaverini, *Enchantress* 3, 13). A "self-possessed, precociously intellectual heiress" with "a substantial fortune" and royal blood (a descendant of Henry VII), she is "calm, strong-minded, pious, and concerned about the plight of the working poor" (Chiaverini, *Enchantress* 2-3). Byron is quite the opposite. The novel describes him as "the greatest poet of the age," "a genius," "a libertine" with "a reputation for depravity [and ...] madness" (Chiaverini, *Enchantress* 2-3, 10). Annabella and Byron are an "unlikely pair, the passionate, headstrong, irreverent poet and the prim young woman for whom virtue, reason, and self-control were guiding principles" (Chiaverini, *Enchantress* 8). In this passage, Chiaverini makes their different natures clearly visible:

In the letters that flew back and forth between them, she argued the merits of logic and reason, he the sublime beauty and thrilling powers of the imagination. She quoted great philosophers like Locke and Bacon; he refuted almost every line with quotes from great poets. When she insisted that rational thought offered the path to salvation, he fired back, "I care very little for logic and arithmetic. If you tell me that two and two make four, you merely provoke me to find a way to make them five. I am a poet, and poetry has little to do with reason. It is rather the lava of the imagination whose eruption prevents an earthquake." (*Enchantress* 11-12)

While their different points of view clearly emerge, they both proceed with the courtship. For Annabella, Byron is a “kindred spirit,” “one of the few people of her acquaintance whose intellectual powers equaled her own” (Chiaverini, *Enchantress* 8). What attracts her to him is not so much love, but a wish “to redeem him, for the sake of his soul, his genius, and his core of goodness and generosity,” to guide him into becoming a “better man” (Chiaverini, *Enchantress* 12). Byron, too, is shown to believe that marriage to Annabella will be his salvation (Chiaverini, *Enchantress* 14), but rather in the sense of money than morals. Possessing “literary laurels, a title, and fame, but no fortune to speak of” (Chiaverini, *Enchantress* 5), Byron is shown as mainly attracted to Annabella because of her wealth. “You do understand that I married you only because I must marry someone, and you have a fortune,” he tells her cruelly right after the wedding (Chiaverini, *Enchantress* 21). During the short time of their marriage, much to Annabella’s bewilderment and dismay, he continues to stay out all night, drink heavily, and meet with various women. Chiaverini chronicles Annabella and Byron’s story from when they first meet until their forever parting after little more than a year of marriage in the prologue. Preceding the actual beginning of the novel, which is Ada’s story proper, the prologue thus provides readers with interesting and detailed information about past circumstances, in this case her family background. It also sets the scene for the novel’s leitmotif; it is a thematic exposition introducing the conflict of art and science personified by her parents, the harmonious resolution of which becomes Ada’s lifelong mission here. In presenting Ada as, to use Avery Elizabeth Hurt’s words, a “child of two worlds” (5), Chiaverini follows a way of telling her story that many biographers have adopted when recounting her life. Toole’s biography of Lovelace is a good example here. She describes and defines Lovelace in terms of her parental heritage:

Ada’s heritage consisted of two diametrically opposed points of view: her mother, the archetype of the new industrial age who could use analysis, fact, and objectivity to gain her clearly defined goals, and her father, the Romantic poet, who took life as it came without predetermined goals, who used imagination to view the world through a subjective lens and died fighting for the independence and liberation of a foreign nation. (*Ada, Selection* 10)

For the Lovelace biographer, the opposing qualities she inherited from her parents, the dichotomy of poetry and science, represent “the battleground of her life” (Toole, “Analyst” 5). Various biographers have characterized Lovelace’s life as having been about the need to reconcile these different parts of her intellectual heritage. Apparently, she did so by means of what she would call ‘poetical science,’ an approach that linked the “rebellious imagination” she had inherited from her father to her “enchantment with numbers” which she learned from her mother (Isaacson, *Innovators* 7). Hence, Lovelace’s scientific legacy is often seen as the result of a successful negotiation process of the opposing qualities from her parents. Toole writes that

[w]hen Ada committed herself to either her mother’s or her father’s point of view, she fell into an abyss. However, when she embraced and balanced both poetry and science, analysis and metaphysics, form, and substance, describing the birth of a new idea and then stepping back and looking at that idea creatively and critically, she was able to en-

vision a technological innovation which has stood the test of time. (*Ada, Selection* 425-426)

Biographers and historians ascribe Lovelace's understanding of the application potential of the Analytical Engine to her ability to combine the bold rationality taught by her mother with the dormant passion, imagination, and creativity inherited from her father, an ability that even her mother's strict science-based upbringing and discipline could not extinguish. Toole argues that it was "this combination [of poetry and science] that enabled Ada not only to see the value of Babbage's plans but to predict accurately some of the potentialities and ramifications of those ideas" ("Analyst" 4). A focus on Ada's familial heritage and her search for her own identity in between her mathematically minded mother and her poetically active father certainly allows the author an interesting perspective on the constructed nature of gender roles and the genderization of certain professions or fields. After all, "in the Byron family mathematics and reason were emotionally coded as female; poetry and passion were coded as male" (Lewis 393). Yet, it also represents a gender-stereotypical way of telling her story. In a talk he gave at the *Ada Lovelace Symposium* in celebration of the computer visionary's 200<sup>th</sup>-birthday in 2015, cultural historian Murray Pittock identifies the emphasis placed upon Lovelace's parental heritage as a clearly gendered aspect in the narrative representation of the historical woman and her life story. "You would have to look quite a long way before you saw any male scientist who is described in terms of the intellectual qualities of his parents and the need to reconcile them." While Chiaverini seeks to illuminate Lovelace's and not Lord and Lady Byron's story, with the strong narrative focus placed on the various ways in which their distinct personalities influenced her life and scientific legacy, she perpetuates the image of her as Byron's daughter.

That Byron is so present in the story is surprising when considering that Ada's relationship with her mother is at the heart of this narrative of her life. Chiaverini dedicates *Enchantress of Numbers* to her own mother, "Geraldine Neidenbach, [her] favorite mathematician" (see dedication on the very first pages of the novel). In the accompanying interview on her website, she describes her mother as a "gifted and caring teacher," someone who encouraged and supported her in pursuing her own dreams even if those were not becoming a mathematician but a writer ("Seven Questions"). The gratitude for a loving mother-daughter relationship Chiaverini expresses here stands in stark contrast to the rather problematic relation between Ada and her mother in her novel. Intertwining the for the genre of fictional autobiography typical quest plot with a mother-daughter plot, *Enchantress of Numbers* places Ada's relationship with her mother, in whose sole custody and care she grows up, at the center of attention in the story of her personal development. Thus, also the last case study shows that relationships, whether they are relations with persons of the same or the opposite sex, family members, friends, colleagues, or romantic partners/spouses, are dominant in novels about historical female scientists, as they are in other herstorical biofictions (cf. Bird, cf. Bergmann, "Historical Biofiction," "Poe's Shadow"). Andrea Gutenberg observes that in the more recent history of English literature a special tension between the woman-centered quest plot and

the mother-daughter plot exists, because the mother's superiority often stands in the way of the daughter's successful discovery and formation of her own identity (204). This also holds true for Chiaverini's *Enchantress of Numbers*. From the perspective of the daughter, this herstorical biofiction centers on the problematic and stressed cross-generational parent/child relationship between Lovelace and her mother and the constant conflicts arising from it. The focus on the mother-daughter relationship may at first glance suggest a shift away from the focus on the father; in fact, it might evoke a gynocentric narrative focus. Yet, this is not really the case. Although the female members of the Byron family are clearly in the foreground here, the father and (ex-)husband always lurks in the background. He significantly determines the relationship between mother and daughter. Although they both never see him again after the separation, he is a major influence on the relationship between Ada and her mother as he is omnipresent in every move Annabella makes about her child. He is a constant formative presence in his daughter's life even though he never really knew her. Byron is shown to influence the household from afar with new publications of poems (some of which are included and discussed by the characters in the narrative) and his memoir. Even after his death his legacy continues to impact the family as more and more of his secrets come to the surface. Though it acknowledges his rock stardom in his lifetime, *Enchantress of Numbers* confirms many of the rumors spread about him, especially when it comes to the incestuous romance with his half-sister and the existence of a mutual daughter.

The novel suggests that much of Ada's life consisted of rebelling against her mother. Annabella is estranged from her former husband and appalled by his cruel and manic behavior towards her. She is uncertain whether Byron's "behavior sprang from mental derangement or moral deficiency" (Chiaverini, *Enchantress* 131). Yet she is quite certain that she needs to overcome the "bad Byron blood" her daughter has inherited, to save herself and her child from the "father's corruption and sin" (Chiaverini, *Enchantress* 87, 37). Her mother's fear of and hate for her former husband is the driving force behind her approach towards Ada's upbringing and education. She is shown to be convinced that her daughter "has too much of the Byron blood in her, and [that] it may lead to her ruin as it has to his. Her salvation depends upon developing her moral and intellectual powers and suppressing everything of the imagination" (Chiaverini, *Enchantress* 53). The novel clearly evokes the intellectual battle of nurture versus nature, e.g., the question of what plays the larger part in a person's development, hereditary factors, or environmental influences, such as relationships and experiences. It seems like a fitting lens through which to understand Lovelace's life, and thus her upbringing and her education. The mother tries to overcome nature by nurturing the child into everything opposite to what the father represented. To overcome the Byron blood running through her daughter's veins, Annabella raises Ada with an iron hand. She instructs everyone in whose care she places her daughter that "[n]othing of the poetical must be permitted to take root in Ada's mind or character. She must be brought up with structure and discipline, with rigorous attention to developing her faculties for logic and reason" (Chiaverini, *Enchantress* 53). She banishes everything that might indulge the child's

imaginative and creative faculties from the nursery: “She must never be exposed to Lord Byron’s poetry [...] and absolutely no fairy stories” (Chiaverini, *Enchantress* 53). Ada can only play with toys her mother considers suitable for her: “Blocks and such for learning geometry. Balls, also for geometry, and to study motion” (Chiaverini, *Enchantress* 53). She forbids imaginative play or games of make-believe. As soon as the girl is a little older, Annabella fills her day with various lessons. Under the mother’s watchful eyes, she takes on a rigorous curriculum of “arithmetic, geography, French, music, drawing exercise, and outdoor play” (Chiaverini, *Enchantress* 83). The mother even uses a system of reward and punishment to enforce the girl’s cooperation:

My lessons were brief, only about fifteen minutes each, with mandatory rests in between. I yearned to run and skip and dance in those intervals rather than rest – after sitting still through my lessons, lying down made me only more restless – and when I found it impossible to obey, I was made to recline on a hard wooden board, which made fidgeting painful. When I did manage to be good, I was rewarded with tickets, and when I had collected enough, I could redeem them for gifts – new building blocks, a wooden puzzle, a book on botany. (Chiaverini, *Enchantress* 83)

With an immediacy and intimacy only possible in first-person narratives, the novel vividly shows how Ada submits to and suffers from the strict regimen implemented by her mother. When she does not perform according to her mother’s wishes, Annabella reprimands her. The mother puts the girl under constant surveillance from nurses, governesses, and teachers as well as her most trusted confidantes, a series of women friends whom Ada calls ‘the Furies.’ Ada has little freedom and no friends. Her only companion is her cat Puff. Emotionally neglected and socially isolated, Ada tops in her lessons and develops a “proficiency in mathematics, which [is] considered highly unusual for a girl, even the daughter of Lady Byron” (Chiaverini, *Enchantress* 85). Ada is aware of her status as a successful student: “I studied French, German, Latin, history, geography, philosophy, natural science, music (which I adored), and mathematics of every sort (which I adored even more). I excelled in geometry, astonishing my tutor and pleasing my mother immeasurably” (Chiaverini, *Enchantress* 146). However, even her scientific interests are closely monitored and restricted. When Ada becomes too enthusiastic or passionate about the idea of learning how to fly, working day and night on what she terms Flyology, her mother forces her to give up her plans for a steam-engine flying machine seeing in her enthusiasm and passion a nascent obsession and even mania she relates to her “bad Byron blood” (Chiaverini, *Enchantress* 83). Ada’s behavior is often pathologized; every new enthusiasm or passion she develops or finds is seen as dangerous, a potential sign of her developing the mental instability and moral corruption the mother was convinced the father to possess.

The novel’s chief emphasis is on the role that her mother played in Ada becoming who she did and this thus feminizes the traditionally stereotypical idea of the father as the one responsible for the daughter’s success (cf. Wagner-Martin 22). Her mathematical and scientific education, though it clearly had been something that unites her with her mother and that could be seen as a kind of maternal heritage, is never framed that way in the novel. The novel understands it solely in the context of the father, as the

means her mother chooses to prevent the daughter from developing her father's poetical tendencies. In always linking this to the father, the novel undermines the mother's efforts in educating the daughter and the female genealogy this represents. While her father's great talent for poetry is omnipresent in the novel (both in the text and paratexts, as discussed earlier), her mother's talent for mathematics is only ever mentioned in passing. Though Ada eventually realizes that she must thank her mother for the liberal and all-encompassing education she has received as it clearly sets her apart from other girls and women of her time and that she had been very privileged in her life in this regard, the mother never functions as a role model for her. On the contrary, she is the one who puts the obstacles in her daughter's way. While the mother becomes the decisive factor influencing her, the father is the one who influences her decisions. Ada wants to prove to her mother that she was just like any other child who "was not tainted with Byron blood" (Chiaverini, *Enchantress* 123). She longs to be loved by her mother and not only to be seen and treated as the unfortunate and unwanted result of her relationship with Byron. Despite (pseudo-)scientific confirmation from a consulted phrenologist that Ada's "organs of Imagination, Wonder, and Harmony do not lend themselves to poetry, but rather to music and mathematics" (Chiaverini, *Enchantress* 144), the heroine is never able to completely suppress the fatherly side of her genetic inheritance and eventually develops some of the propensities of her father. Her attempted elopement with her tutor when she is about sixteen years old becomes proof that she has developed some of the inclinations of her father, despite her mother's and her own efforts: "All my life my mother had worked tirelessly to rid me of the influence of my Byron blood, but in loving Wills, I had confirmed her worst fears – I lacked self-control, craved independence, was contemptuous of authority, and heedlessly indulged my passions," Ada notes (Chiaverini, *Enchantress* 169). This elopement with her tutor is a fact supported by history though his identity remains unknown (cf. Stein, *A Life* xii). Ada comes to accept her mother's conviction of the dangers of her Byron blood and she herself believes in the need "to keep [her] imagination in check" (Chiaverini, *Enchantress* 225). Mathematics becomes her cure, "[her] salvation" (Chiaverini, *Enchantress* 344). As she grows older and is more independent, escaping motherly control through marriage, she believes less and less in the apparent dangers of her Byron blood that have been drilled into her from earliest childhood onwards. Like some of her intellectual friends, whom she finds once introduced into society, she begins to embrace her imaginative faculties:

I understood its dangers, its seductive powers, and yet I hated to hear it maligned. When they exhorted me to quash it, to contain it, I felt myself taking my poor, disparaged imagination in my arms and bending over it protectively to shield it from the slings and arrows of outraged parents and those *in loco parentis*, as if it were a newborn kitten. (Chiaverini, *Enchantress* 226, italics in original)

Byron is not only omnipresent in Annabella's motivations to educate her daughter in science and mathematics, among other subjects. The novel also perpetuates the idea that it was what Ada had inherited from him that made her experience her great intellectual breakthrough. Over the course of time, she meets people who value her imagination as

much as her intellect: “Not one in a hundred thousand people would observe a loom at work and consider how its mechanisms might improve a calculating engine. I’m quite astounded by the powers of your imagination,” Babbage tells her (Chiaverini, *Enchantress* 255). Gradually, Ada comes to reject “the notion that [she] must suppress it [the imagination], deny it, if [she] hoped to escape a fatal descent into madness” (Chiaverini, *Enchantress* 418). She learns to accept even appreciate her parental heritage, she comes to terms with her imaginative power and can eventually use it in her collaboration with Babbage. While Ada, like her mother, becomes a passionate mathematician, she must realize that she needs to surpass the dualism, the dichotomy that has determined her life. In the end, the heroine must overcome the mother’s superiority to successfully complete her search for her own identity. Having believed for the better part of her life that she had to choose between the intellect and the imagination, between the fatherly and the motherly side of her heritage, the novel’s emotional and intellectual climax is the heroine’s realization that it is only by marrying the two parts of her genetic and intellectual heritage, through what she termed ‘poetical science,’ that she can achieve her ‘Great Work’:

In writing this Memoir, I had discovered something astonishing about myself – that my genius resided in my ability to synthesize abstract ideas, to marry the intellect and the imagination into a new kind of insight. That was why I understood the capabilities of the Analytical Engine even better than its inventor did. That was why I had never been able to repudiate my father, despite the ominous warnings about the bad Byron blood that had been drummed into my consciousness since childhood. All my life I had been told that I must choose between my mother or my father, the intellect or the imagination. Now I knew that I was nothing without both. (Chiaverini, *Enchantress* 384)

Bringing together literature and mathematics, she resolves, “[p]oetical science [...] would be [her] new vocation” (Chiaverini, *Enchantress* 419). Focusing on the quest to become her own person, to free herself from her parents and discover her own unique gifts, the novel strongly evokes an image of Ada as Lord and Lady Byron’s daughter. Though she eventually discovers her own talents, the novel constantly places her in relation to them, portraying her in the role as their daughter more than in her role as a pioneering woman in science. The novel suggests that it is not only her mathematical education, which she owes to her mother, but also her creative imagination, which she apparently inherited from her father, that allow her to see the Analytical Engine’s true potential. In doing so, it follows the interpretation of others who understand her life as well as her scientific abilities and achievements in terms of a successful negotiation process of the different sides of her parental inheritance. By consequence of the strong focus placed upon the ways in which her parentage had influenced her in becoming the *Enchantress of Numbers* of the title, the importance of the scientific work she performed is lost in this novel, it seems to be almost marginal to her story. Through the strong focus that is placed on Ada’s complicated family situation and the unusual upbringing and education resulting from it rather than the extraordinary achievements she made when she was older and the significance of her contributions then and now, the novel minimizes and marginalizes what it wants to celebrate her for. Ultimately, it suggests that

what makes her life interesting to a modern-day reader is her relationship to Byron and her role as his daughter.

### 3.4.7 Conclusion

*Enchantress of Numbers* is a captivating look into the life of Lovelace and her role in the development of computer programming. However, even more so, it shows its readers what it must have been like to be the daughter of Lord (and Lady) Byron. Despite being told from her supposedly own perspective, the novel does not really offer an alternative way of understanding her life. For a novel that is announced as allowing Lovelace to step out of her father's shadow and to be seen in her own right, it places a surprisingly large focus on the ways in which his life and legacy have influenced her own; he does loom large over her story in this account of her life. In remembering Lovelace in her role as Byron's daughter, the novel acts contrary to the heroine's wishes as firmly expressed by both the historical figure and the fictional character, namely, to be recalled for her own achievements and not for those of her father. This is certainly ironic. While an important and intriguing part of her story, the strong focus placed upon Lovelace's complicated family situation, her odd upbringing and unusual education, perpetuates an idea of Lovelace as Byron's daughter. In doing so, in remembering her as Byron's daughter, the novel puts Lovelace, who had successfully entered the male-dominated world of nineteenth-century British science and who is today celebrated by many as a scientific pioneer, back into the stereotypically female role of somebody's daughter. The continuing practice of describing and defining Lovelace in terms of her relationship to her famous poet father perpetuates and promotes the idea that what makes her a memorable historical person is not her status as pioneering woman in science but having been the only legitimate daughter of Byron. This reduces Lovelace to the inferior status that history has already assigned her.

## 4 Conclusion

### 4.1 Summary

The present study took off from the observation that the life stories of historical women in science have become a popular subject in contemporary literary fiction. While actual female scientists from the past also increasingly appear as fictional characters in historical plays and films, they have gained special prominence in the so-called biographical novel as the numerous examples I have listed in the introduction prove. The goal of this study was to provide a thorough discussion of the narrative reconstruction and representation of the life stories of historical women in science in present-day biofiction. Although biographical fiction has become a popular field of academic research in recent years, fictionalized accounts of the life stories of actual women in the history of science have received little to no attention to date from scholars working on the genre (the literary texts have also not been discussed by other researchers, for instance, those working in the academic field of literature and science studies or those occupied with images of women in science in contemporary popular discourse, for that matter). This dissertation constitutes the first though hopefully not the last scholarly engagement with the steadily growing body of biographical novels about historical female scientists.

I have addressed the current boom of literary narratives about historical female scientists and their life stories outlined at the beginning of this study by means of four selected case studies all of which have been written by some renowned Anglo-American women authors, namely Tracy Chevalier's *Remarkable Creatures*, Carrie Brown's *The Stargazer's Sister*, Marie Benedict's *The Other Einstein*, and Jennifer Chiaverini's *Enchantress of Numbers*. For this study, I had to make a choice between presenting a more survey-like study that reduces the individual text to a few aspects only and a more nuanced discussion of the specific literary narrative which pays tribute to the complexity (if not completeness) of the respective biographical novel and the life story depicted therein as well as the debates and issues surrounding the chosen woman's abilities and achievements in past and present-day scholarly discourse. I have decided for the latter. In concentrating on four novelistic examples, my study provided in-depth analyses of selected case studies that allowed me to deal in a detailed manner with the respective biographical novel and the historical woman in science whose life story it reconstructs and recreates through the genre-typical combination of historical fact and creative fiction. Although the study's text corpus is limited, my research presents valuable insights about the images of (these) historical women in science and their life stories in contemporary biographical fiction. Moreover, as I have chosen examples that may be considered representative for the cultural interest in the herstory of science mentioned in the beginning, the insights gained about the depiction of (these) historical female scientists in (the chosen) biographical novels are surely applicable beyond the scope of this study. Some of my findings may also be transferable to portrayals of women in the history of science in other media, such as plays and films.

The central questions I have asked myself have been the following: What image does the respective biographical novel create of the historical woman, her life story as well as her scientific abilities and accomplishments? What (gendered) messages do the novels send to their twenty-first century readerships about (these) women in the history of science? What is the relationship between the image created of the respective woman in science in contemporary literary fiction and other previously produced portrayals of her life within historical-biographical discourse? To what extent does the image created of a chosen subject continue, challenge, perhaps even (seek to) correct previous (mis-)representations of her life and achievements in the traditional androcentric narrative of the history of science? To analyze the ways in which the selected novels portray the historical woman in science and her life story, the narrative texts have been approached from the perspective of biofiction studies, especially the feminist or gender-sensitive approaches to fact-based yet fictionalized life stories which are currently forming within this flourishing field of scholarly activity. As outlined in the introduction, I have been especially concerned with the interplay between gender politics and fictional privileges. To be more precise, I have been interested in the ways in which the chosen novelists use the narrative possibilities granted to them as writers of literary fiction (*vis à vis* writers of history and biography) at the service of their feminist efforts at telling herstory. I wanted to see how they might also use them, consciously or not, to reinstate and perhaps even reinforce patriarchal ideology by means of problematic myths and stereotypes about (these) women in science history within their stories and thus ultimately undermine their herstorical ambitions.

To see when and where authors (must) use their poetic license when retelling these women's life stories within their biographical novels and how the use of their liberties impacts the image and idea of the historical woman existing in scholarly and/or popular discourse, the novels have been read from a feminist or gender-sensitive perspective and against the background of some of the relevant historical and biographical research about the respective woman in science history and her life story. This has allowed me to understand how the novels play with our knowledge of the subject's life and how they critically engage with (or not) the cultural myths and patriarchal stereotypes that have dominated the perception of the chosen woman's story in the past and/or continue to dominate the cultural reception of her story in the present day. By answering the just-mentioned questions, my thesis here contributes to the developing body of research on biographical fiction and its intersections with questions of gender identity and feminist historiography thereby adding questions of gender and science to the discussion.

Reading the biographical novels against the background of the chosen subject's biography and reception history, I have shown that all four novelists reproduce and repeat, also by means of their narrative privileges, the dominant, patriarchal image that has long determined the reception history of the respective historical female scientist rather than questioning it from a critical feminist perspective. Despite the often avowedly feminist motivations that guide their writings, their fictional liberties are often used

at the service of reiterating, even reinforcing, problematic cultural myths and gendered stereotypes about (these) historical women in science.

Following literary scholars like Stephanie Bird, Julia Novak, and Ina Bergmann, among others, I have argued that historical-biographical novels about women in science can be seen as part of the wider feminist project of telling herstory, e.g., of revising and rewriting history from the formerly ignored and sidelined perspectives of women. Biographical novels about little-known or forgotten historical women, so-called herstorical biofictions, are, as I have shown in the previous chapters, often understood as part of the herstory movement, which is also underlined by the genre designation. In the background chapters to my analyses of the chosen narratives I have shown how literary scholars have ascribed such narratives very similar intentions when they claim that such novels seek to rediscover and rehabilitate women long neglected by the traditional, male-oriented historical narrative, to rescue from the shadows of famous men, and to restore them to their rightful place in history and thus our cultural memory of the past and in doing so rectify the historiographical injustice, the marginalization and/or misrepresentation, she had experienced in the past and might still face today.

I have shown that like in other herstorical biofictions, the wish to do herstory does not only manifest in the centralization of the historical woman scientist and her life story and with that the literary reconstruction and recreation of her experiences, concerns, and perspectives. It is oftentimes a clearly articulated narrative goal that is formulated by the novelists in the paratexts. In the author's note to *The Other Einstein* which focuses on the life of Serbian mathematician and physicist Mileva Marić, Benedict makes her feminist ambitions clearly perceptible when she explains that her biographical novel seeks to narrate the story of a brilliant woman too long overshadowed by her famous husband Albert Einstein. In shedding light on Marić's life at Einstein's side, the author does not only illuminate her crucial role as his supporter but also seeks to restore her own significant accomplishments as a woman in early twentieth-century science and thus rewrite her chosen protagonist back into the historical narrative of science from which she had been excluded for much of the past. To save her female subject from the shadow of a great man and set the record straight about her scientific achievements and aptitudes and remind her readers of the important part she had played in and for the early beginnings of the computer revolution in the nineteenth century is also what Chiaverini aims for with *Enchantress of Numbers*. For Chiaverini, the English mathematician and pioneer of computer science Ada Lovelace is not only an important role model whose story might serve as inspiration and motivation for contemporary girls and women in STEM. She is also a person who has been treated unfairly by the male-oriented historical narrative of science. All too often, her accomplishments have been downplayed or dismissed altogether in favor of her scientific partner Charles Babbage, with whom Lovelace had worked on his calculating machine, the Analytical Engine, developing and eventually publishing what is now considered by many as the world's first computer program. With her biographical novel *The Stargazer's Sister*, Brown also seeks to rescue her chosen female subject, as she reveals in the acknowledgements section, though she does not

wish to save her from the shadow of a famous man. Rather, Brown wants to free Caroline Herschel from the overly reductive and one-dimensional image that had dominated the reception history and thus general perception of the life of the German-born and England-based astronomer for much of the past. With the expression of such narrative ambitions the chosen novelists visibly and consciously align themselves with the goals of the feminist endeavor of revising and rewriting history from the previously often neglected and marginalized perspectives of women, of correcting former misrepresentations and/or counteracting a lack of representations of their life stories and with that their achievements.

While the authorial motivations guiding these biofictional accounts of historical female scientists' life stories are very similar, the narrative possibilities of novelists regarding the realization of the revisionist endeavor of telling herstory differ greatly from those of writers of factual life stories who are bound to at times restricting historiographical conventions that guide writings of this kind. Biographical fiction or biofiction, as I have explained in the second chapter of this study with reference to the (in-)numerous scholars that are now dealing with this genre, among them Michael Lackey most prominently, offers a fictionalized version of the life story (or a part thereof) of an actual, usually historical individual. Narrating the life of the chosen subject through the lens of literature, authors of biographical novels possess certain narrative or fictional privileges. Their narrative privileges as writers of fiction allow them to fill in historiographical gaps, to imagine their protagonists' usually unrecorded inner lives, to envision their often-unknown voices, and to even change some of the established, accepted historical-biographical facts about their stories. While authors of biofiction certainly use and rely upon the findings of biographers and historians, for this kind of fiction is always rooted in facts of a real-life story (as far as they exist and/or are reliable, of course), they are also able to use fiction to reinvent, to reimagine what has not been recorded, what is not documented; they are able to fill in the gaps, the silences in the historical and biographical record with their creative imagination and artistic invention. Their poetic license can thereby not only be taken to compensate for a lack of facts but also to change some of the facts about the given life story as they have been generally acknowledged in historical-biographical discourse, and to create something new, a different kind of truth, as Lackey has emphasized. In the second chapter of this study, I have argued that with its possibilities to illuminate hidden aspects, give voice to historically voiceless, and close gaps left in the archives of history, biographical fiction or biofiction seems like an ideal tool for the feminist endeavor of telling herstory, as various other scholars have also suggested. Indeed, their fictional privileges allow writers of biographical novels to surpass the limiting constraints that determine the writing of lives in history and biography. Thus, they can circumvent issues that have led to distorted or diminishing images and ideas of historical women or that have even outright prevented the narration of female lives in the past, for instance, when there was too little or no available or reliable evidence at all for telling her story in the fact-heavy and indeed fact-demanding genres of traditional historiography and life writing, e.g., biography.

Within their respective literary works, the chosen novelists make ample use of these narrative privileges granted to them as writers of fiction. Chevalier, Brown, Chia-verini, and Benedict are very aware of their authorial responsibilities towards their female subjects and their lives often explaining and justifying the liberties taken with the motivations they have in telling her story. They are also aware of the responsibilities they have towards their readers. All use the paratextual elements of the author's note or acknowledgements to reveal transparently some of the poetic liberties they have taken with the historical-biographical record. All the chosen authors use their artistic license to tell the story from the chosen female subject's supposedly own perspective, and in most cases, Brown's *The Stargazer's Sister* being the only exception here, also in her supposed voice. While some closely follow the historical record as it exists, using their liberties only from time to time and mainly in compensatory form to close some gaps in our knowledge about her biography, others take more liberties with the biographical material at hand. Some also use it to add to or even change the historical record to explore in fiction a believable if unprovable truth. In the context of this study, Benedict is surely the one who takes her narrative privileges the furthest when she uses the space of fiction to speculate about her chosen subject's scientific achievements claiming that Mileva Marić, not Albert Einstein, was the one who created the theory of special relativity and that her husband stole the idea from her publishing it under his name while failing to acknowledge its true author. The very narrative choices made possible by the fictional nature of the literary text at hand and the ways in which they impact the images created of the historical women, their life stories as well as their scientific accomplishments, has been of central interest in this study.

The analyses of the chosen examples have shown that the authors' use of their narrative privileges may work at the service of their feminist ambitions but also to contradict and counteract them. In *Remarkable Creatures*, Chevalier uses her narrative privileges as a writer of fiction not only to reimagine the sparsely recorded life of English fossil hunter and dealer Mary Anning from her own perspective but also the even less recorded life of her friend and colleague Elizabeth Philpot. In exploring their personal friendship and scientific partnership through the lens of literature, the author addresses and appreciates a new aspect of her chosen subject's biography and a frequently neglected or marginalized part of the history of women in science, namely the kind of sisterhood and solidarity that women provided for each other in view of patriarchal oppression and gender-based restrictions. Furthermore, the pairing with another woman from a different socio-economic background also enables Chevalier to emphasize the remarkability of Anning's story in the context of nineteenth-century geology and paleontology, namely the double odds of gender and class she overcame to participate in the world of science. Through its female-centered relational approach the novel also questions the still dominant perception of women in the history of science as mere exceptions to the rule. However, the relational approach does also serve the purpose of supporting and strengthening the still popular image and idea of Anning as a child-like figure who is undeniably talented and successful but who is in constant need of strong guidance and

even rescue by her protective and patronizing friend and colleague. This child-centered view of Anning has often served the purpose of downplaying her abilities and achievements. Chevalier is clearly sympathetic to her chosen subject and does not seek to diminish her accomplishments. Still, focusing on her early life and her juvenile discoveries and portraying her as someone in need of constant saving, Chevalier does not allow Anning to arise from this novel as the scientific professional that she has been in history. Moreover, Chevalier uses her fictional privileges to include a fictional romance. An unfulfilled love interest is arguably an important step in the fictional Mary's personal development and a sexual encounter an important experience of initiation. Nevertheless, the rift that the invented romance causes in the friendship between the two women and the traditional gender politics it reinstates in terms of women's fulfillment in marriage seem counterproductive.

In *The Stargazer's Sister*, Carrie Brown uses her narrative privileges to access Caroline Herschel's inner life, the unknown world of her thoughts, feelings, and perceptions, which have been lost to history. While she does not allow the fictional Caroline to narrate the story in her own voice, she renders the life from her viewpoint and thus uses her narrative privileges to evoke her subject's secret longings and true feelings. Doing so, she gives her more complexity allowing her to leave behind the overly reductive and one-dimensional image that had been attached to her in previous accounts of her life. Like Chevalier, Brown uses her poetic license for the inclusion of an entirely invented romantic subplot, which, like in *Remarkable Creatures*, also includes a sexual experience and which reinstates a rather conservative gender agenda to the story, one that sees women's goal in life in marriage and motherhood but not in scientific work. Moreover, the novel does not reject the clearly gendered and highly romanticized popular image of Caroline as William Herschel's self-sacrificing 'Cinderella sister' that had been attached to her story some centuries ago and that still influences the cultural memory of her life in the present day. In fact, it continues this perception by means of the strong focus it places on her relationship to her brother, the fairy tale motifs it adopts in presenting her life, the emphasis of the domestic and in terms of science mainly support work that she provided for her brother, and the diminishing of her independently made scientific discoveries, among them her sighting of eight comets and her important cataloguing work. Brown also neglects her professional ambitions and scientific interests ascribing the determination, precision, and devotedness with which Caroline works to her gratefulness and longing to be useful rather than ambition. In doing so, Brown's novel perpetuates, even reinforces, the highly gendered and overly reductive yet still very common perception of Herschel as the dutiful and devoted assistant to her famous astronomer-brother.

In *The Other Einstein*, Benedict employs her fictional privileges as a novelist to imagine the largely unrecorded interiority of Mileva Marić and to fill in some of the lost details about her biography. She also fills in the gaps in our knowledge about Marić's role in Einstein's academic work and his scientific achievements utilizing her poetic license as a writer of literature to explore within the realm of fiction the 'what ifs' in the

historical subject's story. By means of her ethically and gender-politically certainly questionable fictional exploration of Mileva's scientific achievements, she does not only challenge the common perception of the male genius. She also uses Marić's story to create a reminder of the ways in which female contributions to science have been rendered invisible, especially in marital research collaborations, where they were often ascribed to and seized by the husbands with or without the wife's consent. Nevertheless, Benedict, too, cannot move beyond the image that has been attached to her chosen subject in earlier accounts of her life and which continues to determine the perception of her story in both scholarly and popular discourse. She, too, works off the idea of Marić as a tragic heroine, a strong-minded and very ambitious woman who overcomes great obstacles in her determination to be a physicist but who never achieves the professional fulfilment and the personal happiness she had longed and worked so hard for all her life. In *The Other Einstein*, she does not only frame Mileva's story as a tragic victim narrative, foregrounding the sad development of her protagonist's educational and professional career plans, emphasizing the dramatic failure of her promising congenial scientific partnership with her friend, lover, and eventual husband Albert Einstein. She also reveals the destructive ways in which he treated her in their marriage. In the novel, Benedict reinforces the idea of Marić as a tragic heroine when she uses her narrative privileges as a writer of fiction to portray her chosen female subject not only in the role of the betrayed wife and mother, which is true to fact, but as a deceived and exploited researcher whose groundbreaking discovery is appropriated by her husband who thus sets off his own professional ascent in the world of twentieth-century physics.

In *Enchantress of Numbers* Jennifer Chiaverini uses her narrative privileges to enter Ada Lovelace's mind and heart and permit the female protagonist to narrate her story in her own words, allowing her to determine the ways in which her story should be remembered herself instead of having others decide how to remember her life. Chiaverini does not need to make use of her poetic license to imagine her scientific achievement. Lovelace's life and her accomplishments as a pioneering woman in nineteenth-century science are well documented, even if her crucial role in the computer revolution has often been and continues to be downplayed. There is no question about Ada's scientific competence in the novel or her authorship of the Translation and Notes on Babbage's Analytical Engine. In portraying her work on the Analytical Engine, *Enchantress of Numbers* presents the idea that Ada did indeed make a substantial contribution to science in the form of the world's first computer program ever written and published. It seems beyond dispute that Chiaverini seeks to honor Lovelace as the world's first programmer and an early visionary in computer science with this literary portrait. Ada emerges from the pages of this book as a competent woman in science even though the novel, like the other novels discussed in this study, has little to offer in terms of the actual science that its chosen heroine performs. While Ada steps out from underneath Babbage's shadow, another man's shadow hangs over her for the entire story, that of her father Lord Byron. Though Ada never meets him, he is omnipresent in this bio-fictional account of her life, as he is in many biographies of her. The main reason for

that is that Chiaverini has chosen to center the attention of the novel on Ada's struggle to unite the distinct parts of her parental heritage, which is a clearly gendered aspect of the representation of the historical woman in science in popular and scholarly discourse. Chiaverini's parent-centered framework, her focus on Ada's emotional and intellectual struggle to unite the different parts of her parental heritage, her famous poet father's passion and imagination and her mathematician mother's logic and reason, ultimately lead to a view of the female protagonist as a memorable historical figure because she was Lord (and Lady) Byron's daughter and less so because of she was a pioneering woman in the history of computer science. Though Chiaverini makes a convincing case that Lovelace is a woman in the history of science worth commemorating and celebrating, her contributions to computing are overshadowed by the author's focus on the ways in which her status as Byron's daughter has shaped her existence. Despite being told from her supposed own perspective and voice, the novel does not really offer an alternative way of understanding her life.

In my analyses I have revealed that while the novelists' fictional privileges might be used at the service of the feminist cause for telling herstory and thus counteracting the male-dominated historical record of the (scientific) past, they can likewise function to reiterate and even strengthen problematic images and ideas of historical women and female life stories. I have shown that the novelists often rely upon patriarchal gender stereotypes, problematic narrative tropes, and plot patterns when recounting the lives of historical female scientists through the lens of literature. All the authors focus on the stories and perspectives of women and thus reject the traditional way of writing about the history of science which usually focused on men. They are in so far feminist as that they counteract cultural narratives that have excluded, neglected, and/or marginalized these women's voices and their accomplishments and life stories. In doing so, they challenge discourses that see women and science as somehow contradictory. The selected novels are not only concerned with making historical women in science and their achievements and abilities perceptible to modern-day readers. They also take a critical feminist look at some of the very structures, discourses, and mechanisms that led to their underrepresentation and historical invisibility in the first place. They raise awareness of women's history as scientists and female activities in the past. In doing so, they also address many important aspects of the female experience of science. They reveal the very mechanisms which have led to women's exclusion and marginalization, for instance, the limits of women's educational and career opportunities in times when the socially acceptable path encompassed only marriage and motherhood. They point to the alleged incompatibility of femininity and intellectuality and the prejudices as well as disregard, exclusion, and discrimination that educated women had to face when they sought admittance to and acceptance in the 'men's world' of academic learning and scientific research. They also show the constraints of marriage and motherhood and their impact on women's professional lives and scientific creativity. In presenting historical female scientists' struggles and successes in the male-dominated world of science, the biographical novels also show the strategies that scientifically inclined women have

used to deal with sexist prejudices and discriminations and to overcome the gender-based restrictions they faced. They reveal the scientific contributions of women and expose how the implication of their achievements were restricted by the social, political, and economic circumstances of their time and place. Thus, they all do what feminism is about, namely highlighting the economic, political, and social discrimination of women in a patriarchal system. All the authors discussed are clearly sympathetic to the women they chose to portray. None of them questions women's competence as scientists. While they are obviously and outspokenly interested in revealing her life and scientific abilities and achievements, they cannot free themselves from the problematic stereotypes and myths that have been attached to her story and women's lives in the past and that sometimes continue to determine their stories in the present day. None of the novels truly remembers her for her scientific achievements and abilities, despite claims that point to ambitions of providing girls and women with positive female role models. All these women's accomplishments are somewhat overshadowed by the gendered aspects of their stories: relationships to famous men, the tragedy of their lives, or their domestic roles. In terms of their gender politics the chosen biographical novels are thus highly ambiguous.

Considering literature's role as a mirror of society, such problematic portrayals might indicate that contemporary society is still not fully accepting female scientists, that it is somehow still in need of putting women in science into stereotypical roles that reinforce domestic and maternal roles, relationships to men, the tragedy of their lives, and romance instead of portraying them as important and inspiring women in science who all overcame various barriers to successfully participate in the world of science. While the chosen novels are clearly interested and undeniably engaged in telling herstory and revealing (these) women's stories, like other herstorical biofictions, they cannot free themselves from the problems that surround depictions of (these) women's lives in past and sometimes also in present-day discourse. This is not to say that such novels are without merit for the feminist cause. In fact, I believe that despite the problems arising from them, they might be seen as significant efforts for telling herstory and perhaps even catalysts for changing the public perception of the history of science as a list of 'great men' which is vital in the context of the ongoing inequality of gender in STEM fields.

## 4.2 Outlook

The steadily growing number of female-centered biographical science novels shows that contemporary writers are clearly and strongly interested in re(dis)covering the stories of historical women in science and bringing their lives and scientific abilities and achievements to the attention of modern-day readerships. As part of a wider cultural interest in the history of women in science, which, as mentioned above, extends to other genres and media, and which can also be observed in other national contexts, they participate, often very consciously and outspokenly, in the feminist endeavor of telling herstory.

The goal of rewriting women scientists into the historical narrative and thus restoring the female subject to her rightful place in history, is thereby not only driven by a wish to set the record straight but is often underpinned with the avowedly feminist intention of creating a more gender equal society in the present and for the future. It is a truth universally acknowledged that science and related fields like technology, engineering, and mathematics, disciplines commonly subsumed under the acronym STEM, have a gender problem. Female underrepresentation in many STEM-fields and occupations, the so-called scientific ‘gender gap’ as well as the loss of women on every step up the academic career ladder, from high school to full professorship, a phenomenon commonly referred to as ‘leaky pipeline,’ are of much concern both in terms of equal opportunities and the loss or underutilization of human resources. Even today, the legacy of an establishment that for centuries disregarded, excluded, and discriminated women for no reason other than their sex is still very much palpable. Despite decades of affirmative action, women are still underrepresented in STEM education, training, and employment, and that in almost every region of the world. Latest data from the United Nations Educational, Scientific, and Cultural Organization (UNESCO), show that overall men still outnumber women when it comes to the profession of researcher. Worldwide only thirty percent of those professionally engaged in the conception and creation of new scientific knowledge are women (UNESCO). Thus, it is certainly not exaggerated to state, that in the twenty-first century, the landscape of science remains for the most part resolutely male, as Claire Jones points out (“Women and Science”).

Identifying the reasons for STEM’s gender gap and developing strategies to attract and retain girls and women have been the focus of much research and activism in recent decades. One of the reasons for the continuing underrepresentation of women in STEM is the persistent belief in science as a masculine pursuit. In Western cultures, even today, Jones notes, women, femininity, and science do still not sit together easily (“History of Science” 4). Feminist historians of science have revealed the long and complex history of the gendering of science which dates to the birth of modern science in the seventeenth century (Jones, “Women written out of science history”). Then, “[f]emininity became associated with the passive object of scientific investigation, in direct opposition to the active male investigator,” Jones explains (“Women written out of science history”). Given the strong masculine hue that has attached itself to the sciences four hundred years ago, participation in science challenged the femininity of any woman involved in it; such difficult gender identities are still a problem for women in science today (Jones, “Women and Science”). The belief that only men can be and always have been scientists, and that science requires a set of characteristics traditionally associated with masculinity, that science is perhaps even “too hard” for women and/or “at odds” with true femininity (Jones, “History of Science” 4) still constitutes a powerful barrier to girls’ and women’s entry to and retention in STEM. While the BBC reported that more children than ever before now draw a woman if asked to draw a scientist (Halton), the stereotypical image of the brainy male researcher – presumably with beard, glasses, and a

white lab coat – is still very much alive and kicking and continues to influence the public understanding of STEM.

Rediscovering and rewriting the history of women in science to counter the age-old belief that “women simply cannot do science as well as men,” “that something in the physical, psychological, and intellectual nature of women prohibits them from producing great science” (Schiebinger, “History and Philosophy” 307), and that women could thus never compete with men in this field is one way of going against this gender bias. With the revival of the feminist movement in the second half of the last century, the history of women in science has developed into a flourishing field of academic activity. For more than fifty years now, feminist scholars have been raising awareness of the abilities and achievements of women in science throughout history. “Although we must be careful not to overestimate how women were historically active in science,” Jones cautions, “it is important to remember those women scientists who did contribute and the barriers they overcame to participate” (“Women written out of science history”). “This,” she explains, “is one strand in tackling the continuing tension between femininity and science, providing female role models, and increasing women’s participation across all scientific disciplines” (“Women written out of science history”).

With the ongoing publication of hundreds of history books, biographical dictionaries, scientific biographies, and scholarly papers, among others, the discipline of the history of women in science has created a veritable counter-discourse to the traditional, male-oriented history of science. Despite their ceaseless efforts to reveal women’s historical interactions with the sciences and the tremendous amount of scholarly research that has been produced and published in the form of mainly biographical but also historical studies over the last couple of decades, there remains much work to be done. At times we still labor under the impression that historically women have contributed little to what we now understand as the sciences. A survey conducted by the British grassroots movement ScienceGrrrl showed that the general public’s knowledge of women’s historical contributions to the sciences is until today incredibly limited. The study revealed that over half of the UK population suffers from the so called ‘Curie Syndrome’, the inability to name more than one historical female scientist (Onwurah). While names of male historical scientists like Newton, Darwin, or Einstein are widely familiar, when asked about women in the history of science, too often Marie Skłodowska-Curie is where the conversation begins and ends. Undoubtedly, Skłodowska-Curie, winner of two Nobel Prizes, deserves to be celebrated as one of the greatest scientists in history. Her discovery of the elements radium and polonium and her work on radioactivity contributed to further discoveries about the atom and lead to a treatment for cancer. Still, the popular impression that she was the only notable woman in the history of science is problematic not only because it paints a false picture of history, but because it preserves a masculine image of science and the scientist, which hinders women from participating in scientific endeavors in the same ways as men and thus prevents closing the above-mentioned gender gap in STEM.

In view of the continuing dominance of male scientists in the popular perception of the scientific past, this makes it even more welcome that feminist efforts in telling the herstory of science have now successfully bridged the gap from the ivory towers of academia to popular culture. With similar intentions but different means various agents in the cultural scene are bringing historical female scientists' trials and tribulations to a new, general reader-/viewership. The attention that novelists but also playwrights such as Alan Alda (*Radiance: The Passion of Marie Curie*), Lauren Gunderson (*Emilie: La Marquise du Châtelet Defends Her Life Tonight, Silent Sky, Ada and the Engine*), or Anna Ziegler (*Photograph 51*) as well as filmmakers such as Theodore Melfi (*Hidden Figures*), Marjane Satrapi (*Radioactive*), or Francis Lee (*Ammonite*) are beginning to pay now to the lives and accomplishments of historical female scientists is undoubtedly a positive development that supports feminist endeavors to raise the numbers of girls and women in STEM education, training, and employment. Stories of women's scientific achievements which allow movie- and theatergoers as well as readers of fiction to empathize with female scientists, to become aware of their struggles and successes in the past (and in the present), and to engage both intellectually and emotionally with their stories, are vital in challenging the public perception of science as a masculine pursuit. Like historical and biographical narratives, fictional stories can work to change attitudes, they can help redefine our cultural memory of the scientific past. Given their great popularity with readers, (bio-)fictions like those featuring in this study, might be seen as especially fruitful in this endeavor of changing the public perception of the history of science as a list of 'great men.' Written by bestselling novelists whose literary successes guarantee a secure readership and released by major publishing houses, they certainly reach a more general and bigger audience and thus have the potential to make these stories of historical women and their extraordinary achievements more broadly accessible and known. Indeed, being comparatively widely consumed genres and written by some well-known writers, novels like these could be seen as very effective in changing the public perception of (science) history. Such popular rewritings of the history of women in science alone will certainly not fix STEM's gender gap and leaky pipeline, they will not automatically change the culture of science to better attract and accommodate girls and women. Nevertheless, they are undeniably an important step in addressing the masculine hue that has been attached to STEM fields so long ago. I am confident that they will do their share in lastingly altering the male-connoted image of science (history) and thus eventually cure many from the 'Curie Syndrome'. It remains to be hoped that, in time, also the portrayals of historical female scientists within narratives of this kind will improve and live up to its feminist potential.

## 5 Works Cited

### Primary Literature:

- Benedict, Marie. *The Other Einstein*. Sourcebooks, 2016.
- Brown, Carrie. *The Stargazer's Sister*. Pantheon Books, 2015.
- Chevalier, Tracy. *Remarkable Creatures*. Paperback Edition, HarperCollins, 2014.
- Chiaverini, Jennifer. *Enchantress of Numbers: A Novel of Ada Lovelace*. Dutton, 2017.

### Secondary Literature:

- Abbate, Janet. "Women and Gender in the History of Computing." *IEEE Annals of the History of Computing*, vol. 25, no. 4, Oct-Dec 2003, pp. 4-8.  
DOI: <https://doi.org/10.1109/MAHC.2003.1253885>
- Abir-Am, Pnina. "Series Foreword." *Creative Couples in the Sciences*, edited by Helena Mary Pycior, Nancy G. Slack, and Pnina G. Abir-Am, Rutgers UP, 1996, pp. ix-xi.
- Adams, Beverly. *Ada Lovelace: The World's First Computer Programmer*. Pen and Sword History, 2023.
- Aiello, Luigia Carlucci. "The multifaceted impact of Ada Lovelace in the digital age." *Artificial Intelligence*, vol. 235, 2016, pp. 58-62.  
DOI: <https://doi.org/10.1016/j.artint.2016.02.003>
- Alic, Margaret. *Hypatia's Heritage. A History of Women in Science from Antiquity to the Late Nineteenth Century*. The Women's Press, 1986.
- Alpern, Sara, et al. "Introduction." *The Challenge of Feminist Biography. Writing the Lives of Modern American Women*, edited by Sara Alpern, Joyce Antler, Elizabeth Israels Perry, and Ingrid Winther Scobie, U of Illinois P, 1992, pp. 1-15.
- Asmodelle, Estelle. "The Collaboration of Mileva Marić and Albert Einstein." *Asian Journal of Physics*, vol. 24, no. 4, 2015.
- Aurora, Valerie. "Rebooting the Ada Lovelace Myth." *Ada's Legacy: Cultures of Computing from the Victorian to the Digital Age*, edited by Robin Hammerman and Andrew L. Russell, Morgan and Claypool, 2016, pp. 231-239.
- Babbage, Charles. *Passages from the Life of a Philosopher: The Autobiography of Charles Babbage*. Edited by Martin Campbell-Kelly. Pickering & Chatto, 1991.
- Bank of England. "Think Science and Celebrate Alan Turing."  
<https://www.bankofengland.co.uk/banknotes/50-pound-note-nominations>
- Barlow, Jenna Elizabeth. "Women's Historical Fiction 'After' Feminism: Discursive Reconstructions of the Tudors in Contemporary Literature." 2014, Stellenbosch University, PhD dissertation.
- Barrett, Andrea. "'The Stargazer's Sister' review: What could a woman find in the sky?" *Washington Post*, 11 January 2016. [https://www.washingtonpost.com/entertainment/books/the-stargazers-sister-review-what-could-a-woman-find-in-the-sky/2016/01/11/0f090a36-b876-11e5-829c-26ffb874a18d\\_story.html](https://www.washingtonpost.com/entertainment/books/the-stargazers-sister-review-what-could-a-woman-find-in-the-sky/2016/01/11/0f090a36-b876-11e5-829c-26ffb874a18d_story.html)

- Barry, Kathleen. "Toward a Theory of Women's Biography: From the Life of Susan B. Anthony." *All Sides of the Subject: Woman and Biography*, edited by Teresa Iles, Teachers College Press, Columbia University, 1992, pp. 23-35.
- Bennett, Judith M. *History Matters: Patriarchy and the Challenge of Feminism*. U of Pennsylvania P, 2006.
- Bergland, Renée L. *Maria Mitchell and the Sexing of Science. An Astronomer among the American Romantics*. Beacon Press, 2008.
- Bergman, Kerstin. "Girls Just Wanna Be Smart? The Depiction of Women Scientists in Contemporary Crime Fiction." *International Journal of Gender, Science and Technology*, vol. 4, no. 3, 2012, pp. 314-329.
- Bergmann, Ina. "In Poe's Shadow: Frances Sargent Osgood." *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, Palgrave Macmillan, 2022, pp. 247-270.
- . *The Nineteenth Century Revis(it)ed: The New Historical Fiction*. Routledge, 2021.
- . "Historical Biofiction: Writing Lives in Diane Glancy's *Stone Heart* (2003) and John May's *Poe & Fanny* (2004)." *The American Novel in the 21<sup>st</sup> Century. Cultural Contexts – Literary Developments – Critical Analyses*, edited by Michael Basseler and Ansgar Nünning, Wissenschaftlicher Verlag Trier, 2019, pp. 309-322.
- Berta, Annalisa, and Susan Turner. *Rebels, Scholars, Explorers. Women in Vertebrate Paleontology*. Johns Hopkins UP, 2020.
- Bird, Stephanie. *Recasting Historical Women. Female Identity in German Biographical Fiction*. Berg, 1998.
- Birkett Morris, Ellen. "Patience, Persistence Yield The Stargazer's Sister. An Authorlink interview By Columnist Ellen Birkett Morris." *Authorlink Writers and Readers Magazine*, February 29, 2016.  
<https://authorlink.com/interview/patience-persistence-yield-the-stargazers-sister-2016/>
- Blair, Kristine L. *Technofeminist Storiographies: Women, Information Technology, and Cultural Representation*. Lexington Books, 2019.
- Boldrini, Lucia. "Biofiction, Heterobiography and the Ethics of Speaking of, for and as Another." *Interdisciplinary Studies of Literature*, vol. 6, no. 1, March 2022, pp. 18-37.
- . *Autobiographies of Others. Historical Subjects and Literary Fiction*. Routledge, 2012.
- . "Heterobiography, Hypocriticism, and the Ethics of Authorial Responsibility." *Primerjalna Književnost*, vol. 32, Special Issue, 2009, pp. 249-259.
- Bouton, Katherine. "Tale of an Unsung Fossil Finder, in Fact and Fiction." *The New York Times*, 1 February 2010.  
<https://www.nytimes.com/2010/02/02/science/02scibooks.html>
- Bowden, Bertram Vivian, ed. *Faster Than Thought: A Symposium on Digital Computing Machines*. Pitman, 1971 [1953].
- Brock, Claire. *The Comet Sweeper. Caroline Herschel's Astronomical Ambitions*. Icon Books, 2007.
- Bromley, Allan. "Difference and Analytical Engines." *Computing before Computers*, edited by William Aspray, Iowa State University Press, 1990, pp. 59-98.

- Brück, Mary. *Women in Early British and Irish Astronomy: Stars and Satellites*. Springer, 2009.
- Buisine, Alain. "Biofictions (1991)." *Biographical Fiction: A Reader*, edited by Michael Lackey, Bloomsbury Academic, 2017, pp. 161-166.
- Burek, Cynthia Veronika, and Bettie Matheson Higgs. "The Role of Women in the History and Development of Geology: An Introduction." *The Role of Women in the History of Geology*, edited by Cynthia Veronika Burek and Bettie Matheson Higgs, The Geological Society London, Special Publication no. 281, 2007, pp. 1-8.
- Byrne, Kathleen. "Review: Remarkable Creatures, by Tracy Chevalier." *The Globe and Mail*, 22 March 2010. <https://www.theglobeandmail.com/arts/books-and-media/review-remarkable-creatures-by-tracy-chevalier/article4312301/>
- Cadbury, Deborah. *The Dinosaur Hunters. A Story of Scientific Rivalry and the Discovery of the Prehistoric World*. Paperback Edition, HarperCollins, 2001.
- Cahan, David. "Looking at Nineteenth-Century Science: An Introduction." *From Natural Philosophy to the Sciences. Writing the History of Nineteenth-Century Science*, edited by David Cahan, The U of Chicago P, 2003, pp. 3-15.
- Caine, Barbara. "Feminist Autobiography." *Companion to Women's Historical Writing*, edited by Mary Spongberg, Ann Curthoys, and Barbara Caine, Palgrave Macmillan, 2005, pp. 192-203.
- Chappell, Elizabeth. "Biography and Biofiction: Seeking Women's Voices from Nineteenth Century Australia." *TEXT Special Issue 66: Historical Biofictions from Australian and New Zealand*, edited by Kelly Gardiner and Catherine Padmore, 2022, pp. 1-17. DOI: <https://doi.org/10.52086/001c.36957>
- Charman-Anderson, Suw. "Ada Lovelace: A Simple Solution to a Lengthy Controversy." *Patterns*, vol. 1, no. 7, 2020, pp. 1-3.  
DOI: <https://doi.org/10.1016/j.patter.2020.100118>
- . "Ada Lovelace: Victorian Computing Visionary." *Finding Ada*. <https://findingada.com/shop/a-passion-for-science-stories-of-discovery-and-invention/ada-lovelace-victorian-computing-visionary/>
- Cheira, Alexandra. "'Hold Infinity in the palm of your hand/And Eternity in an hour': Visual Art and History in Tracy Chevalier's Novels." *Narrative Strategies in the Reconstruction of History*, edited by Ana Raquel Fernandes, Cambridge Scholars Publishing, 2018, pp. 91-114.
- Chiaverini, Jennifer. "Seven Questions with Jennifer Chiaverini." *Homepage of Jennifer Chiaverini*, 29 November 2017.  
<https://jenniferchiaverini.com/2017/11/seven-questions-with-jennifer-chiaverini/>
- Chittister, Joan. *Friendship of Women: The Hidden Tradition of the Bible*. BlueBridge, 2006.
- Chiu, Charles. *Frauen im Schatten*. Jugend & Volk, 1994.
- Clerke, Agnes Mary. *The Herschels and Modern Astronomy*. Cambridge University Press, 1895.

- Coe, Imogen R., and Alexander Ferworn. "The Life and Contributions of Countess Ada Lovelace. Unintended Consequences of Exclusion, Prejudice, and Stereotyping." *IEEE Technology and Society Magazine*, 2016, pp. 46-49.  
DOI: <https://doi.org/10.1109/MTS.2016.2618679>
- Cooper, Katherine, and Emma Short, editors. *The Female Figure in Contemporary Historical Fiction*. Palgrave Macmillan, 2012.
- Cooper, Katherine, and Emma Short. "Introduction: Histories and Heroines: The Female Figure in Contemporary Historical Fiction." *The Female Figure in Contemporary Historical Fiction*, edited by Katherine Cooper and Emma Short, Palgrave Macmillan, 2012, pp. 1-20.
- Coward, Rosalind. "'This Novel Changes Lives': Are Women's Novels Feminist Novels? A Response to Rebecca O'Rourke's Article 'Summer Reading'." *Feminist Review*, no. 5, 1980, pp. 53-64.
- Creese, Mary R.S. "Fossil Hunters, a Cave Explorer and a Rock Analyst: Notes on Some Early Women Contributors to Geology." *The Role of Women in the History of Geology*, edited by Cynthia Veronika Burek and Bettie Matheson Higgs, The Geological Society London, Special Publication no. 281, 2007, pp. 39-49.
- Creese, Mary R.S., and Thomas M. Creese. "British Women Who Contributed to Research in the Geological Sciences in the Nineteenth Century." *The British Journal for the History of Science*, vol. 27, no. 1, 1994, pp. 23-54.
- Davis, Larry E. "Mary Anning of Lyme Regis: 19th Century Pioneer in British Paleontology." *Headwaters: The Faculty Journal of the College of Saint Benedict and Saint John's University*, vol. 26, 2009, pp. 96-126.
- DeBakcsy, Dale. *A History of Women in Astronomy and Space Exploration. Exploring the Trailblazers of STEM*. Pen & Sword History, 2023.
- de Groot, Jerome. *The Historical Novel*. Routledge, 2010.
- Dotzler, Bernhard J. "Anmerkungen der Übersetzerin. Charles Babbage und Ada Augusta Lovelace in Kooperation." *Ada Lovelace: Die Pionierin der Computertechnik und ihre Nachfolgerinnen*, edited by Sybille Krämer, Brill, 2015, pp. 53-67.
- Eagleton, Mary. "Towards Definitions of Feminist Writing: Introduction." *Feminist Literary Theory: A Reader*, edited by Mary Eagleton, Wiley Blackwell, 2011, pp. 190-198.
- Einstein, Albert. *The Collected Papers of Albert Einstein* (CPAE). Volumes 1-16 (currently), with accompanying English translations for each volume. Various editors. Princeton University Press, 1987ff. Fully accessible online, along with English translations, at: <https://einsteinpapers.press.princeton.edu>
- Ellis, Richard. *Sea Dragons: Predators of the Prehistoric Oceans*. UP of Kansas, 2003.
- Emling, Shelley. *The Fossil Hunter. Dinosaurs, Evolution, and the Woman Whose Discoveries Changed the World*. Palgrave Macmillan, 2009.
- Essinger, James. *Ada's Algorithm: How Lord Byron's Daughter Ada Lovelace Launched the Digital Age*. Melville House, 2014.
- . *A Female Genius: How Ada Lovelace, Lord Byron's Daughter, Started the Computer Age*. Gibson Square, 2013.

- Esterson, Allen, and David C. Cassidy. *Einstein's Wife. The Real Story of Mileva Einstein-Marić*. With a Contribution from Ruth Lewin Sime. MIT Press, 2019.
- Fara, Patricia. "Weird Sisters?" *Nature*, vol. 495, 2013, pp. 43-44.  
DOI: <https://doi.org/10.1038/495043a>
- . *Pandora's Breeches: Women, Science and Power in the Enlightenment*. Pimlico, 2004.
- . "Portraying Caroline Herschel." *Endeavor*, vol. 26, no. 4, 2002, pp. 123-124.  
DOI: [https://doi.org/10.1016/s0160-9327\(02\)01449-7](https://doi.org/10.1016/s0160-9327(02)01449-7)
- Finch, Pauline. "Review: *Enchantress of Numbers: A Novel of Ada Lovelace* by Jennifer Chiaverini." *The Book Report Network*, February 9, 2018. <https://www.bookreporter.com/reviews/enchantress-of-numbers-a-novel-of-ada-lovelace>
- Fitzmaurice, James, Naomi J. Miller, and Sara Jayne Steen. "Introduction: Biography, Biofiction, and Gender in the Modern Age." *Authorizing Early Modern European Women: From Biography to Biofiction*, edited by James Fitzmaurice, Naomi J. Miller, and Sara Jayne Steen, Amsterdam UP, 2021, pp. 13-20.
- Flicker, Eva. "Between Brain and Breasts – Women Scientists in Fiction Film: On the Marginalization and Sexualization of Scientific Competence." *Public Understanding of Science*, vol. 12, 2003, pp. 307-318.  
DOI: <https://doi.org/10.1177/0963662503123009>
- Fölsing, Albrecht. "Keine Mutter der Relativitätstheorie." *Die Zeit*, 16 November 1990. <https://www.zeit.de/1990/47/keine-mutter-der-relativitaetstheorie>
- Fölsing, Ulla. *Geniale Beziehungen. Berühmte Paare in der Wissenschaft*. C.H. Beck, 1999.
- Frize, Peter. "The Bold and the Brave: Sophie Germain, Mileva Marić Einstein, and Rosalind Franklin." *The Bold and the Brave. A History of Women in Science and Engineering*, by Monique Frize with Contributions from Peter Frize and Nadine Faulkner, Ottawa UP, 2009, pp. 261-298.
- Fuegi, John, and Jo Francis. "Lovelace & Babbage and the Creation of the 1843 'Notes'." *IEEE Annals of the History of Computing*, 2003, pp. 16-26.  
DOI: <https://doi.org/10.1109/MAHC.2003.1253887>
- Gagnon, Pauline. "The Forgotten Life of Einstein's First Wife." *Scientific American*, December 19, 2016. <https://blogs.scientificamerican.com/guest-blog/the-forgotten-life-of-einsteins-first-wife/>
- Gardiner K. and Padmore, C. "Introduction." *TEXT Special Issue 66: Historical Biofictions from Australian and New Zealand*, edited by Kelly Gardiner and Catherine Padmore, 2022, pp. 1-15. DOI: <https://doi.org/10.52086/001c.36953>
- Genette, Gérard. *Paratexts: Thresholds of Interpretation*. Translated from the French by J.E. Lewin. Cambridge University Press, 2009 [1987].
- Glendening, John. *Science and Religion in Neo-Victorian Novels: Eye of the Ichthyosaur*. Routledge, 2013.
- Golay, Beth. "Marginalia: Carrie Brown." *KMUW – Wichita*, March 10, 2016. <https://www.kmuw.org/marginalia/2016-03-10/marginalia-carrie-brown>

- Golden, Frederic. "Albert Einstein." *Time*, 31 December 1999.  
<https://content.time.com/time/magazine/article/0,9171,993017-1,00.html>
- Golinski, Jan. "Introduction to 'Focus: History of Science and Historical Novels.'" *Isis*, no. 98, 2007, pp. 755-759.
- González-Pérez Susana, Ruth Mateos de Cabo, and Milagros Sáinz. "Girls in STEM: Is It a Female Role-Model Thing?" *Frontiers in Psychology*, vol. 11, article no. 2204, 2020, pp. 1-22. DOI: <https://doi.org/10.3389/fpsyg.2020.02204>
- Goodhue, Thomas. "Mary Anning: The Fossilist as Exegete." *Endeavour*, vol. 29, no. 1, 2005, pp. 28-32.
- Goodman, Irene. "Why Anne Boleyn is the Poster Girl of Historical Fiction." *Solander: The Magazine of the Historical Novel Society*, vol. 9, no. 2, Nov. 2005, p. 15.
- Gould, Stephen Jay, and Rosamond Wolff Purcell. *Finders, Keepers: Eight Collectors*. Norton, 1992.
- Gray, Jonathan. "Afterword: Studying Media with and without Paratexts." *Popular Media Cultures: Fans, Audiences and Paratexts*, edited by Lincoln Geraghty, Palgrave Macmillan, 2015, pp. 230-237.
- Guignery, Vanessa. "David Lodge's *Author, Author* and the Genre of the Biographical Novel." *Études Anglaise*, vol. 60, no. 2, 2007, pp. 160-172.
- Gutenberg, Andrea. *Mögliche Welten. Plot und Sinnstiftung im englischen Frauenroman*. Universitätsverlag C. Winter, 2000.
- Gymnich, Marion. "Methods of Feminist Literary Criticism, Gender Studies and Queer Studies." *Methods of Textual Analysis in Literary Studies: Approaches, Basics, Model Interpretations*, edited by Vera Nünning and Ansgar Nünning, Wissenschaftlicher Verlag Trier, 2020, pp. 151-172.
- Hall, Catherine. *White, Male and Middle-Class. Explorations in Feminism and History*. Polity Press, 1992.
- Halton, Mary. "Children Drawing More Women in Science." *BBC*, 20 March 2018.  
<https://www.bbc.com/news/science-environment-43460528>
- Hammerman, Robin, and Andrew L. Russell. "Introduction." *Ada's Legacy: Cultures of Computing from the Victorian to the Digital Age*, edited by Robin Hammerman and Andrew L. Russell, Morgan and Claypool, 2016, pp. 1-7.
- Hartmann, Doreen. "Zwischen Mathematik und Poesie. Leben und Werk von Ada Lovelace." *Ada Lovelace: Die Pionierin der Computertechnik und ihre Nachfolgerinnen*, edited by Sybille Krämer, Brill, 2015, pp. 17-33.
- Haynes, Roslynn. "Bringing Science into Fiction." *Zeitschrift für Anglistik und Amerikanistik*, vol. 64, no. 2, 2016, pp. 127-148. DOI: <https://doi.org/10.1515/zaa-2016-0015>
- Heilbrun, Carolyn G. *Writing a Woman's Life*. The Women's Press, 1989.
- Heilmann, Ann. "Neo-Victorian Darwin: Representations of Nineteenth-Century Scientist, Naturalist, and Explorer in Twenty-First-Century Women's Writing." *Reflecting on Darwin*, edited by Eckart Voigts, Barbara Schaff, and Monika Pietrzak-Franger, Ashgate, 2014, pp. 91-111.

- Herrmann, Sarah D., Robert Mark Adelman, Jessica E. Bodford, Oliver Graudejus, Morris A. Okun, and Virginia S. Y. Kwan. "The Effects of a Female Role Model on Academic Performance and Persistence of Women in STEM Courses." *Basic and Applied Social Psychology*, vol. 38, no. 5, 2016, pp. 258-268.  
DOI: <https://doi.org/10.1080/01973533.2016.1209757>
- Herschel, Caroline. *Caroline Herschel's Autobiographies*. Edited by Michael Hoskin. Science History Publications, 2003.
- Herschel, Margaret, editor. *Memoir and Correspondence of Caroline Herschel*. Cambridge University Press, 1876.
- "Herstory, n." *OED Online*, Oxford UP, September 2020.  
[www.oed.com/viewdictionaryentry/Entry/243412](http://www.oed.com/viewdictionaryentry/Entry/243412)
- Highfield, Roger, and Paul Carter. *The Private Lives of Albert Einstein*. St. Martin's Press, 1993.
- Hill, Bridget. *Women Alone: Spinsters in England, 1660-1850*. Yale UP, 2001.
- Hoffmann, Ute. *Computerfrauen. Welchen Anteil haben Frauen an Computergeschichte und -arbeit?* Hampp, 1987.
- Hollings, Christopher, Ursula Martin, and Adrian Rice. *Ada Lovelace: The Making of a Computer Scientist*. Bodleian Library, 2018.
- . "The Early Mathematical Education of Ada Lovelace." *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, vol. 32, no. 3, 2017, p. 221-234.  
DOI: <https://doi.org/10.1080/17498430.2017.1325297>
- . "The Lovelace – De Morgan Mathematical Correspondence: A Critical Re-Appraisal." *Historia Mathematica*, no. 40, 2017, pp. 202-231.  
DOI: <https://doi.org/10.1016/j.hm.2017.04.001>
- Holmes, Richard. "Computer Science: Enchantress of Abstraction." *Nature*, vol. 525, 2015, pp. 30-32. DOI: <https://doi.org/10.1038/525030a>
- . *The Age of Wonder. How the Romantic Generation Discovered the Beauty and Terror of Science*. Harper Press, 2009.
- Holton, Gerald. *Einstein, History, and Other Passions: The Rebellion Against Science at the End of the Twentieth Century*. 2<sup>nd</sup> ed., Harvard UP, 2000.
- Hooker, Claire. "Science." *Companion to Women's Historical Writing*, edited by Mary Spongberg et al., Palgrave Macmillan, 2005, pp. 507-514.
- Hoskin, Michael. "Caroline Herschel's Life of 'Mortifications and Disappointments'." *Journal of the History of Astronomy*, vol. 45, no. 4, 2014, pp. 442-466.
- . *Caroline Herschel. Priestess of the New Heavens*. Science History Publications, 2013.
- . *Discoverers of the Universe: William and Caroline Herschel*. Princeton UP, 2011.
- . "Caroline Herschel: 'The Unquiet Heart'." *Endeavour*, vol. 29, no. 1, 2005, pp. 22-27.
- . "Caroline Herschel as Observer." *Journal for the History of Astronomy*, vol. 36, part 4, no. 125, 2005, pp. 373-406.
- . "Alexander Herschel: The Forgotten Partner." *Journal for the History of Astronomy*, vol. 35, part 4, no. 121, 2004, pp. 387-420.
- , editor. *Caroline Herschel's Autobiographies*. Science History Publications, 2003.

- . "Caroline Herschel: Assistant Astronomer or Astronomical Assistant?" *History of Science*, vol. 40, no. 4, 2002, pp. 425-444.
- Hurt, Avery Elizabeth. *Ada Lovelace, Computer Programmer and Mathematician*. Cavendish Square Publishing, 2018.
- Huskey, Velma R., and Harry D. Huskey. "Lady Lovelace and Charles Babbage." *Annals of the History of Computing*, no. 2, 1980, p. 299-329.
- Hyman, Anthony. *Charles Babbage. Pioneer of the Computer*. Oxford University Press, 1982.
- Isaacson, Walter. *The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*. Simon and Schuster, 2014.
- . *Einstein. His Life and Universe*. Simon and Schuster, 2017 [2007].
- Johnson, Sarah L. *Historical Fiction II. A Guide to the Genre*. Libraries Unlimited, 2009.
- Jones, Claire. "Women have been written out of science history – time to put them back." *The Conversation*, 3 December 2018. <https://theconversation.com/women-have-been-written-out-of-science-history-time-to-put-them-back-107752>
- . "Women and Science." *History of Feminism: Routledge Historical Resources*, 2016. <https://www.routledgehistoricalresources.com/feminism/essays/women-and-science>
- . "Women in the History of Science." *BioZoom: Journal of the Danish Biochemical Society*, vol. 16, no. 4, 2014, pp. 2-4.
- Jones, Claire G., Alison E. Martin, and Alexis Wolf. "Women in the History of Science: Frameworks, Themes and Contested Perspectives." *The Palgrave Handbook of Women and Science since 1660*, edited by Claire G. Jones et al., Palgrave, 2020, pp. 3-24. DOI: <https://doi.org/10.1007/978-3-030-78973-2>
- Kalb, Deborah. "Q&A with Carrie Brown." *Book Q&A with Deborah Kalb*. 11 May 2016. <http://deborahkalbbooks.blogspot.com/2016/05/q-with-carrie-brown.html>
- Kasman, Alex. "Review of Enchantress of Numbers: A Novel of Ada Lovelace (2017) by Jennifer Chiaverini." *Mathematical Fiction. A list compiled by Alex Kasman*. N.d. <https://kasmana.people.cofc.edu/MATHFICT/mfview.php?callnumber=mf1269>
- Keener, John F. *Biography and the Postmodern Historical Novel*. Mellen, 2001.
- Keitel, Evelyn. "Lyrik, Inzest und die Liebe zur Mathematik: Ein schwieriges Erbe für Lord Byrons Töchter." *Töchter berühmter Männer. Neun biographische Porträts*, edited by Luise F. Pusch, Insel Verlag, 1988, pp. 155-208.
- Kennedy, Victoria. "Feminist Historical Re-Visioning or 'Good Mills and Boon'?: Gender, Genre, and Philippa Gregory's *The Other Boleyn Girl*." *Pivot*, vol. 5, no. 1, 2016, 42-74.
- King, Jeannette. *The Victorian Woman Question in Contemporary Feminist Fiction*. Palgrave Macmillan, 2005.
- Klein, Christa. "RePresenting Ada – Conceiving Ada." *Freiburger GeschlechterStudien*, no. 24, 2010, pp. 277-290.

- Klein, Christian. "Analyse biographischer Erzählungen: Kontext." *Handbuch Biographie. Methoden, Traditionen, Theorien*, edited by Christian Klein, J.B. Metzler, 2009, pp. 199-202.
- Kohlke, Marie-Luise. "Neo-Victorian Biofiction and the Special/Spectral Case of Barbara Chase-Riboud's *Hottentot Venus*." *Australasian Journal of Victorian Studies*, vol. 18, no. 3, 2013, pp. 4-21.
- Kohlke, Marie-Luise and Christian Gutleben. "Taking Biofictional Liberties: Tactical Games and Gambits with Nineteenth-Century Lives." *Neo-Victorian Biofiction: Reimagining Nineteenth-Century Historical Subjects*, edited by Marie-Luise Kohlke and Christian Gutleben, Brill, 2020, pp. 1-53.
- Kohlstedt, Sally Gregory, and Donald L. Opitz. "Re-Imag(in)ing Women in Science: Projecting Identity and Negotiating Gender in Science." *The Changing Image of the Sciences*, edited by Ida H. Stamhuis, Teun Koetsier, Cornelis de Pater, and Albert van Helden, Kluwer Academic Publishers, 2002, pp. 105-139.
- Kölbl-Ebert, Martina. "Ladies with Hammers – Exploring a Social Paradox in Early Nineteenth Century Britain." *Celebrating 100 Years of Female Fellowship of the Geological Society: Discovering Forgotten Histories*, edited by Cynthia Veronika Burek and Bettie Matheson Higgs, The Geological Society, Special Publication no. 506, 2021, pp. 55-62.
- . "The Role of British and German Women in Early 19<sup>th</sup>-Century Geology: A Comparative Assessment." *The Role of Women in the History of Geology*, edited by Cynthia Veronika Burek and Bettie Matheson Higgs, The Geological Society London, Special Publication no. 281, 2007, pp. 155-163.
- Kölbl-Ebert, Martina, and Susan Turner. "Towards a History of Women in the Geosciences." Geological Society, London, Special Publications, vol. 442, 2017, pp. 205-216. DOI: <https://doi.org/10.1144/sp442.16>
- Kragh, Helge. *The Historiography of Science*. Cambridge University Press, 1987.
- Krstić, Dord. *Mileva & Albert Einstein: Their Love and Scientific Collaboration*. Didakta, 2004.
- Lackey, Michael. *Biofiction: An Introduction*. Routledge, 2022.
- . "Biofiction's Uncanny Impact on Undergraduate Studies and Research." *a|b: Auto/biography Studies*, vol. 36, no. 2, 2021, pp. 441-450. DOI: <https://doi.org/10.1080/08989575.2021.1886450>
- . "Introduction: The Agency Aesthetics of Biofiction in the Age of Postmodern Confusion." *Conversations with Biographical Novelists: Truthful Fictions across the Globe*, edited by Michael Lackey, Bloomsbury Academic, 2018, pp. 1-22.
- . "The Ethical Benefits and Challenges of Biofiction for Children." *a/b: Auto/Biography Studies*, vol. 33, no. 1, 2018, pp. 5-21. DOI: <https://doi.org/10.1080/08989575.2018.1389820>
- . "The Futures of Biofiction Studies." *a/b: Auto/Biography Studies*, vol. 32, no. 2, 2017, pp. 343-346. DOI: <https://doi.org/10.1080/08989575.2017.1288978>
- . *Biographical Fiction: A Reader*. Bloomsbury Academic, 2017.

- . "Introduction: A Narrative Space of Its Own." *Biographical Fiction: A Reader*, edited by Michael Lackey, Bloomsbury Academic, 2017, pp. 1-15.
- . "Locating and Defining the Bio in Biofiction." *a/b: Auto/Biography Studies*, vol. 31, no. 1, 2016, pp. 3-10. DOI: <https://doi.org/10.1080/08989575.2016.1095583>
- . *The American Biographical Novel*. Bloomsbury Academic, 2016.
- . "Introduction: The Rise of the American Biographical Novel." *Truthful Fictions: Conversations with American Biographical Novelists*, edited by Michael Lackey, Bloomsbury Academic, 2014, pp. 1-25.
- Lackey, Michael, and Todd Avery. "To the Reader." *Virginia Woolf Miscellany*, no. 93, 2018, pp. 1-2.
- LaFolette, Marcel. "Eyes on the Stars: Images of Women Scientists in Popular Magazines." *Science, Technology, & Human Value*, vol. 13, nos. 3 & 4, Summer and Autumn 1988, pp. 262-275.
- Lanone, Catherine. "Stone Spirals and Retro Fiction: Tracy, Chevalier, Joan Thomas, and Mary Anning." *Art and Science in Word and Image: Exploration and Discovery*, edited by Keith Williams et al., Brill, 2019, pp. 68-84.
- Latham, Monica. "Thieving Facts and Reconstructing Katherine Mansfield's Life in Janice Kulyk Keefer's *Thieves*." *The European Journal of Life Writing*, vol. 3, 2014, pp. 103-120.
- Layne, Bethany. "Introduction: Biofiction and Writers' Afterlives." *Biofiction and Writers' Afterlives*, edited by Bethany Layne, Cambridge Scholars Publishing, 2020, pp. 1-10.
- . *Henry James in Contemporary Biofiction. The Real Thing*. Palgrave Macmillan, 2020.
- . "Biofiction and the Paratext: Troubling Claims to Truth." *Virginia Woolf Miscellany*, no. 93, 2018, pp. 18-21.
- Leader, Zachery. "Introduction." *On Life-Writing*, edited by Zachery Leader, Oxford UP, 2015, pp. 1-6.
- Leahy, Colleen. "New Novel Dives into the Forgotten Story of an Early Female Computer Programmer." *Wisconsin Public Radio*, 18 April 2019.  
[www.wpr.org/new-novel-dives-forgotten-story-early-female-computer-programmer](http://www.wpr.org/new-novel-dives-forgotten-story-early-female-computer-programmer)
- Ledgard, Henry. *ADA. An Introduction*. Springer, 1983.
- Lee, Hermione. *Biography: A Very Short Introduction*. Oxford UP, 2009.
- Lemonick, Michael. *The Georgian Star. How William and Caroline Herschel Revolutionized Our Understanding of the Cosmos*. W.W. Norton & Company, 2009.
- Lethbridge, Lucy. *Ada Lovelace. Computer Wizard of Victorian England*. Short Books, 2004.
- Lewin Sime, Ruth. "Women in Science." Esterson, Allen, and David C. Cassidy. *Einstein's Wife. The Real Story of Mileva Einstein-Marić*. With a Contribution from Ruth Lewin Sime. MIT Press, 2019, pp. 89-98.

- Lewis, Judith S. "Princess of Parallelograms and Her Daughter. Math and Gender in the Nineteenth Century English Aristocracy." *Women's Studies International Forum*, vol. 18, no. 4, 1995, pp. 387-394.
- Librie, Felicity. "Many Voices: An Interview with Tracy Chevalier." *Fiction Writers Review*, 6 January 2011. <https://fictionwritersreview.com/interview/many-voices-an-interview-with-tracy-chevalier/>
- Lukács, Georg. *The Historical Novel*. Translated by Hannah and Stanley Mitchell, Beacon Press, 1962 [1937].
- MacAllister, Greer. "#WomensHistoryReads Interview: Marie Benedict." *Website of Greer MacAllister*, 2 February 2018. <http://www.greeracallister.com/blog/2018/2/1/98md23vzev588kakjr4allqaz0b4b0>
- Martínez, Alberto A. "Book Reviews: Marie Benedict [Heather Terrell], *The Other Einstein: A Novel*, Naperville, IL: Sourcebooks Landmark, 2016." *Physics in Perspective*, vol. 20, 2018, pp. 208-217.
- . *Science Secrets: The Truth about Darwin's Finches, Einstein's Wife, and Other Myths*. University of Pittsburgh Press, 2011.
- . "Handling Evidence in History: The Case of Einstein's Wife." *School Science Review*, vol. 86, no. 316, 2005, pp. 49-56.
- . "Arguing about Einstein's Wife." *Physics World*, 10 April 2004. <https://physicsworld.com/a/arguing-about-einsteins-wife/>
- Mary Anning Rocks. *Mary Anning Rocks*. <https://www.maryanningrocks.co.uk>
- "Mary Anning's 215th Birthday." *Google*, 21 May 2015. [doodles.google/doodle/mary-annings-215th-birthday/](https://doodles.google/doodle/mary-annings-215th-birthday/)
- Mayer, Sandra, and Julia Novak. "Life Writing and Celebrity: Exploring Intersections." *Life Writing*, vol. 16, no. 2, 2019, pp. 149-155. DOI: <https://doi.org/10.1080/14484528.2019.1539208>
- McAuliffe, Anthony. *Einstein Himself. The Descent of Mileva Marić, Physicist, Genius*. 2023.
- McCombs, Kevin. *Caroline Herschel: Astronomer and Cataloger of the Sky*. Cavendish Square Publishing, 2017.
- McEwan, Cheryl. "Gender, Science and Physical Geography in Nineteenth-Century Britain." *Area*, vol. 30, no. 3, 1998, pp. 215-233.
- Merton, Robert K. "The Matthew Effect in Science." *Science*, vol. 159, no. 3810, 1968, pp. 56-63. <http://www.jstor.org/stable/1723414>
- Middeke, Martin. "Introduction." *Biofictions: The Rewriting of Romantic Lives in Contemporary Fiction and Drama*, edited by Martin Middeke and Werner Huber, Camden House, 1999, pp. 1-25.
- Middeke, Martin and Werner Huber, editors. *Biofictions: The Rewriting of Romantic Lives in Contemporary Fiction and Drama*. Camden House, 1999.
- Miller, Casey, and Kate Swift. *Words and Women*. Victor Gollancz LTD, 1977.

- Mirmohamadi, Kylie. "Portraits of the Writer as a Young Woman: Re-Imagining Charlotte Brontë in Biofiction." *Biofiction and Writers' Afterlives*, edited by Bethany Layne, Cambridge Scholars Publishing, 2020, pp. 40-53.
- Misa, Thomas J. "Charles Babbage, Ada Lovelace, and the Bernoulli Numbers." *Ada's Legacy: Cultures of Computing from the Victorian to the Digital Age*, edited by Robin Hammerman and Andrew L. Russell, Morgan and Claypool, 2016, pp. 11-31.
- Moi, Toril. "Feminist, Female, Feminine." *The Feminist Reader: Essays in Gender and the Politics of Literary Criticism*, edited by Catherine Belsey and Jane Moore, Basil Blackwell, 1989, pp. 117-132.
- Müller, Christine. "The 'Mother of the Theory of Relativity'? Re-imagining Mileva Marić in Marie Benedict's *The Other Einstein* (2016)." *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, Palgrave Macmillan, 2022, pp. 317-336.
- . "Women and Science in Tracy Chevalier's Historical Novel *Remarkable Creatures* (2009)." *Contradiction Studies – Exploring the Field*, edited by Gisela Febel, Kerstin Knopf, and Martin Nonhoff, Springer VS, 2023, pp. 259-276.
- Napirca, Janine. "Netflix dreht in Deutschland: So unerfüllt war die Liebe von Albert Einstein und Mileva, der er seinen Nobelpreis verdankt." *TZ*, July 15, 2022. <https://www.tz.de/leben/serien/netflix-deutschland-liebesgeschichte-albert-einstein-mileva-ulm-verfilmung-nobelpreis-genie-physik-zr-91669183.html>
- Neumann, Birgit, and Ansgar Nünning. *An Introduction to the Study of Narrative Fiction*. Klett, 2011 [2008].
- Newman, Susan. "The Other Einstein – Was There One?" *Psychology Today*, September 13, 2016. <https://www.psychologytoday.com/intl/blog/singletons/201609/the-other-einstein-was-there-one#:~:text=The%20book%20is%20an%20engaging,it%20and%20decide%20for%20yourself>
- Ní Dhúill, Caitríona. *Metabiography: Reflecting on Biography*. Palgrave Macmillan, 2020.
- . "Am Beispiel der Brontës: Gender-Entwürfe im biographischen Kontext." *Spiegel und Maske. Konstruktionen biographischer Wahrheit*, edited by Bernhard Fetz and Hannes Schweiger, Paul Zsosnay Verlag, 2006, pp. 113-127.
- Noble, David F. *A World Without Women. The Christian Clerical Culture of Western Science*. Alfred A. Knopf, 1996.
- Noè, Leslie, et al. "Mary Anning, Alfred Nicholson Leeds and Steve Etches. Comparing the Three Most Important UK 'Amateur' Fossil Collectors and Their Collections." *Proceedings of the Geological Association*, vol. 130, issue 3-4, June 2019, pp. 366-389.
- Novak, Julia. "Screening Clara Schumann: Biomythography, Gender, and the Relational Biopic." *Biography*, vol. 45, no. 1, 2022, pp. 1-26. DOI: <https://doi.org/10.1353/bio.2022.0015>
- . "Experiments in Life-Writing: Introduction." *Experiments in Life-Writing: Intersections of Auto/Biography and Fiction*, edited by Julia Novak and Lucia Boldrini, Palgrave Macmillan, 2017, pp. 1-36.

- . "Feminist to Postfeminist: Contemporary Biofictions by and about Women Artists." *Angelaki: Journal of the Theoretical Humanities*, vol. 22, no. 1, 2017, pp. 223-230. DOI: <https://doi.org/10.1080/0969725X.2017.1286090>
- . "The Notable Woman in Fiction: The Afterlives of Elizabeth Barrett Browning." *a/b: Auto/Biography Studies*, vol. 31, no. 1, 2016, pp. 83-107. DOI: <https://doi.org/10.1080/08989575.2016.1092789>
- . "Nell Gwen in Contemporary Romance Novels: Biography and the Dictates of 'Genre Literature'." *Contemporary Women's Writing*, vol. 8, no. 3, 2014, pp. 373-390. DOI: <https://doi.org/10.1093/cww/vpu007>
- . "Father and Daughter across Europe: The Journeys of Clara Wieck-Schumann and Artemisia Gentileschi in Fictionalised Biographies." *European Journal of Life Writing*, no 1, 2012. DOI: <https://doi.org/10.5463/ejlw.1.25>
- . "Biographical Fiction to Historiographic Metafiction: Rewriting Clara Schumann." *Brno Studies in English. Special issue: Transgressive Auto/Biography*, vol. 37, no. 2, 2011, pp. 145-158. DOI: <https://doi.org/10.5817/BSE2011-2-11>
- Novak, Julia, and Caitríona Ní Dhúill. "Imagining Gender in Biographical Fiction: Introduction." *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, Palgrave Macmillan, 2022, pp. 1-45.
- Nünning, Ansgar. "Meta-Autobiographien: Gattungstypologische, narratologische und funktionsgeschichtliche Überlegungen zur Poetik und zum Wissen innovativer Autobiographien." *Autobiographie: Eine interdisziplinäre Gattung zwischen klassischer Tradition und (post)moderner Variation*, edited by Uwe Baumann and Karl August Neuhausen, Vandenhoeck & Ruprecht unipress, 2013, pp. 27-81.
- . "Fictional Metabiographies and Metaautobiographies: Towards a Definition, Typology and Analysis of Self-Reflexive Hybrid Metagenres (2005)." *Biographical Fiction: A Reader*, edited by Michael Lackey, Bloomsbury Academic, 2017, pp. 363-379.
- . "'Herstory' als 'History': Bausteine für eine (noch zu schreibende) Geschichte des historischen Frauenromans." *Gender, Culture, Poetics. Zur Geschlechterforschung in der Literatur- und Kulturwissenschaft*, edited by Andrea Gutenberg and Ralf Schneider, Wissenschaftlicher Verlag Trier, 1999, pp. 277-312.
- . *Von historischer Fiktion zu historiographischer Metafiktion. Band II: Erscheinungsformen und Entwicklungstendenzen des historischen Romans in England seit 1950*. Wissenschaftlicher Verlag Trier, 1995.
- Ogden, Jenni. "The Thin Line Between Fiction and Fact." *Psychology Today*, September 2, 2016. <https://www.psychologytoday.com/intl/blog/trouble-in-mind/201609/the-thin-line-between-fiction-and-fact>
- Ogilvie, Marilyn B. *Searching the Stars: The Story of Caroline Herschel*. The History Press, 2011 [2008].
- Ogilvie, Marilyn B., and Joy Harvey. "Philpot, Elizabeth." *The Biographical Dictionary of Women in Science: Pioneering Lives from Ancient Times to the Mid-Twentieth Century. Volume 2: L-Z*, edited by Marilyn Ogilvie and Joy Harvey, Routledge, 2000, p. 1080.

- . "Philpot, Margaret." *The Biographical Dictionary of Women in Science: Pioneering Lives from Ancient Times to the Mid-Twentieth Century. Volume 2: L-Z*, edited by Marilyn Ogilvie and Joy Harvey, Routledge, 2000, p. 1080.
- . "Philpot, Mary." *The Biographical Dictionary of Women in Science: Pioneering Lives from Ancient Times to the Mid-Twentieth Century. Volume 2: L-Z*, edited by Marilyn Ogilvie and Joy Harvey, Routledge, 2000, p. 1080.
- Olson, Roberta J. M., and Jay M. Pasachoff. "The Comets of Caroline Herschel (1750-1848), Sleuth of the Skies at Slough." *Culture and Cosmos*, vol. 16, no. 1 and 2, 2012, pp. 1-26.
- Onwurah, Chi. "Why I Am Not Surprised That 54% of Us Cannot Name a Female Scientist." *Huffington Post*, 1 April 2014. [https://www.huffingtonpost.co.uk/chi-onwurah/why-i-am-not-surprised-th\\_b\\_5067497.html?guccounter=1](https://www.huffingtonpost.co.uk/chi-onwurah/why-i-am-not-surprised-th_b_5067497.html?guccounter=1)
- Orlofsky, Victoria Ludas. "'A Different Sort of Bird'. Ada Lovelace in Steampunk Literature." *Ada's Legacy: Cultures of Computing from the Victorian to the Digital Age*, edited by Robin Hammerman and Andrew L. Russell, Morgan and Claypool, 2016, pp. 169-182.
- Overbye, Dennis. *Einstein in Love: A Scientific Romance*. Bloomsbury, 2000.
- Owens, Trevor. "Going to School with Madame Curie and Mr. Einstein: Gender Roles in Children's Science Biographies." *Cultural Studies of Science Education*, no. 4, 2009, pp. 929-943.
- Padel, Ruth. "Remarkable Creatures by Tracy Chevalier. Book Review." *The Guardian*, Guardian News and Media, 28 August 2009. <https://www.theguardian.com/books/2009/aug/29/remarkable-creatures-tracy-chevalier>
- Parini, Jay. "Writing Biographical Fiction: Some Personal Reflections." *a/b: Auto/Biography Studies*, vol. 31, no. 1, 2016, pp. 21-26. DOI: <https://doi.org/10.1080/08989575.2016.1088732>
- Pascoe, Judith. *The Hummingbird Cabinet. A Rare and Curious History of Romantic Collectors*. Cornell UP, 2006.
- Pearson, Ann. "Biofiction: Creative Retelling – or Appropriation? *Ann Pearson Author*, 21 August 2020. <https://www.annpearsonauthor.com/2020/08/21/biofiction-creative-retelling-or-appropriation/>
- Pierce, Patricia. *Jurassic Mary. Mary Anning and the Primeval Monsters*. 2006. The History Press, 2014.
- Pittock, Murray, and Muffy Calder, Valerie Barr, Suw Charman-Anderson, Cheryl Praeger, panelists. "Enchantress of Abstraction, Bride of Science: must Ada Lovelace be a superheroine?" *Ada Lovelace Symposium – Celebrating 200 Years of a Computer Visionary*, Podcast, 18 December 2015, University of Oxford. <https://podcasts.ox.ac.uk/enchantress-abstraction-bride-science-must-ada-lovelace-be-superheroine>
- Plant, E., Ashby, Baylor, A. L., Doerr, C. E., and Rosenberg-Kima, R. B. "Changing Middle-School Students' Attitudes and Performance Regarding Engineering with

- Computer-based Social Models. *Computer and Education*, vol. 53, no. 2, 2009, pp. 209-215. DOI: <https://doi.org/10.1016/j.compedu.2009.01.013>
- Popović, Milan, ed. *In Albert's Shadow. The Life and Letters of Mileva Marić, Einstein's First Wife*. The Johns Hopkins UP, 2003.
- Pusch, Luise F. "Nachwort: Schwestern oder Die Bilanz des Unglücks." *Schwestern berühmter Männer. Zwölf biographische Portraits*, edited by Luise F. Pusch, Insel, 1985, pp. 539-556.
- Pycior, Helena Mary, Nancy G. Slack, and Pnina G. Abir-Am. "Introduction." *Creative Couples in the Sciences*, edited by Helena Mary Pycior, Nancy G. Slack, and Pnina G. Abir-Am, Rutgers UP, 1996, pp. 3-35.
- Rauch, Judith. "Mutter der Relativitätstheorie." *EMMA*, 1 May 2005. <https://www.emma.de/artikel/frauen-der-wissenschaft-mutter-der-relativitaetstheorie-263153>
- . "Mathematikerin: Ada Lovelace." *EMMA*, January 1987, pp. 50-51.
- Renn, Jürgen, and Robert Schulmann, eds. Transl. Shawn Smith. *Albert Einstein / Mileva Marić. The Love Letters*. Princeton UP, 1992.
- Rohn, Jennifer. "Q&A with Tracy Chevalier: On Facts and Fiction." *Nature*, vol. 468, 2010, p. 172.
- Rose, Agnes. "Interview with Marie Benedict." *Website of Agnes Rose*, January 21, 2017. <http://agnes-books.blogspot.com/2017/01/before-my-research-for-other-einstein-i.html?m=0>
- Rossiter, Margaret. "The Matthew Matilda Effect in Science." *Social Studies of Science*, vol. 23, 1993, pp. 325-341.
- Rudwick, Martin J.S. *Earth's Deep History. How It Was Discovered and Why It Matters*. Paperback Edition, The U of Chicago P, 2016.
- . *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution*. The U of Chicago P, 2005.
- Scarpato, Susanna. *Elusive Subjects: Biography as Gendered Metafiction*. Troubador Publishing, 2005.
- Schabert, Ina. *In Quest of the Other Person. Fiction as Biography*. Francke Verlag, 1990.
- . "Fictional Biography, Factual Biography, and their Contamination (1982)." *Biographical Fiction: A Reader*, edited by Michael Lackey, Bloomsbury Academic, 2017, pp. 284-289.
- . *Der historische Roman in England und Amerika*. Wissenschaftliche Buchgesellschaft Darmstadt, 1981.
- Schaffeld, Norbert. "Aspects of the Science Novel." *Zeitschrift für Anglistik und Amerikanistik*, vol. 64, no. 2, 2016, pp. 121-125.  
DOI: <https://doi.org/10.1515/zaa-2016-0014>
- . "The Historical Science Novel and the Narrative of an Emergent Scientific Discourse." *Zeitschrift für Anglistik und Amerikanistik*, vol. 64, no. 2, 2016, pp. 169-187. DOI: <https://doi.org/10.1515/zaa-2016-0017>
- Schiebinger, Londa. *Has Feminism Changed Science?* Harvard UP, 1999.
- . *The Mind Has No Sex? Women in the Origins of Modern Science*. Harvard UP, 1989.

- . "The History and Philosophy of Women in Science: A Review Essay." *Signs*, vol. 2, no. 2, 1987, pp. 305-332.
- Schlombs, Corinna. "Women, Gender and Computing: The Social Shaping of a Technical Field from Ada Lovelace's Algorithm to Anita Borg's 'Sisters'." *The Palgrave Handbook of Women and Science since 1600*, edited by Claire Jones et al., Springer Nature, 2022, p. 307-331.
- Schweiger, Hannes. "Biographiewürdigkeit." *Handbuch Biographie. Methoden, Traditionen, Theorien*, edited by Christian Klein, J.B. Metzler, 2009, pp. 32-36.
- Sharpe, Tom. *Fossil Woman: A Life of Mary Anning*. 2020. The Dovecote Press, 2021.
- Sheffield, Suzanne Le-May. *Women and Science. Social Impact and Interaction*. ABC CLIO, 2004.
- Shmydkaya, Ksenia. "Stanisława Przybyszewska as a Case of Posthumous Victimisation: On the Ethics of Biofiction." *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, Palgrave Macmillan, 2022, pp. 271-293.
- Short, Emma. "Making Up, or Making Over: Reconstructing the Modern Female Author." *The Female Figure in Contemporary Historical Fiction*, edited by Katherine Cooper and Emma Short, Palgrave Macmillan, 2012, pp. 41-59.
- Siemann, Catherine. "Ada Bright and Dark: Steampunk Representations of the Enchantress of Numbers." *Ada's Legacy: Cultures of Computing from the Victorian to the Digital Age*, edited by Robin Hammerman and Andrew L. Russell, Morgan and Claypool, 2016, pp. 183-201.
- Southgate, Beverley. *History: What and Why? Ancient, Modern and Postmodern Perspectives*. Routledge, 1997.
- Stachel, John. "Albert Einstein and Mileva Marić: A Collaboration that Failed to Develop." *Creative Couples in the Sciences*, edited by Helena M. Pycior, Nancy G. Slack, and Pnina G. Abir-Am, Rutgers UP, 1996, pp. 207-219.
- Stanley, Liz. *The Auto/biographical I: The Theory and Practice of Feminist Auto/biography*. Manchester UP, 1992.
- Stäudner, Frank. "Keine Mutter der Relativitätstheorie. Die Kontroverse um den Anteil Mileva Marićs an der Speziellen Relativitätstheorie." *Internationale Zeitschrift für Geschichte und Ethik der Naturwissenschaft, Technik und Medizin*, vol. 3, 1995, pp. 45-54.
- Stein, Dorothy. *Ada: A Life and a Legacy*. MIT Press, 1985.
- . "Lady Lovelace's Notes: Technical Text and Cultural Context." *Victorian Studies*, 1984, vol. 28, no. 1, pp. 33-67.
- Steinke, Jocelyn. "Portrayals of Female Scientists in the Mass Media." *The International Encyclopedia of Media Studies. Volume III: Content and Representation*, edited by Sharon R. Mazzarella, Blackwell Publishing, 2013, pp. 1-18.
- Stephan, Inge. *Das Schicksal der begabten Frau: Im Schatten berühmter Männer*. Kreuz Verlag, 1989.
- Strange, Philip. "Buried Treasure." Review of *Remarkable Creatures*, written by Tracy Chevalier. *LabLit*, 10 October 2010. <http://www.lablit.com/article/625>

- Stuart-Reid, Patricia. "Biofiction versus Biography: Definitions, Goals and Techniques of Two Versions of Rupert Brooke's Life, the Biofiction *The Great Lover* by Jill Dawson (2009) and the Biography *Rupert Brooke: Life, Death and Myth* by Nigel Jones (2015)." *Biofiction and Writers' Afterlives*, edited by Bethany Layne, Cambridge Scholars Publishing, 2020, pp. 68-79.
- Sugars, Cynthia. "The Evolutionary Sublime: Deep Time and the Historical Novel in Joan Thomas's *Curiosity*." *Mosaic: An Interdisciplinary Critical Journal*, vol. 51, no. 3, September 2018, pp. 199-221. <https://www.jstor.org/stable/26974118>
- Swade, Doron. *The Difference Engine: Charles Babbage and the Quest to Build the First Computer*. Penguin Books, 2000.
- The Geological Society. "Mary Anning and the Geological Society." *The Geological Society of London*. <https://www.geolsoc.org.uk/MaryAnning>
- The Royal Society. "Most Influential British Women in Science." *The Royal Society*. <https://royalsociety.org/news/2010/influential-british-women/>
- Thomas, Joan. *Curiosity: A Love Story*. Emblem, 2010.
- Tickell, Crispin. "Princess of Paleontology." *Nature*, vol. 400, 1999, p. 321.
- Toole, Betty Alexandra. *Ada, the Enchantress of Numbers: Prophet of the Computer Age*. Strawberry Press, 1998.
- . "Ada Byron, Lady Lovelace, an Analyst and Metaphysician." *IEEE Annals of the History of Computing*, vol. 18, no. 3, 1996, pp. 4-12.
- . *Ada, the Enchantress of Numbers. A Selection from the Letters of Lord Byron's Daughter and Her Description of the First Computer*. Strawberry Press, 1992.
- Torrens, Hugh. "Presidential Address: Mary Anning (1799–1847) of Lyme; 'The Greatest Fossilist the World Ever Knew.'" *The British Journal for the History of Science*, vol. 28, no. 3, 1995, pp. 257-284. <http://www.jstor.org/stable/4027645>
- Truhović-Gjurić, Desanka. *Im Schatten Albert Einsteins: Das tragische Leben der Mileva Einstein-Marić*. Paul Haupt, 1988.
- Troemel-Ploetz, Senta. "Mileva Einstein-Marić. The Woman Who Did Einstein's Mathematics." *Women's Studies International Forum*, vol. 13, no. 5, 1990, pp. 415-432.
- Trofimenkoff, Susan Mann. "Feminist Biography." *Atlantis*, vol. 10, no. 2, 1985, pp. 1-9.
- Turner, Susan, Cynthia V. Burek, and Richard T.J. Moody. "Forgotten Women in an Extinct Saurian (Man's) World." *Dinosaurs and Other Extinct Saurians: A Historical Perspective*, edited by Richard T.J. Moody et al., The Geological Society London, Special Publication, no. 343, 2010, pp. 111-153.
- Tyson, Lois. *Critical Theory Today. A User-Friendly Guide*. 2<sup>nd</sup> Edition, Routledge, 2006.
- UNESCO. "Women in Science. Fact Sheet No. 60." *UNESCO Institute for Statistics*, June 2020. <https://uis.unesco.org/sites/default/files/documents/fs60-women-in-science-2020-en.pdf>
- Van Camp, Amanda R., Patricia N. Gilbert, and Laurie T. O'Brien. "Testing the Effects of a Role Model Intervention on Women's STEM Outcomes." *Social Psychology of Education*, no. 22, 2019, pp. 649-671.  
DOI: <https://doi.org/10.1007/s11218-019-09498-2>

- Vanucci, Valentina. "The Canon and Biofiction: The Subjects of History and New Literary Worlds (2011)." *Biographical Fiction: A Reader*, edited by Michael Lackey, Bloomsbury Academic, 2017, pp. 381-407.
- Vicars, James. "Fiction as a Biographic Space for Exploring 'Lost' Lives." *Recovering History Through Fact and Fiction: Forgotten Lives*, edited by Dallas John Baker, Donna Lee Brian, and Nike Sulway, Cambridge Scholars Publishing, 2017, pp. 99-109.
- . "Discarding the Disclaimer? Reappraising Fiction as a Mode of Biography." *Text: Journal of Writing and Writing Courses*, vol. 20, no. 1, 2016, pp. 1-17.
- Vincent, Aude. "Reclaiming the Memory of Pioneer Female Geologists 1800-1929." *Advances in Geoscience*, vol. 53, 2020, pp. 129-154.  
DOI: <https://doi.org/10.5194/adgeo-53-129-2020>
- Wagner-Martin, Linda. *Telling Women's Lives. The New Biography*. Rutgers UP, 1994.
- Walker, Evan H. "Ms Einstein." Paper delivered at the AAAS session on "The Young Einstein," New Orleans, February 18, 1990. 18 pp. Unpublished but available online: <https://simson.net/ref/1995/MsEinstein.pdf>
- Wallace, Diana. "'Everything Is Out of Place': Virginia Woolf, Women, and (Meta-) Historical Biofiction." *Imagining Gender in Biographical Fiction*, edited by Julia Novak and Caitríona Ní Dhúill, Palgrave Macmillan, 2022, pp. 49-73.
- . *The Woman's Historical Novel. British Women Writers, 1900-2000*. Palgrave Macmillan, 2005.
- Wherry, Maryan. "More Than a Love Story: The Complexities of the Popular Romance." *The Bloomsbury Introduction to Popular Fiction*, edited by Christine Berberich, Bloomsbury, 2014, pp. 53-69.
- White, Paul. "The Man of Science." *A Companion to the History of Science*, edited by Bernhard Lightman, John Wiley and Sons, 2016, pp. 153-163.
- Winterburn, Emily. *The Quiet Revolution of Caroline Herschel: The Lost Heroine of Astronomy*. The History Press, 2017.
- . "Caroline Herschel: Agency and Self-Presentation." *Notes and Records: The Royal Society Journal of the History of Science*, vol. 69, no. 1, 2015, pp. 69-83.  
DOI: <https://doi.org/10.1098/rsnr.2014.0060>
- . "Learned Modesty and the First Lady's Comet: A Commentary on Caroline Herschel (1787) 'An account of a new comet'." *Philosophical Transactions of the Royal Society*, vol. 373, 2015, pp. 1-11. DOI: <https://doi.org/10.1098/rsta.2014.0210>
- Woods, Paula. "'Remarkable Creatures' by Tracy Chevalier." *Los Angeles Times*, 6 March 2014.  
<https://www.latimes.com/entertainment/arts/la-et-book22-2010jan22-story.html>
- Wooley, Benjamin. *The Bride of Science: Romance, Reason, and Byron's Daughter*. Macmillan, 1999.
- Zimmermann, Nina von. "Zu den Wegen der Frauenbiographikforschung." *Frauenbiographik: Lebensbeschreibungen und Porträts*, edited by Christian von Zimmermann and Nina von Zimmermann, Gunter Narr Verlag, 2005, pp. 17-32.